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# Idaho State

## UNIVERSITY

### Graduate Catalog 2013-2014

### Volume 67

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Graduate School  
Idaho State University  
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Idaho State University subscribes to the principles and laws of the State of Idaho and federal government, including applicable executive orders pertaining to civil rights, and all rights, privileges, and activities of the University are made available without regard to race, creed, color, sex, handicap, or national origin. The University is an Equal Opportunity and Affirmative Action employer. Evidence of practices which are not consistent with such policies should be reported to the Office of the President of the University.

#### Policy Statement Concerning Graduate Catalog Contents

Catalogs, bulletins, course or fee schedules shall not be considered as binding contracts between Idaho State University and students. The University reserves the right at any time, without advance notice, to: (a) withdraw or cancel classes, courses, and programs; (b) change fees schedule; (c) change the academic calendar; (d) change admissions and registration requirements; (e) change the regulations and requirements governing instruction in, and graduation from, the University and its various divisions; and (f) change any other regulations affecting students. Changes shall go into force whenever the proper authorities so determine, and shall apply not only to prospective students but also to those who are matriculated at the time in the University. When economic and other conditions permit, the University tries to provide advance notice of such changes.

Students enrolled in a program that is closed, relocated, or discontinued should be given notice of the closure as soon as is practical. Notwithstanding any other provision of State Board of Education policy, University policy, or University catalog statements to the contrary, arrangements should be made for enrolled students to complete affected programs in a timely manner and with minimum interruptions. When there is a similar program within the institutions governed by the Board, an affected student will be provided with information on transferring to that program, although admission to any such program is contingent upon the availability of a position and the student meeting all applicable admission requirements. If there is no similar program available within the institutions governed by the Board or the student is not able to gain admission to a similar program, the University will make reasonable efforts to place the student in a related or comparable program within the University. If none is available, the University will make reasonable efforts to assist the student in locating to another program at the University or elsewhere for which he or she is qualified.

#### Postmaster

Postage paid at Pocatello, Idaho. The Idaho State University Graduate School Catalog is published annually; copies are available through the Graduate School, Idaho State University, 921 South 8th Avenue, Mail Stop 8075, Pocatello, Idaho 83209-8075.

# Table of Contents

Academic Calendar / Important Dates .....	Inside Front Cover
General Graduate School Information and Policies.....	1—29
College of Arts and Letters .....	30—64
College of Business.....	65—75
College of Education.....	76—99
Division of Health Sciences.....	100—148
College of Science and Engineering .....	149—194
College of Technology.....	195—197
Informatics Research Institute .....	198—200
Graduate Faculty .....	201—211
Index .....	212—217
Campus Map .....	Inside Back Cover

# Idaho State University Administration

University President	Arthur C. Vailas, Ph.D.
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Vice President for Finance and Administration	James A. Fletcher, M.B.A.
Vice President of Student Affairs (Interim)	Patricia Terrell, Ph.D.
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Dean of the College of Business	Thomas Ottaway, Ph.D.
Dean of the College of Education	Deborah L. Hedeem, Ph.D.
Dean of the College of Science and Engineering	George Imel, Ph.D.
Executive Dean of the Division of Health Sciences	Linda C. Hatzenbuehler, Ph.D.
Dean of the College of Pharmacy	Paul S. Cady, Ph.D.
Dean of the College of Technology	Scott Rasmussen
University Librarian and Dean	Sandra Shropshire, M.A.
Dean, Academic Programs, Idaho State University—Idaho Falls	Lyle Castle, Ph.D.
Dean Academic Programs, Idaho State University—Meridian	Bessie Katsilometes, Ph.D.

## Graduate Council Membership 2013-2014

<u>Area</u>	<u>Name</u>	<u>Mail Stop</u>	<u>Phone</u>
Arts and Letters			
Humanities/Fine Arts	Check Website		
Social/Behavioral Sciences	Dr. Ryan Jones	8079	282-2606
Business	Dr. Neil Tocher	8020	282-3588
Education	Dr. Jane Strickland	8059	282-5646
Division of Health Sciences			
Health Professions	Dr. Mary Anne Reynolds	8101	282-1104
Pharmacy	Dr. Barbara Mason	8333	373-1843
Science and Engineering			
Natural Sciences	Dr. Leif Tapanila	8007	282-4318
Engineering	Dr. Hossein Mousavinezhad	8060	282-3292
Technology	Dr. Karen Wilson Scott	8081	282-2923
At-Large Appointment	Dr. Robert Picard	8020	282-4067
Graduate Student Representative	Amy Slack		
Presiding	Dr. Cornelis J. Van der Schyf	8075	282-2490
Ex-Officio	Associate Dean Graduate School	8075	282-3140
Ex-Officio	Executive Director, Sponsored Programs		

# Graduate School Programs

<u>Program</u>	<u>Degree</u>	<u>Chair/Director</u>	<u>Stop</u>	<u>Phone</u>
<b>College of Arts and Letters</b>				
Anthropology	M.A., M.S.	Dr. Paul Trawick	8005	282-2745
Art	M.F.A.	Tony Martin	8004	282-2488
Communication and Rhetorical Studies	M.A. in Organizational Communication	Dr. James DiSanza	8115	282-3695
English	M.A., Ph.D., TESOL Certificate	Dr. Jessica Winston	8056	282-2478
History	M.A. in Historical Resources Management	Dr. Kevin Marsh	8079	282-2877
Political Science	M.A., M.P.A., D.A.	Dr. Sean K. Anderson	8073	282-8147
Psychology	M.S. (Psychology) Ph.D. (Clinical Psychology) Ph.D. (Experimental Psychology)	Dr. Shannon Lynch Dr. Mark Roberts Dr. Maria Wong	8112	282-2462
Sociology	M.A.	Dr. Gesine Hearn	8114	282-4947
Theatre	M.A.	Mr. Thom Hasenpflug	8006	282-3705
<b>College of Business</b>				
Business Administration	M.B.A. (Accounting, Computer Information Systems, Finance, Management, Marketing, Health Care Administration emphasis areas), Certificate in Business Administration, MAcc	TBD	8020	282-2966
<b>College of Education</b>				
Educational Leadership and Instructional Design	M.Ed. in Education (Educational Administration emphasis area), M.Ed. in Instructional Technology, Ed.S. in Educational Administration, Ed.D. in Educational Leadership (Educational Administration, Higher Education Administration), Ph.D. in Instructional Design	Dr. Dotty Sammons-Lohse	8059	282-2569
Educational Foundations	M.Ed. in Education (Elementary Education, Secondary Education, K-12 Education/Music Education, and Child and Family Studies emphasis areas)	Dr. David Mercaldo	8059	282-4262
School Psychology, Literacy & Special Education	Ed.S. in Special Education Ed.S. in School Psychology M.Ed. In Education (Literacy emphasis) M.Ed. In Human Exceptionality (School Psychological Examiner emphasis area) (Special Education emphasis area)	Dr. David Mercaldo	8059	282-5188
Sport Science and Physical Education	M.P.E. in Athletic Administration M.S. in Athletic Training	Dr. John Fitzpatrick	8105	282-5613
Deaf Education	M.Ed. in Deaf Education	Dr. David Mercaldo	8059	282-4262
Human Resource Training and Development	M.O.L.P	Dr. Karen Wilson Scott	8081	282-4519
<b>College of Science and Engineering</b>				
Biological Sciences	M.S., Ph.D. in Biology (Botany and Zoology options) M.S., Ph.D. in Microbiology, M.N.S., D.A. in Biology	Dr. Mark Austin	8007	282-4333
Chemistry	B.S./M.S., M.S., M.N.S.	Dr. Karl De Jesus	8023	282-2673
Geosciences	M.S., M.N.S., M.S. with Environmental Geoscience Emphasis, Geo Technology Certificate, M.S. in Geographical Information Science	Dr. Glenn Thackray	8072	282-3565

<b><u>Program</u></b>	<b><u>Degree</u></b>	<b><u>Chair/Director</u></b>	<b><u>Stop</u></b>	<b><u>Phone</u></b>
Mathematics	M.A. in Mathematics for Secondary Teachers M.S., D.A.	Dr. Robert Fisher	8085	282-3664
Physics	M.S., M.N.S., Ph.D. in Applied Physics M.S. with Health Physics Emphasis	Dr. Mahbub Khandaker Dr. Richard Brey	8106 8060	282-3255 282-2667
Computer Science		Dr. David Beard	8065	282-2684
Engineering	School of Engineering M.S. in Civil Engineering M.S. in Environmental Engineering M.S. in Measurement and Control Engineering M.S. in Mechanical Engineering M.S. in Nuclear Science and Engineering M.S. in Environmental Science and Management Ph.D. in Engineering and Applied Science	Dr. D. Subbaram Naidu Dr. Arya Ebrahimpour Dr. Arya Ebrahimpour Dr. Marco P. Schoen Dr. Marco P. Schoen Dr. Richard Brey Dr. Chikashi Sato Dr. D. Subbaram Naidu	8060	282-2307 282-4695 282-4695 282-4377 282-4377 282-2667 282-4389 282-2307
<b><u>Division of Health Sciences</u></b>				
Audiology	Au.D.	Dr. Jeff Brockett	8116	282-2556
Speech-Language Pathology	M.S.	Dr. Kathleen Kangas	8116	282-4196
Counseling	M.Coun (Marital, Couple and Family Counseling, Mental Health Counseling, School Counseling, Student Affairs Counseling) Ed.S. (Counseling) Ph.D. (Counselor Education and Counseling)	Dr. Nicole Hill	8120	282-2413
Medical Laboratory Sciences	M.S.	Dr. Kathlen Spiegel	8288	282-4456
Dental Hygiene	M.S.	Dr. JoAnn Gurenlian	8048	282-3756
Health and Nutrition Sciences	M.H.E M.P.H	Dr. Willis McAleese Dr. Monica Mispireta	8109 8002	282-4257 282-5601
Nursing	Ph.D., D.N.P., M.S.	Dr. Karen Neill	8101	282-2102
Occupational Therapy	M.O.T.	Dr. Bryan Gee	8045	282-3629
Physical Therapy	D.P.T.	Dr. Jim Creelman	8045	282-4566
Physician Assistant Studies	M.P.A.S.	Dr. Paula Phelps	8253	282-4878
PharmD	See Undergraduate Catalog for Description			
Biomedical and Pharmaceutical Sciences	M.S. in Pharmaceutical Sciences (Medicinal Chemistry, Pharmaceutics or Pharmacology, Emphasis) Ph.D. in Pharmaceutical Sciences (Medicinal Chemistry, Pharmaceutics or Pharmacology, Emphasis)	Dr. Dana Diedrich	8334	282-4455
Pharmacy Practice and Administrative Services	M.S. in Pharmaceutical Science (Pharmacy Administration Emphasis) Ph.D. in Pharmaceutical Sciences (Pharmacy Administration Emphasis)	Dr. Christopher Owens	8333	282-2759

**Interdisciplinary Programs**

Natural Science	M.N.S. (Biological Sciences, Chemistry, Geology, Physics)	See Chair/Directors listed above
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**Other**

Family Practice Residency Program	Stop 8357, Pocatello, ID; (208) 282-4508
Idaho Advanced General Dentistry Program	Stop 8088, Pocatello, ID; (208) 282-3289
Meridian Graduate Programs	1311 E. Central Drive, Meridian, ID, 83642; (208) 373-1700
Idaho Falls Graduate Programs	1784 Science Center Drive, Idaho Falls, ID, 83402; (208) 282-7800
Twin Falls Graduate Programs	Box 1238, CSI Evergreen B-40, Twin Falls, ID, 83303; (208) 282-4840

The following departments/disciplines offer graduate courses, but no graduate degrees: Economics, Languages and Literatures, Health Care Administration, Mass Communication, Museum, Philosophy, Social Work

# Summary of Procedures for Graduate Degrees

<u>Procedure</u>	<u>Under Direction of</u>	<u>Date</u>
Application & Fee	Graduate School	No later than April 1 for summer semester enrollment; April 1 for fall semester enrollment; and November 15 for spring semester enrollment (or the following Monday, should these dates fall on a weekend).
Selection of an Advisor	Department Chair	Varies by program
Selection of a Committee	Advisor	Varies by program
Preliminary Examinations	Department Chair or Advisor	Not required by some programs
Final program of Study/Admission to Candidacy	Advisor, Department Chair, Dean of Academic College/Division, Dean of Graduate School	Submit prior to the semester of intended date of graduation. Classified status required.
Comprehensive Examinations	Advisor or Department Chair	Varies by program
Application for Graduation	Graduate School	Not later than the 2nd week of the final semester. For summer graduation, June 15th.
Thesis or Dissertation Final Draft to Committee	Student and Advisor	Not later than 2 weeks prior to oral defense.
Thesis or Dissertation Defense	Advisor, Committee, and Dean of Graduate School	Not later than 2 weeks prior to end of final semester.
Oral Examination (Non-Thesis)	Advisor, Committee, and Dean of Graduate School	Not later than 2 weeks prior to end of final semester.
Payment of Application Fee for Graduation/Diploma	Office of Registrations/Records	Not later than 2 weeks prior to end of final semester.
Submission of Final Thesis/Dissertation	Dean of Graduate School	Within 2 weeks following oral examination for thesis/dissertation copies.

## Accreditation

Accreditation Board for Engineering Technology, Inc., Accreditation Council for Graduate Medical Education: Residency Review Committee for Family Medicine, Accreditation Council for Occupational Therapy Education, Accreditation Council for Pharmacy Education, Accreditation Review Commission on Education for the Physician Assistant, Inc., American Association of Medical Assistants Endowment, American Association of Museums, American Chemical Society, American Culinary Federation, Inc., American Equipment Distributors, American Health Information Management Association, American Psychological Association, American Society of Health Systems Pharmacists, American Speech-Language-Hearing Association, Association for Assessment and Accreditation of Laboratory Animal Care, Association of University Programs in Health Administration, Association to Advance Collegiate Schools of Business, International, Commission of Accreditation of Physical Therapy Education, Commission of Collegiate Interpreter Education, Commission on Accreditation for Dietetics Education, Commission on Accreditation for Health Informatics and Information Management Education, Commission on Accreditation in Physical Therapy Education (American Physical Therapy Assoc.), Commission on Accreditation of Allied Health Education Programs, Commission on Collegiate Nursing Education, Commission on Dental Accreditation (American Dental Association), Computing Accreditation Commission of ABET Inc., Council for Accreditation of Counseling and Related Educational Programs, Council on Education for Public Health, Council on Social Work Education, Engineering Accreditation Commission of ABET Inc., Federal Aviation Administration, Idaho State Board of Nursing, National Accrediting Agency for Clinical Laboratory Sciences, National Association for the Education of Young Children, National Association of Industrial Technology, National Association of School Psychologists, National Association of Schools of Music, National Association of Schools of Theatre, National Automotive Technicians Education Foundation, National Council for Accreditation of Teacher Education, National League for Nursing Accrediting Commission, Inc., Northwest Commission on Colleges and Universities, State Department of Education, Technology Accreditation Commission, Accreditation Board for Engineering and Technology, Inc.

# Graduate School

## Idaho State University Vision Statement

The mission of Idaho State University is to advance scholarly and creative endeavors through the creation of new knowledge, cutting-edge research, innovative artistic pursuits and high-quality academic instruction; to use these qualities to enhance technical, undergraduate, graduate, and professional education, health care, and other services provided to the people of Idaho, the Nation, and the World; and to develop citizens who will learn from the past, think critically about the present, and provide leadership to enrich the future in a diverse, global society.

## Graduate School Mission Statement

The Graduate School promotes and supports excellence in graduate education. In realizing this mission, the Graduate School acts to recruit, support, retain and matriculate scholars, researchers and practitioners educationally empowered as critical thinking citizens and agents of innovation, opportunity and change.

## Graduate School Vision Statement

The Graduate School aspires to be a leading driver of high quality graduate education, and is dedicated to the embodiment of academic and creative excellence, resulting in scholars, researchers and practitioners committed to and capable of continually broadening the scope of academic discourse, discovery and innovation.

## Graduate School Informed Beliefs

- a. Integrity
- b. Inquiry and Innovation
- c. Academic and Creative Excellence
- d. Collaboration
- e. Social Justice Awareness & Advocacy
- f. Inclusiveness
- g. Interdisciplinary Research
- h. Lifelong Learning
- i. Quality Customer Service

## Admission

Idaho State University invites applications for admission to Graduate School from students holding baccalaureate degrees from any regionally accredited colleges or universities in the United States, or with equivalent preparation acquired in another country. Prospective students may apply as degree-seeking or non-degree-seeking. Non-degree-seeking students include those seeking certification, professional growth, or strengthened backgrounds for various professional and industrial occupations.

### Admission Requirements for Doctoral Programs

Admission to doctoral programs varies depending upon the program of study. Potential applicants are encouraged to read the appropriate sections of the Graduate Catalog for individual program variations. Generally, students applying for admission to a doctoral program must hold a master's degree and must have achieved at least the 50th percentile in one or more of the aptitude sections (Verbal, Quantitative, or Analytical) of the Graduate Record Examination. Doctor of Arts applicants must have an average total GRE placing them in the 50th percentile or above. Please see individual department sections for GPA requirements for doctoral programs.

### Admission Requirements for Other Programs (e.g., Master's degrees)

Degree-seeking students must meet the following requirements:

1. A baccalaureate degree from a college or university **regionally accredited** in the United States or its equivalent from a school in another country. **Official transcripts must be sent directly from the institution(s) directly to the Graduate School (students can not mail in their transcripts). Mailing address: Graduate School, Idaho State University, 921 S. 8th Ave, Mail Stop 8075, Pocatello, ID 83209-8075.**
2. In instances where a standardized test is required, official GRE/MAT/GMAT score reports are required. Student copies are not acceptable. To register for the GRE, contact either the GRE-ETS, Box 6000, Princeton, New Jersey, 08541-6000, or the ISU Counseling and Testing Center (208)282-2130. To register for the GMAT/MAT, contact the Idaho State University Counseling and Testing Cen-

GPA (last 60 credits)	Standardized Test
3.5 to 4.0	No standard test (GRE/MAT) required
3.0 to 3.49	40th Percentile on at least one area of the GRE or 40th Percentile on the MAT
2.5 to 2.99	Combined Verbal and Quantitative (V+Q) score of 300 or 1000 (old scoring) on GRE or 45th Percentile on the MAT
Below 2.49	No admission
The method of calculating an Admission GPA is based on the last 60± semester undergraduate credits (90± quarter credits), using complete semesters (quarters). In the case of those students who have not completed the baccalaureate degree, the grade point average will be calculated on the last 60 credits at the time of application.	

ter. GRE/GMAT/MAT scores are used for other purposes in addition to admission. Most departments/colleges/divisions also use these scores as part of the criteria for awarding graduate assistantships, fellowships, or scholarships. Other parts of the campus may also use these scores in the process of awarding scholarships. Students at Idaho State University may take these tests at the Counseling and Testing Center. Special study sessions are available at the University in the Student Success Center (208) 282-3662 to aid the student in preparing for the GRE/GMAT.

3. Recommendation for admission by the department, division or college offering the desired degree program. Please see individual department sections of this catalog for additional requirements.
4. Approval for admission by the Dean of the Graduate School.

## The Application Process

The admission process is initiated as follows:

1. Applications for admission may be obtained online ([www.isu.edu](http://www.isu.edu)) or from the Graduate School.
2. Applicants applying as degree-seeking students must request that each institution at which they have taken any post-secondary work submit one official transcript directly to the Graduate School. **Official transcripts must be sent directly from the institution(s) directly to the Graduate School (students can not mail in their transcripts) Mailing address: Graduate School, Idaho State**

**University, 921 S. 8th Ave, Mail Stop 8075, Pocatello, ID 83209-8075.** Idaho State University undergraduate transcripts are available to the Graduate School and need not be forwarded by the applicant. Non-degree seeking applicants must provide a transcript (official or copy) showing proof of degree.

3. **Applicants must include a \$55 non-refundable processing fee with each application form.** The files of students who do not pay the required application fee will not be processed for admission.
4. Some programs require additional information (e.g., letters of recommendation); please contact the specific department and review individual departmental sections of this catalog for additional requirements.
5. Applicants must clearly indicate the desired graduate program on the application form, or if a non-degree-seeking student, the college/division and department in which the student intends to take courses.
6. GRE/GMAT/MAT may be required for degree-seeking applicants at the discretion of the department. Official score reports only are accepted.
7. Additional requirements for degree-seeking last semester seniors, and international students are described under those headings on the following pages.
8. After 5-years of student/file inactivity, student files are purged and new original application documents (e.g., transcripts) must be submitted.

### Application Deadlines

Please note that some programs have earlier deadlines than those listed; please contact the program director or department chair for specific details. Priority deadlines for application forms to be completed and returned to the Graduate School are: April 1st for summer semester enrollment; April 1st for fall semester enrollment; and November 15th for spring semester enrollment, or the following Monday should these dates fall on a weekend. Typically, international students cannot begin their enrollment at Idaho State University in the summer semester.

### Notification of Admission

Applicants will receive a notification letter from the Graduate School regarding their admission status. Admission to Graduate School allows a student to enroll in graduate courses in the specified department and college/division. It does not imply admission to courses in other departments. Only those admitted as degree-seeking students may assume that they are permitted to seek an advanced degree in the discipline/department that approved the admission. Non-degree-seeking students who

are admitted are permitted to take graduate courses, but this admission does not imply they will later be approved for admission as a degree-seeking student.

### Re-Enrollment or Re-Admission of Graduate Students

Graduate students who have been admitted to Graduate School may enroll for graduate or undergraduate classes by preregistration or registration without further application activity if they enroll within two years from the beginning of the term for which they were accepted. Graduate students who fail to enroll during the two year period, or more restrictive period of the department, must reapply for admission, and pay the processing fee. Students who were not enrolled in the previous term may register for the current term. However, some departments may have more restrictive requirements and admission may be valid for only a particular semester or year. Students should contact departments to determine these more restrictive requirements.

### Registration

All applicants who have received notice of admission into Graduate School may preregister during the appropriate preregistration periods or during the regular registration times prior to each semester. On-line registration is available to admitted students. To expedite completion of the registration procedure, all recipients of graduate teaching assistantships, graduate fellowships, and/or scholarships to be applied toward tuition and fees must preregister.

### Restricted Registration

Any graduate student receiving a grade of C+ or below in two graduate courses on his or her program of study, or whose GPA falls below 3.0, will automatically be blocked from registering for additional courses. For the block to be removed, the student's department or college/division must communicate to the Graduate School in writing its wish to allow the student to continue in the program. Please note that some programs vary in their restrictions with regard to this policy; contact the graduate program director or department chair for specific details.

### Continuing Registration for Graduate Students

Graduate students who have registered for one or more credits of master's project, master's paper, master's thesis, or doctoral thesis or dissertation (usually, courses numbered 6650, 6651, 6699, 7750, or 8850) must be registered for at least one graduate credit during subsequent semesters, including each summer semester, until they have completed their de-

grees. Students who, for compelling reasons, wish to interrupt their work on projects, theses, or dissertations may request, in writing, a leave of absence from the Graduate School.

Graduate students who fail to meet the continuing registration requirement will be judged to have dropped out of their programs and will no longer enjoy access to university resources, including the library and computer facilities. In order to regain access to university resources, students will be required to reapply to the Graduate School and be readmitted. A corollary of this requirement is that a graduate student must be registered for at least one graduate credit in order to take a final oral examination or be processed for graduation. Any student who registers for the required credit and then subsequently drops the credit, will be considered in violation of this policy.

### Registration without Permission

Students who register for graduate courses in violation of any restriction printed in the Graduate Catalog or written on their Admission notification, or who register for graduate courses after receiving a letter of dismissal from the department or college/division that admitted them, will be dropped from these graduate course(s) as soon as the violation is discovered.

## Classifications of Degree-Seeking Graduate Students

### Classified Status

Graduates of regionally accredited institutions who have earned grade point averages of 2.5 or higher for the last 60 credits taken at the undergraduate level, are eligible, upon submission of official GRE/GMAT/MAT scores as appropriate, to be admitted to Classified status in graduate master's programs. Doctoral students must meet individual department GPA and standardized test requirements. See department sections of this catalog for complete information.

The College of Business requires the GMAT. The Department of Counseling and the College of Education accept the MAT in lieu of the GRE. Please see the department sections for this information.



## Classified (with Performance Requirements) [Classified (w/PR)] Status

Classified (with Performance Requirements) [i.e., Classified (w/PR)] status is a transitional status, and is not a valid status for a student to graduate. In order to graduate, a student must have Classified status (see the following section "Change from Classified (w/PR) to Classified Status").

A department/college/division may, at its discretion, recommend admission for graduate students in a degree program with Classified (w/PR) status to ascertain their ability to do graduate work within a particular curriculum. Students admitted to Classified (w/PR) status are those who may not have satisfactorily met all admission requirements.

Classified (w/PR) status also may be recommended by a department for students whose credentials do not meet specific departmental requirements.

NOTE: Students admitted to Classified (w/PR) status should ascertain their eligibility for federal financial aid. Such students are not eligible to receive Idaho State University graduate assistantships or Non-resident tuition waivers.

### Change from Classified (w/PR) to Classified Status

The following criteria must be met by the student before Classified (w/PR) status can be changed to Classified:

1. The student must complete at least nine graduate credits and maintain a 3.0 GPA or higher;
2. If the GRE/GMAT/MAT was not taken by the student prior to admission to Classified (w/PR) status, the student must take the GRE/GMAT/MAT specified in the Admission notification.

Upon completion of the above two criteria, a request to change the student's status to Classified may be submitted to the Dean of the Graduate School. The following steps must be followed to accomplish this change:

1. At any time after meeting the above criteria, a student may initiate an Approval for Change of Student Status in the Graduate School. The department/college/division may also initiate the change and should

do so by written request when the student has met the required criteria.

2. The change from Classified (w/PR) to Classified status must be approved by the Dean of the Graduate School.

If a student admitted to Classified (w/PR) status fails to meet the conditions for admission stated on the Admission notification, the student's admission may be revoked.

### Admission of International Students

Applications for admission to Graduate School are processed in the Graduate School. Applications will not be processed until the processing fee has been received.

In addition to the admission requirements listed previously, international students must meet the following conditions:

1. As a step toward obtaining a U.S. visa, international students must submit a financial statement to the Graduate School verifying that they will be able to support themselves financially for a minimum of one year while attending Idaho State University. This document must consist of a statement or letter from a bank indicating that funds are available and accessible. The amount of money available to the student must be listed on the financial statement. A graduate assistantship or fellowship awarded by a department or college/division may be used as part of this amount.
2. International students who have not graduated from an accredited college or university in the United States and whose native language is not English, normally must achieve satisfactory scores on the Test of English as a Foreign Language (TOEFL) or on the International English Language Testing System (IELTS). Satisfactory TOEFL requirements for Classified admission are: (1) Internet-based test (iBT): a total score of 80 with a score of at least 20 on each Section (graduate assistants who teach courses must score 23 or above on the Speaking Section) on the iBT; or (2) Computer-based test: a total score of 213 with a score of at least 21 on Section 1 (Listening Comprehension) on the computer test; or (3) Paper-based test: a total score of 550 with a score of at least 55 on Section 1 (Listening Comprehension) on the paper test. Information about the TOEFL, including test dates and locations in international countries, can be obtained from Educational Testing Service (ETS) at [www.ets.org](http://www.ets.org). Satisfactory IELTS performance for Classified admission include

scoring 6.5 or higher on the total band score. Graduate assistants who teach courses must score 6.5 or above on the speaking test component. An international student may also meet the English language proficiency requirement by achieving a Level 112 from an ELS Language Center. PHOTOCOPIES OF TOEFL OR IELTS SCORES WILL NOT BE ACCEPTED.

3. International students may not enter the United States for graduate study without a U.S. Immigration (I-20) form. This form will be issued by the International Programs Office after the student is approved for admission by the Dean of the Graduate School. International students are urged to remain in their own countries until they receive notice of acceptance.
4. International students transferring from a school within the United States must be "IN STATUS" with Immigration and Naturalization Services to be issued an I-20 form from Idaho State University. A transfer form will be sent after the application has been received, to be completed as verification of acceptable immigration status.

If you have questions or need additional information, please contact the Graduate School at (208)282-2270, FAX number (208)282-4847.

## Unclassified (Non-degree Seeking Students) Status

Individuals holding a bachelor's degree who desire to take courses for graduate credit for personal or professional enrichment but who do not want to pursue a graduate degree are eligible to apply for admission to Unclassified (non-degree seeking) status. Students who are admitted to Unclassified status are allowed to register for a maximum of 9 graduate credits per semester. Since an Unclassified status student is not seeking a degree, course and/or program advising, except on an informal basis if requested, will not be provided.

### Admission Requirements for Unclassified (Non-Degree seeking) students

Individuals who apply for Unclassified status admission must submit the following information and meet the following requirements:

1. A baccalaureate degree, or higher, from a regionally accredited educational institution in the United States, or the equivalent from an educational institution in another country.
2. A copy of a transcript indicating that a baccalaureate degree, or higher, was awarded, including the date the degree

was awarded.

3. Meet the following Grade Point Average (GPA) requirement: An earned grade point average (GPA) of 2.50 or higher on all undergraduate courses taken during the last 60 ± undergraduate semester credits (90 ± quarter credits), regardless of the institution at which the credits were earned. This GPA may be different from the final transcript GPA and/or different from the GPA on all upper-division credits. In the case of those students who have not completed the baccalaureate degree, the GPA will be calculated on the last 60 credits at the time of application.
4. A properly completed application form.
5. A \$25.00 non-refundable application processing fee that will not be waived.

Academic departments may have additional requirements and/or may restrict enrollment of Unclassified graduate students to specific courses. Unclassified graduate students must meet all prerequisites for each class in which they want to enroll.

If an Unclassified student wishes to pursue a graduate degree at Idaho State University, the student must (1) meet the requirements for admission as a Classified student, and (2) complete all aspects of the Classified status application procedure for a specific degree program, detailed under "Admission" in the first part of the Graduate Catalog, including submission of official transcript(s) and payment of the Classified application processing fee (the amount paid for Unclassified application will not apply for Classified application).

After admission as a Classified student, students may petition the Dean of the Graduate School to transfer course work taken while in Unclassified status to a degree program. This petition must have the written support of the degree program for each course. The total number of such credits transferred shall not be more than 30% of the total credits for the program of study required for the particular degree.

### Admission of Last-Semester Seniors

Seniors in residence at Idaho State University may register for no more than 6 graduate credits during the semester or summer session in which they will complete the work for a bachelor's degree at Idaho State University. This option is reserved for outstanding seniors who are seriously considering attending Idaho State University for graduate education. This registration must be approved by the course instructor, by the student's advisor, and the department chairperson. **ONLY COURSES NUMBERED 5500-5599 MAY BE TAKEN WITH**

#### THIS OPTION.

If a senior admitted to graduate study under this provision fails to complete graduation requirements for a bachelor's degree, all graduate credits earned revert to undergraduate credit. The student's load, including both graduate and undergraduate credit, may not exceed 16 credits, or 9 credits in the case of summer school. A senior selecting this option must file an Application for Admission with the Graduate School when he/she requests permission to take graduate level courses. Application deadlines for admission of last-semester seniors are the same as those for degree-seeking graduate students.

PharmD students may apply and be admitted to the Graduate School after completing 120 credits if they meet all application requirements.

### Admission Requirements for Professional Development Students - K-12 Teachers (5597 Courses)

The Graduate School recognizes the need for K-12 teachers certified in Idaho to improve their professional capabilities. In most cases, the courses are workshops or short courses that can be taken in a compressed time period. These types of courses are "advanced" with respect to the students who enroll, but are not courses that a particular discipline offers to a student with the goal of earning an advanced degree. Therefore, professional development courses are offered by many departments to meet the perceived need of individuals, and are treated differently in the following respects:

1. Students may enroll in professional development courses offered under the 5597 number without the necessity of being admitted to Graduate School. However, they must hold a baccalaureate degree from an accredited institution at the time they enter the class or receive special permission from the Dean of the Graduate School if they are last semester seniors at Idaho State University.
2. The credits earned will not count toward an advanced degree nor may they be petitioned to count at a later date.
3. There is no limit to the number of 5597 credits that a student may earn.
4. All instructors of 5597 courses must have an advanced graduate degree.
5. For each 5597 course in which students enroll, students must certify that they possess a baccalaureate degree and agree to the conditions by which they are permitted to register for the course.
6. Students who have been admitted into the

Graduate School are permitted to take 5597 courses.

7. Departments shall determine if and when professional development courses are to be offered with their prefix.

### Admission Requirements for Professional Development Students (5598P Courses)

The Graduate School recognizes the need for individuals to improve their professional capabilities. In most cases, the courses can be taken in a compressed time period. These types of courses are "advanced" with respect to the students who enroll, but are not usually courses that a particular discipline offers to a student with the goal of earning an advanced degree. Therefore, professional development courses are offered by many departments to meet the perceived need and are treated differently in the following respects:

1. Students may enroll in professional development courses offered under the 5598P number without the necessity of being admitted to Graduate School. However, they must hold a baccalaureate degree from an accredited institution at the time they enter the class or receive special permission from the Dean of the Graduate School if they are last semester seniors at Idaho State University.
2. The credits earned will not count toward an advanced degree unless a petition is filed within three years of the last day of the course. The petition must have the following documentation: (1) A copy of the instructor's curriculum vita, (2) A copy of the course syllabus (including a list of achievement measures), (3) A copy of the class list (with grades). (The Office of Continuing Education, and/or the department or college offering the course will provide materials not otherwise available to the student).
3. While there is no limit to the number of 5598P credits that a student may earn, a maximum of three credits may be petitioned for use to satisfy elective credits in the student's program of study. 5598P courses may not be substituted for "required" courses.
4. All instructors of 5598P courses must have an advanced graduate degree.
5. For each 5598P course in which students enroll, students must certify that they possess a baccalaureate degree and agree to the conditions by which they are permitted to register for the course.
6. Students who have been admitted into the Graduate School are permitted to take 5598P courses. If they desire to use 5598P credits in their degree program, a petition must be filed for each course in

accordance with the procedures described.

7. Departments shall determine if and when professional development courses are to be offered with their prefix.

## Course Levels, Credits, and Grading Course Levels

Courses numbered 66xx and 77xx are for students admitted into Graduate School only. Courses numbered 55xx also provide graduate credit (except 5597 and 5598P, see the sections entitled "Admission Requirements for Professional Development Students"). However, undergraduate students may be enrolled in these courses; the undergraduate counterpart will be designated as 44xx. Extra work is required of graduate students enrolled in 55xx courses (see next section). Applicability of 55xx courses to degree requirements is determined by the department offering the degree. Credit by examination (course challenge) is not permitted in graduate programs. Credit is not generally granted toward a graduate degree for 55xx courses when the corresponding 44xx course was taken at the undergraduate level.

### Activities Instructors May Require to Meet the "Additional Work" Requirement to Receive Graduate Credit in Those Courses Offered as 55xx:

The Graduate School expects instructors to require specific work to be done in a graduate level course to justify graduate credit being given. For students to receive graduate credit in those courses designated at the 55xx level, specific and evaluated activities and performances must be identified in the course syllabus. Below is a suggested list of activities that an instructor might use to meet this requirement.

1. An additional scholarly activity such as:
  - a. integrative term paper(s);
  - b. substantive report(s) that may be one of the following: survey, analysis and report; laboratory investigation and report; library research and report;
  - c. participation in a significant regional or national meeting (e.g., poster session, panel discussion, paper presentation).
2. Classroom activities that are beyond those required of undergraduates and are

evaluated:

- a. special presentation of some subject;
  - b. provision of leadership on discussion of some significant topic in the classroom;
  - c. classroom activity that is evaluated and not required of undergraduates
3. Examinations: Special examinations that are different from those given to undergraduates and are more demanding than those given to undergraduates. Such exams should be those that require greater performance at a higher cognitive level, such as interpretation, synthesis, and evaluation.

### Credits

For a master's degree, a minimum of 30 credits in approved course work, including thesis credits if required, must be completed. Except in the cases of the M.N.S., M.A.M.S.T., and M.P.A. degrees, a master's degree student must complete at least fifteen 6600-level credits. Credit requirements for doctoral degrees vary by program.

#### A credit hour in graduate courses requires:

1. 50 minutes in class each week for 16 weeks (or equivalent in summer sessions and in courses offered in special formats), or
2. Approximately two and one-half hours in laboratory work each week for 16 weeks (or equivalent).

### Semester Credit Limits

The maximum number of credits obtainable in a semester is 16, including courses taken at the undergraduate level. In a summer semester, a student may earn a number of credits equal to the number of weeks enrolled plus two, and the total number of summer semester credits may not exceed 12 (e.g., a student taking classes for eight weeks may earn up to 10 credits). Graduate Assistants may register for no more than 12 credits per semester.

Students who, because of exceptional circumstances, want to take more than the maximum number of credits, must request permission in writing from the Dean of the Graduate School. They must also have support in writing from their advisor, and the graduate program director or chairperson of their department.

Thesis or dissertation credits are not awarded to the student until after completion and final approval by the examining committee. At this time, the advisor reports a grade of S or U for all previous thesis/dissertation registrations. The student may register for thesis/dissertation credits any semester she/he is enrolled as a

degree-seeking student, subject to the approval of the student's advisor and department chair or program director, but the letters IP (in progress) are recorded on the transcript in place of a grade for all such registrants until final approval is obtained. Usually thesis credits are limited to 6 that can count toward a degree on a Master's level program of study.

### Grading

**A 3.0 GPA for the courses listed on the program of study is required for any graduate degree or certification at Idaho State University. A grade of C+ or lower indicates questionable performance at the graduate level.** However, some departments may accept a C+ grade in one or two courses as long as the minimum overall 3.0 GPA is maintained. **C+ or lower grades may cause departments/colleges/division to dismiss students from a graduate degree program.**

Idaho State University uses a graduated letter grading system to indicate the instructor's evaluation of a student's performance in a course. These letter grades are converted to a numerical value for computing a student's semester and cumulative grade point averages. At the beginning of each course, an instructor should inform students of the criteria to be used in evaluating their performance through the class syllabus or other written means.

The grade of A is the highest possible grade; grades of D+ or lower will not be allowed for graduate work. Plus (+) or minus (-) symbols are used to indicate grades that fall above or below the letter grades. The grades of A+, F+, and F- are not used. For purposes of calculating grade points and averages, the plus (+) increases the grade's point value by .3, and minus (-) decreases the grade's point value by .3 (e.g., a grade of B+ is equivalent to 3.3, and A- is 3.7). A student's work is rated in accordance with the following scale:

A	4.00	excellent performance
A-	3.70	excellent performance
B+	3.30	good performance
B	3.00	good performance
B-	2.70	good performance
C+	2.30	inadequate performance
C	2.00	inadequate performance
C-	1.70	inadequate performance
D+	1.30	unacceptable performance
D	1.00	unacceptable performance
D-	0.70	unacceptable performance
F	0.00	unacceptable performance

Courses in which A, A-, B+, B, or B- grades are earned are acceptable toward a graduate program and graduation requirements, unless specifically excluded for a particular requirement, course, program, or degree. Courses in which C+, C, or C- grades are earned might be used toward program and graduation require-

ments in some programs; two such grades will place the student on semester-by-semester review. Grades of D+, D, D-, or F may not be used to satisfy graduation requirements. No credits are awarded for any course in which an F grade is earned.

All thesis and dissertation credits and some research courses are graded on a satisfactory (S) or unsatisfactory (U) basis. Departments/colleges/divisions may grade additional graduate courses with the S/U system with approval of the Graduate Council. IP (in progress) grades are given for those students who have initiated but not completed their thesis, dissertation, or research work. No graduate courses will be offered on a Pass/No Pass (P/NP) basis.

**For "IP" (in progress) courses**, instructors are responsible for processing a Change of Grade after the completion of all relevant course work. In the case of thesis and dissertation work, there may be multiple IP credits to be changed once the thesis/dissertation has been completed and fully approved.

As noted elsewhere in the Catalog, **"I" (incomplete) grades** must be completed and the Change of Grade processed by the instructor within 1 calendar year of the awarding of the incomplete. Failure to change the "I" grade within this time period will result in the "I" grade becoming permanent.

**For letter graded courses**, prefixes, titles, and level (e.g., 4400/5500) are transcribed as originally registered once the semester is closed (i.e., the end of the semester within which the course was first registered for by the student). As an example: A graduate student mistakenly registers for course ABC4400 for the Fall 2020 semester. During that semester a petition request to change the ABC4400 registration to ABC5500 (i.e., drop ABC 4400 and add ABC5500) may be submitted for consideration. However, once the Fall 2020 semester has concluded, the ABC4400 course can not be changed.

With permission of the relevant department, students may repeat a course in which they received a grade lower than an A. In such cases, the last grade received shall be the grade used in the calculation of the program of study GPA.

### Incomplete Grades

An Incomplete grade (I) may be awarded at midterm or semester end. At midterm, an Incomplete indicates the student, through illness or other excusable absence, has missed so much work the instructor cannot assign a regular grade. An Incomplete grade at midterm is not a final grade. An Incomplete grade may, at

the option of the instructor, be given at the end of the semester only when a student has satisfactory performance within three weeks of the end-of-semester examination period.

The instructor must submit a Course Completion Contract along with the grade report for that class. The Course Completion Contract must be signed by the student and the instructor stipulating the assignment(s) required to finish the course within the allowable time period. A copy of the Contract is to be given to the student, a copy retained by the instructor, a copy sent to the Graduate School, and the original sent to the Registrar's Office.

Incomplete work must be completed within one (1) calendar year from the date such grade is given, but an instructor could specify a shorter time period. A change of grade must be submitted by the faculty member or the Incomplete will become permanent.

To receive credit for a course in which an Incomplete grade has become permanent, the entire course must be repeated.

Petitions to deviate from the incomplete grade policy will not be allowed except under extraordinary circumstances (e.g., serious, long-term illness).

## Transfer of Credits

### Master's Degrees

All graduate credits must be earned as Idaho State University resident credits except for the following:

In all master's degree programs, a total of 9 semester credits may be transferred from a regionally accredited institution. Transfer of credits from a regionally accredited institution are acceptable only if the courses are specifically approved by the Graduate School and the academic department of Idaho State University when the final program of study is submitted. In these instances, only the credit hours transfer, not the grades.

Official transcripts to be used for transfer of credits in a degree program must be received by the Graduate School before application for a degree will be approved.

### Intra-institutional Transfer

Transfer of Credits from Unclassified to Classified Status: Students may petition the Dean of the Graduate School to transfer course work taken while admitted to Unclassified status to a degree program. The total number shall not be more than 30% of the total credits of the program of study required of each student for

the degree.

### Transfer of Credits from One Program to Another

There are no limits to the number of Idaho State University credits that may be applied toward a master's degree program or certificate program that were originally earned in a different degree program if:

1. the student was not awarded a degree in the original program, and
2. the department approves the transfer of such credits and the courses taken meet the requirements for the degree approved by the Graduate Council.

There are no limitations with respect to electives that exceed the requirement for the degree.

Departments and/or colleges/divisions may allow students to apply up to 9 semester credits earned at Idaho State University to two master's degrees with Graduate School approval.

### Doctoral Programs

Departments may accept credits by transfer in total or in part from a master's degree earned at Idaho State University or at another accredited institution regardless of age of the courses. See section on "Time Limits" for further discussion of this policy.

## Residency Credits

All credits that are to be applied to an advanced degree must be earned as resident credits or accepted for transfer as described in the Transfer of Credits section. Resident credits are those earned through the main Idaho State University campus, the Idaho State University-Idaho Falls campus, the Idaho State University-Meridian campus, and/or the Idaho State University-Twin Falls campus.

Courses approved by the Graduate Council and taught solely by approved faculty of Idaho State University at other sites in the state may be accepted as resident credit.

## Time Limits

### Master's and Educational Specialist Degrees

All requirements for a master's degree (except the MBA degree) or educational specialist degree, must be completed within 8 years preceding the student's graduation. An extension of time may be obtained for good cause with the approval of the Dean of the Graduate

School.

The time limit for the MBA degree is 5 years for any course used to meet MBA II, elective, or emphasis area graduation requirements. Please refer to the College of Business section of this catalog.

### Out-of-Date Credits

All credits applied to a master's degree or to an educational specialist degree must have been taken within 8 years immediately prior to granting of the degree unless it can be shown that the course work taken more than 8 years earlier covers material that has not changed substantially during the intervening time, or that the student has been able to remain current in the topics covered in the course. Evidence that the older course work is still appropriate must be supported and approved in writing by the student's advisor and department chair, and submitted with a petition to the Dean of the Graduate School.

### Credit Time Limits for Doctoral Degrees

The doctorate is a research and/or performance degree and signifies that the holder has the competence to function independently at the highest level of endeavor in the chosen profession. Hence, the number of years involved in attaining or retaining competency cannot be readily specified. Rather, it is important that the doctoral student's competency be assessed and verified in a reasonable period of time prior to conferral of the degree.

The comprehensive examination is the method of assessing whether the student has attained sufficient knowledge of the discipline and supporting fields in order to undertake independent research or practice. It is expected that the examination will occur after all course work has been completed and language or other requirements satisfied, and that it consists of a series of examinations covering all areas specified in the program of study.

Because the comprehensive examination attests to the academic competence of the student who is about to become an independent researcher or practitioner, the examination should not precede the awarding of the degree by too long a period of time. Consequently, doctoral candidates are allowed 5 years in which to complete remaining degree requirements. In the event a student fails to complete the doctorate within 5 years after passing the comprehensive examination, an extension of time can be obtained by:

1. The student getting a specified set of requirements from the student's committee that states in writing what must be

done to make the candidate up-to-date in the discipline. These new requirements for obtaining an extension may include the necessity to repeat parts or all of the comprehensive examination;

2. The student must then submit a petition to the Dean of the Graduate School for the extension and provide the written documents showing the additional requirements established by the student's committee justifying the requested extension.

### Auditing Graduate Courses

The Graduate School does not endorse the auditing of courses at the graduate level due to the expectations of the rigors of graduate study. At the graduate level, students need to be substantially engaged with the material, so that they can master the intricacies and be able to evidence knowledge about the topic. The professor provides information, guidance, mentoring, and critique of the material so that the student is experienced with the totality of the material. Auditing a graduate course does not provide the opportunity for engagement of the material and the instructor's focus to the level necessary to facilitate the depth of learning required in graduate education.

### Full Time Graduate Status

Nine Graduate Level Credits constitutes full time graduate status.

## Advisors & Examining Committees

All Examining Committees shall consist of an odd number of members. These members normally must be members of the Graduate Faculty and approved by the Dean of the Graduate School. Appointments to Examining Committees of non-faculty members or of faculty members not on the Graduate Faculty must be approved by the Dean of the Graduate School. A listing of Graduate Faculty is contained in this catalog.

Usually, when a student is admitted to graduate school, a temporary advisor is assigned. In some cases, the department chairperson or graduate program director serves in this capacity for all incoming graduate students. Following departmental procedures and regulations, a permanent advisor who will be responsible for helping the student to finalize the program of study is then selected.

For most master's degree options, a second member is selected from the student's department to serve on the examining committee with final approval by the Dean of the Gradu-

ate School. At the doctoral level, more than one departmental faculty member, in addition to the advisor, typically serves on the examining committee.

A third or, in the case of doctoral committees, a fifth member of the examining committee, called the Graduate Faculty Representative (GFR), is approved by the Dean of the Graduate School. The GFR must be a current member of the Graduate Faculty and must be selected from outside the discipline the student is studying. The GFR may not be secured from a separate discipline from a yoked department. The GFR represents the Graduate School on the examining committee and is responsible for reporting the results of graduate examinations to the Dean of the Graduate School. The Graduate School welcomes suggestions from the student or department regarding candidates for the GFR.

### Conflict of Interest of Graduate Faculty

Faculty are expected to conduct themselves professionally in their evaluation of graduate students, and are expected to exclude themselves from evaluation of graduate students with whom impartiality may be jeopardized by considerations that are not academic.

### Procedure for Changing a Major Advisor

When a graduate student seeks a change in his/her major advisor, the following procedure must be followed:

1. The student must submit to the academic unit head or graduate program director, as appropriate, a written request for change of major advisor. This request shall contain the rationale on which the request is based and may, if the student wishes, propose a specific replacement.
2. If the unit head/program director and the current advisor accept the rationale, and if an appropriate new advisor acceptable to the student is secured, the unit head/program director will submit the proposed new appointment to the Dean of the Graduate School for approval.
3. Should the unit head/program director or the current major advisor not agree to the proposed change and the conditions thereof, and if no compromise acceptable to all parties can be reached, the matter shall be arbitrated by the unit graduate faculty (or its designated committee). Such arbitration may need to consider the question of ownership of data from research already undertaken by the student under the major advisor's supervision, similarly whether another appropriately specialized major advisor is available for

the student. The unit head/program director will notify the Dean of the Graduate School of the decision reached by the department graduate faculty or its designated committee.

- Any appeal of the department's decision by the student shall be directed to the Dean of the Graduate School.

## Program of Study, Candidacy, Application for a Degree

### Program of Study

A Program of Study must be submitted to and approved by the Graduate School by the third week of the semester in which a student intends to graduate. The Program of Study will list all requirements that must be completed in order to receive the degree or certificate.

If the requirements for the degree or certificate being sought change during a student's program, the student is entitled to follow those requirements in effect at the time of admission, or the student may elect to follow newer requirements.

### Candidacy for Doctoral Degrees

Admission to candidacy for doctoral degrees occurs after the student has passed a preliminary/qualifying examination that is usually administered early in the program; or when substantially all course work has been completed and the comprehensive examination has been passed.

Students seeking doctoral degrees must submit a Program of Study to the Graduate School upon completion of examinations, along with a letter verifying advancement to candidacy, noting the candidate's successful examination completion; but no later than the third week of the semester in which they intend to graduate. The Program of Study lists all requirements that must be completed in order to receive the doctoral degree.

### Application for a Degree

Within the first three (3) weeks of the fall or spring semester in which the student expects to complete work for the degree, or the last day of the spring semester for completion during the summer semester, an application for graduation must be filed with the Graduate School.

The application and a diploma processing fee of \$20 must be paid at this time. **If the student**

**does not complete requirements during this semester, an updated application must be submitted for the subsequent semester and a \$20 reprocessing fee paid to the Graduate School.**

Degree applicants must submit all official transcripts before applying for a degree. Official transcripts to be used for transfer of credits into a degree program must be received - before the application for a degree will be processed.

Applications for degrees will not be processed without the prior approval of a Program of Study.

## Examinations

All graduate students are required to complete a final examination. Final examinations are scheduled by departments after receiving approval of the student's program of study and reported to the Graduate School.

All examinations must be completed at least two weeks before the end of the semester in which the student plans to graduate. All graduate requirements must be completed prior to or at the end of the semester during which final examinations are held.

Students writing theses/dissertations/DA scholarly activities are given final oral examinations (typically a thesis/dissertation/DA defense). Others are usually given both written and oral examinations.

Oral examinations are open to all members of the Graduate Faculty as observers. Oral examinations are not open to non-Graduate Faculty without permission of the advisor and the Dean of the Graduate School. When students are required to make presentations as part of the examination process, these presentations will be advertised, and open to the public.

Following the oral exam, the committee meets in closed session to determine the outcome of the examination. The student passes the exam if a majority of the committee so votes. Otherwise, the student fails the exam. For students failing the oral exam, the Graduate School allows one re-examination. This re-examination is to take place during the subsequent three (3) semesters unless otherwise approved by the Graduate School. If the academic unit involved has a formal re-examination policy that is more stringent, that policy supersedes the Graduate School re-examination policy.

If the candidate's program requires a thesis/dissertation/DA scholarly activity, copies in substantially final form shall be in the hands of

the examining committee at least two (2) weeks before the date scheduled for the oral examination. Oral examinations are to be held at least two (2) weeks prior to the date of graduation. If any committee member questions the adequacy of the substance or form of the thesis/dissertation/DA scholarly activity, the committee as a whole decides if the document and the student are sufficiently prepared for an oral examination.

The major advisor is responsible for reporting grades (using a Change of Grade) for all prior thesis/dissertation/DA scholarly activity registrations of the candidate when the document has been approved by the examining committee.

After the successful defense of a thesis/dissertation/DA scholarly activity, the student must submit all appropriate documents to the Graduate School within two weeks. Failure to do so may delay graduation. If the required documents are not submitted within one year, the Dean of the Graduate School may declare the defense void and require that it be repeated.

A manual with detailed instruction for thesis/dissertation/DA scholarly activity preparation and clearance (Instructions for Preparing Theses, Dissertation, DA Papers, and Professional Projects) is available on the Graduate School website or from the Graduate School.

If the candidate's program requires no thesis/dissertation/DA scholarly activity, the department or college/division is responsible for having a written examination on the degree program prepared and administered. If the student's performance is judged to be satisfactory or if it is determined that deficiencies may be cleared up during the oral examination, the examining committee conducts the oral examination on the scheduled date. Otherwise, the student may be expected to complete subsequent requirements before the oral examination is held. All oral examinations must be completed at least two (2) weeks prior to the date of graduation.

## Petitions

A student may petition the Dean of the Graduate School for exceptions to the rules and procedures stated in the Graduate Catalog or for consideration of problems not covered by the stated procedures. **Petition forms for graduate students are available only from the Graduate School;** undergraduate petition forms will not be accepted.

A student may use the petition form to request:

- withdrawal from courses after the dead-

line for withdrawal as stated in the University Calendar;

2. use of credits more than eight (8) years old to count towards a master's degree;
3. transfer of credits from unclassified to classified status;
4. transfer of more than nine credits from another institution to a master's degree program at Idaho State University;
5. an extension of the maximum time (eight years) allowed for completion of a master's degree or educational specialist degree;
6. an extension of the maximum time (five years) allowed for completion of a doctoral degree after comprehensive examinations have been passed;
7. correction of errors or inaccuracies on the student's official transcript;
8. any other deviation from Graduate School policy listed in this catalog.

Petition forms may not be used for:

1. appeals of a grade or of dismissal from a program. See the section on "Appeals and Dismissals" in this Catalog;
2. substitutions of courses within degree requirements or waivers of degree requirements. Exceptions to degree requirements are requested as a part of the approval process for the Program of Study.

## Drop or Withdrawal

Students may voluntarily drop graduate courses until the official drop date listed in the University Calendar. Dropped classes will not appear on a student's transcript. After the official drop date, students may withdraw from a course(s) prior to the withdrawal deadline with a "W" appearing on the transcript. To withdraw from a course or courses, students must provide a written request using a Graduate School Petition. Students wishing to withdraw from graduate courses or a graduate program after the official withdrawal date must obtain approval from their professors, program/department chair, and the Dean of the Graduate School. Voluntary withdrawal from a graduate program during an appeal of dismissal automatically terminates the appeals process.

## Appeals and Dismissals

### Appeal of a Grade

A grade appeal is not designed to evaluate general teaching effectiveness, but rather to determine whether a student was treated in an

arbitrary and/or capricious manner by the instructor in regard to a final grade.

Graduate students who wish to appeal final grades must use the following procedural format. Appeal of a grade must be made within one semester following the posting of the grade. Grades earned in the spring semester, that are to be appealed, need not be appealed during the summer, but the appeal process must be initiated in the following fall semester. Documentation of the appeal must be sent to the Graduate School to be placed in the student's file. The Graduate School encourages resolution of appeals at the lowest possible level. Faculty members who are overruled in the appeal process are entitled to the same sequence of appeal as the graduate student.

Midterm grades are not official and may not be formally appealed. Students who wish redress for midterm grades should discuss the grade with the instructor of the course in order to determine a course of action leading up to the final grade.

When a grade appeal involves plagiarism, cheating, or other instances of academic dishonesty, refer also to the "Academic Dishonesty" section of the Graduate Catalog.

### Procedures for the Appeal of a Grade

After each step in the procedures for the appeal of a grade, all written appeal request and decision statements must be copied to all involved parties (e.g., the student, the instructor, the department chair, the Dean of the academic college/division).

#### Step 1: The Instructor of the Course

When a student receives a grade that is judged by that student to be unjustifiably low, normally the first step in the appeal process is to discuss the matter with the instructor of the course. This is an informal meeting to attempt to resolve the issue. If the instructor agrees with the student, the grade is changed using standard procedures. If the instructor supports the original decision, the student may file a formal appeal. The student must prepare a formal written statement in accordance with the format presented in the "Protocol for Appealing a Grade," which is described in the next section. The original of this statement is given to the department chair, and a copy is given to the instructor. In response, the instructor must prepare a written statement explaining the reasons for the grade and submit that statement to the department chair with a copy to the student.

#### Step 2: The Department Chair

The chair of the department in which the ap-

pealed grade was received is charged with reviewing the student's and the instructor's written statements. The chair may also interview the student and the instructor, and may conduct whatever additional investigation deemed appropriate to help in the decision-making process. The chair must render a decision within 15 working days of receipt of the student's appeal documents.

If the chair sustains the decision of the instructor, the appeal may be taken by the student to the Dean of the academic college/division. If the chair disagrees with the instructor's decision, the chair must forward all appeal documents to the Dean of the academic college/division. Regardless of the decision, the chair must prepare and submit to the Dean of the academic college/division, a written statement that explains the reason for her/his decision with a copy to the instructor and the student.

#### Step 3: The Dean of the Academic College/Division

The Dean of the academic college/division is next in the formal appeal process. The Dean's first charge is to appoint an impartial committee of graduate faculty members to review all documentation pertaining to the appeal. The Dean will provide copies of all documentation to the committee. In addition to reviewing these documents, the committee should interview both the student and the instructor and may conduct any other investigation deemed necessary. The committee, which is advisory to the Dean, must submit a written statement of its recommendation to the Dean. The Dean should review all documents and recommendations and may interview the student, the instructor, department chair, and conduct any other investigation deemed necessary. The Dean's decision is to be tendered in writing, and addressed to the student, sent by certified mail (return receipt requested) with copies to the instructor, department chair and chair of the impartial committee. The committee's deliberation and the Dean's decision must be completed within 30 working days of receipt of the student's appeal in the Dean's office. If the decision of the Dean is rejected by the student, the appeal may be taken by the student to the Graduate Council.

#### Step 4: The Graduate Council via the Dean of the Graduate School

At the request of the student, the Graduate Council will review all appeal documentation and respond with a decision within 30 working days of receipt of the student's appeal. The Graduate Council may interview the student and instructor and carry out any other investigation deemed necessary. Once the decision is made, it is final and will be communicated by the Dean of the Graduate School.

**Step 5: Change of Grade Within the Specific College/Division (instructor, department chair, dean)**

At any stage where the appeal process is concluded, the last appeal level will process a change of grade, if appropriate, using standard procedures. In instances where the appeal is resolved at the Graduate Council level, the Council's decision is communicated in writing by the Dean of the Graduate School to the student, and copied to the Dean of the academic college/division, department chair, instructor, and chair of the impartial committee. The Dean of the academic college is responsible for processing the change of grade, if appropriate, using standard procedures upon receipt of Council's appeal decision correspondence.

**Protocol for Appealing a Grade**

Protocol for appeal of a grade must include the student's name, department/college, date of the appeal, course title and number, instructor's name, and grade received in the course. Also included must be the student's rationale for appeal of the grade. The student should state as succinctly as possible the reasons for making the appeal. The student must also state the remedy he/she is seeking.

**Dismissals****Dismissal Policy**

A graduate student may be dismissed from a graduate program by a department/college according to the following criteria:

1. If the student receives two or more grades of C+ or below, or
2. If the student fails to meet the continuation standards of the department (including conditions stated in the Admission letter), or
3. If it is the academic judgment of two-thirds of the graduate faculty in the department that the student is not making satisfactory progress in the program, and such judgment is recorded by formal vote.

In all cases the student must be notified in writing by certified mail, return receipt requested, that he/she is dismissed and must be told in the document that she/he has the right of appeal according to the Idaho State University Graduate Catalog. The student should be given a copy of the Graduate Catalog, appropriate catalog pages, or notified that the Catalog is available online or in the Graduate School.

**All dismissal communications are to be copied to the department chair, Dean of the academic college, and Dean of the Graduate**

**School.**

Students receiving letters of dismissal will automatically be dropped from all graduate courses in the program from which they are being dismissed, regardless of whether they choose to appeal; fees will be refunded in accordance with university policy. A "W" grade will then be entered on the transcript for all graduate courses not completed. Students receiving dismissal letters after the 10th day of classes may petition the Dean of the Graduate School for permission to complete the graduate courses in which they are enrolled. Students who appeal the dismissal will be blocked from registration for additional graduate courses during the appeals process. See "Procedures for the Appeal of Dismissal from a Graduate Program" for specific procedures.

The initiation of the appeal of the dismissal must occur within 15 working days of the notification of the dismissal, unless the student is appealing dismissal due to receiving two or more grades of C+ or below. In that case, the student may wish to appeal one or more grades before beginning appeal of dismissal (see "Appeal of a Grade" section). If the grade is upheld, and the student now wishes to appeal the dismissal, the student must begin the appeal of dismissal within 15 working days of receipt of the notification of the decision of the grade appeal. If the grade is changed to a B- or above, and the student no longer has two or more grades of C+ or below, the dismissal will be cancelled by the department/college. However, if the dismissal is based on Items 2 or 3, previously listed, the dismissal proceedings may continue. The Graduate School encourages resolution of appeals at the lowest possible level.

When a dismissal involves plagiarism, cheating, or other academic dishonesty, refer also to the "Academic Dishonesty" section of the Graduate Catalog.

**Procedures for the Appeal of Dismissal from a Graduate Program**

At each level appeal decisions are to be communicated in writing and addressed to the student, sent by certified mail (return receipt requested), and copied to all appropriate level decision persons, and the Graduate School.

**Step 1: The Departmental Level**

1. The student must request reconsideration in writing using the "Protocol for Appealing Dismissal from a Graduate Program," which is described in the next section.
2. A majority of the graduate faculty of the department must meet within 15 working days of the filed appeal and must decide

by a 2/3 vote of those present to sustain the dismissal, or the dismissal is revoked. If necessary, the meeting of the graduate faculty may include those participating by telephone, email, or video conference. Should it prove impossible during the summer to convene a majority of the graduate faculty, the department chair/program director is required to assemble them in the first 15 working days they are on contract in the fall semester.

3. Either decision (revoke or sustain) is to be explained in writing to the student. Copies of this decision and explanation must be sent to the Dean of the academic college and the Dean of the Graduate School.
4. If the department upholds the dismissal, the student may appeal the decision to the Dean of the academic college. The student must appeal to the dean of the academic college within 15 working days of the receipt of the notification of the department's decision.
5. If the dismissal is revoked, the department chair shall notify, in writing, the student, the Dean of the academic college and the Dean of the Graduate School, and the student shall be reinstated using standard procedures.

**Step 2: The Dean of the Academic College**

1. If the student appeals to the Dean of the academic college, then the Dean should review all documents and recommendations and may interview the student, the instructor, department chair, and conduct any other investigation deemed necessary. The Dean must consider the appeal within 30 working days of the student's filed appeal and must decide to either revoke or sustain the dismissal.
2. Dean Overrules Dismissal. If the dismissal is revoked, the Dean must state in writing the reasons for the overrule and notify the student, the department chair, and the Dean of the Graduate School, and the student shall be reinstated using standard procedures. The graduate faculty of the department may appeal the Dean's decision to the Graduate Council following the appeal steps listed in this policy.
3. Dean Sustains Dismissal. If the Dean sustains the decision to dismiss, she/he must notify in writing the student, the department chair, and the Dean of the Graduate School.

**Step 3: The Graduate Council via the Dean of the Graduate School**

1. The student may appeal to the Graduate Council if the Dean of the academic college sustains the dismissal. The student must appeal to the Graduate Council within 15 working days of receipt of the



notification of the dean's decision. This appeal must be in writing.

2. The Graduate Council must consider the appeal within 30 working days of receipt of the student's appeal. This appeal should include copies of all appeal documents.
3. The Graduate Council may interview the student, graduate faculty, and Dean of the academic college, and conduct any other investigation deemed necessary. The student may have an advisor present during Council's interview, but this person shall not act in a legal capacity (these are not legal proceedings) and may not address the Council.
4. The Council's decision to revoke or sustain the dismissal is final.
5. In instances where the appeal is resolved at the Graduate Council level, the Council's decision is communicated in writing, by the Dean of the Graduate School to the student, and copied to the Dean of the academic college and the department chair.
6. The Council's decision, with all other documentation, will be kept in the student's file in the Graduate School.
7. If the decision is to revoke the dismissal, the Dean of the Graduate School will reinstate the student in the program.

### **Protocol for Appealing Dismissal from a Graduate Program**

Protocol for appeal of dismissal from a graduate program must include the student's name, department/college, and date of the appeal. Also to be included is the rationale for appeal of the dismissal. The student should state as succinctly as possible the reason for making the appeal. The student must also state the remedy he/she is seeking.

### **Re-Applying After a Dismissal**

A student may re-apply to a different program at Idaho State University after being dismissed from their current program.

## **Academic Dishonesty**

Academic dishonesty includes, but is not limited to, cheating and plagiarism. Academic dishonesty at the graduate level is considered a serious offense and may result in dismissal from a graduate program.

When a faculty member suspects a graduate student of academic dishonesty, the instructor should present the evidence to the student and consider the student's response. If the instructor concludes after consultation with the student that academic dishonesty occurred, the

instructor writes a letter to the chair of the department in which the student is seeking a graduate degree, describing the incident. The instructor should include with the letter any evidence used to draw the conclusion that academic dishonesty has occurred (e.g., copies of the student's written assignment, copies of documents thought to have been plagiarized, etc.), and should state clearly the penalty imposed within the course itself. The penalty should be in proportion to the severity of the offense. If the penalty is to be a failing grade, the instructor should first consult with the chair of the department, and the chair should meet jointly with the student and faculty member to review the incident. The student may appeal the penalty by following the procedures in the Graduate Catalog entitled "Appeal of a Grade."

The department chair may, in accordance with the policy and procedures of the department, impose the penalty of dismissal from the program. A student may appeal the dismissal by following the procedures in the Graduate Catalog entitled "Appeal of Dismissal from a Graduate Program."

The chair of the department should send a copy of the instructor's letter reporting the offense, along with any evidence submitted to the chair, to the student, to the Dean of the academic college in which the student is seeking a graduate degree, and to the Dean of the Graduate School. A copy of the letter is to be placed in the student's file in the department and in the Graduate School. If the student's appeal is upheld, the letter and all other records of the accusation of academic dishonesty are to be deleted from the student's files.

## **Graduate Student Participation in Classified or Proprietary Research**

The Graduate School affirms the policy regarding the participation of graduate students in classified or proprietary research as it is stated in the Idaho State University Patent Policy. To fulfill the University's obligations as a publicly aided educational institution, University research should serve a public rather than a private purpose and the results should be disseminated on a non-discriminatory basis. The University encourages studies whose results can be freely published. However, the University recognizes that certain proprietary concerns of private research sponsors and the effective commer-

cialization of research outcomes may require limited delays in publication. This policy shall apply to all persons employed by Idaho State University or a component thereof, and to anyone using facilities or funds as outlined in Section V of this policy. This policy, as amended from time to time, shall be deemed to constitute part of the conditions of employment of every employee and of every student. This statement shall be interpreted to mean that students must not be delayed in their program of study up to and including the awarding of the degree and that placement of the finished thesis or dissertation in the library for public access may not be delayed longer than six months.

## **Interdisciplinary Degrees**

Idaho State University offers students the opportunity to pursue an interdisciplinary master's degree (M.A., M.S., M.N.S., M.Ed.). The degree sought will be Interdisciplinary Studies. Other fields in the title will be the fields of academic concentration.

The requirements include: completion of a minimum of 30 credit hours with a minimum of 10 credits in each of the departments participating. Students must be admitted into such a program by each department that participates. Students must contact each department contemplated to be involved prior to initiating the development of an interdisciplinary program.

Although students must take at least 10 credits in each of the departments participating, departments may, at their discretion, require additional credit hours of the students as a condition of the departmental participation and admission of the student in the program. An initial program of study must be submitted to the Graduate School during the first year of course work.

Requirements for interdisciplinary degrees are the same as for other degree programs. An interdisciplinary thesis may be written with a minimum of three credits and a maximum of five credits in each department. The final oral examination must include a representative from each department and a GFR from a department not involved in the interdisciplinary degree program.

## **Interdisciplinary Degree Admission Requirements**

The student must apply to, and meet all criteria for, admission to the Graduate School. Certain departments may also have other admission

requirements. Please check with specific departments for further details.

## Master of Natural Science

Majors in Biology, Chemistry, Geology, and Physics or approved interdisciplinary combinations of the foregoing may lead to the degree of Master of Natural Science. This program is designed to provide subject matter material for those teaching at the secondary level or intending to do so. Requirements include possession of or pursuit of a standard secondary teaching credential. "Pursuit of a standard secondary teaching credential" shall be defined as follows: The following requirements must be completed by the student, or the student must have equivalency in these areas to meet the definition:

If a student enters a M.N.S. program with no equivalent course work in education, the student must take additional credits in addition to 30 graduate credits in the discipline to receive the M.N.S. degree. This requirement involves 12-19 credits, including student teaching, to be completed to receive teacher certification in Idaho. Candidates must complete a program of study in one, two, or three of the areas listed. The committee designing the program of study, in consultation with the student, should be comprised of members from each department involved plus a GFR.

Requirements include: (1) completion of a prescribed program of study of at least 30 credits at the graduate level approved by a departmental committee selected by the student in consultation with the student's major professor, and approved by the Dean of the Graduate School; and (2) satisfactory performance on final written and oral examinations. Courses to be counted toward the degree must be 5500-level or above. At least 22 credits must be taken in residence.

## Study Abroad

**STUA 5500 Study Abroad 9-12 credits:** Pre-arranged, planned courses of study at selected academic institutions outside of the United States. The student is responsible for resident credit arrangements with department(s) and the International Programs Office prior to departure. Prefix and course name will be replaced on ISU transcript when study abroad transcript arrives. Graded S/U. REPEATABLE WITH DEPARTMENT PERMISSION.

## Tuition and Fees

**Fees are subject to change without advance notice by the Idaho State Board of Education prior to the first official day of class. (See "Policy Statement Concerning Graduate Catalog Contents" on the title page of this catalog.)**

In general, the expenses for Idaho State University graduate students may be divided into classifications of fees, board, and room. In addition to the fees listed, some courses may require the expense of special uniforms, protective clothing, field trip expenses, lab fees, or instructional costs for remedial courses.

### Enrollment Fees

Graduate students will be charged fees as full-time students whenever they enroll for 9 credits or more. For financial aid purposes, graduate assistants/fellows and students receiving other financial aid must enroll for 9 credits per semester to be considered full-time.

Certain programs require full-time summer study. Students in these programs are assessed full-time fees during the summer semester.

2012-2013 Fees and Tuition, including student health insurance fee\*.

	Per Semester	Per Year
Check ISU Website		

Please visit <http://www.isu.edu/finserv/costinfo.shtml> for updated information on fees and tuition.

\*The student insurance premium is a part of full-time fees. All full-fee paying students are automatically covered under the University's Student Insurance program. The premium is included in the fee schedule for each semester. Any student with existing health insurance coverage may be exempt from participation in the Student Insurance Plan by completing and filing a Health Insurance Waiver each academic year.

### Part-time Fees (2013-2014 Fees)\*

Graduate	\$374.00 per credit hour
Non-Resident	\$574.00 per credit hour

\* See note regarding fees at beginning of this section.

## Idaho Residency Requirements for Fee Payment

Residency for tuition purposes is governed by Idaho Code § 33-3717 and the residency rules of the State Board of Education. Although a

full-time regularly-enrolled resident student is not required to pay tuition while enrolled at Idaho State University, students are charged fees for educational costs excluding the cost of instruction in accordance with the Idaho State System of Higher Education "Notice to Non-residents of the State of Idaho."

### A student is a "resident" for purposes of fee payment if:

1. He/She has a parent or court appointed guardian currently domiciled in Idaho who has maintained a bona fide domicile in Idaho for at least one year prior to the opening day of the term for which the student enrolls; or
2. He/She receives less than 50% financial support from parents or guardians who are not residents of Idaho and has continuously resided in Idaho for at least 12 months prior to the opening day of the term for which the student enrolls and has established a bona fide domicile in Idaho primarily for purposes other than educational; or
3. He/She is a graduate of an accredited secondary school in the state of Idaho and is enrolled in a college or university in Idaho during the semester immediately following such graduation regardless of the residence of his/her parents or guardians; or
4. He/She is the spouse of an Idaho resident or person who qualifies for Idaho residency; or
5. He/She (or his/her parent or guardian) is an active duty member of the United States armed forces (only the U.S. Army, Navy, Air Force or Marine Corps) stationed in Idaho on military orders and the student receives 50% or more financial support from parent or guardian; or
6. He/She is separated, under honorable conditions, from the United States armed forces (a certified copy of the DD-214 separation papers may be requested) after at least two years of active duty service and has Idaho as the home of record in service or elects Idaho as his/her intended domicile within one year of separation and enters a college or university in Idaho within one year of the date of separation; or
7. He/She is a member of any one of the Idaho Native American Indian Tribes (Coeur d'Alene, Shoshone-Paiute, Nez Perce, Shoshone-Bannock, Kootenai, or Eastern Shoshone), regardless of current domicile.

Any individual who has been domiciled in the state of Idaho, has qualified as a resident and would otherwise be qualified under the provisions of this statute and who is away from the

state for a period of less than one (1) calendar year and has not established legal residence elsewhere provided a twelve (12) month period of continuous residency has been established immediately prior to departure is considered an Idaho resident for purposes of fee payment. Direct specific questions to: Idaho State University, Admissions Office, 921 S 8th Ave Stop 8270, Pocatello, ID 83209-8270, (208)-282-4096

**A “Non-resident” Student shall Include:** Any student attending an institution in this state with the aid of financial assistance provided by another state or governmental unit or agency thereof, such nonresidency continuing for one (1) year after the completion of the semester for which such assistance is last provided. Any person who is not a citizen of the United States of America, who does not have permanent or temporary resident status or does not hold “refugee-parolee” or “conditional entrant” status with the U.S. Immigration and Naturalization Service or is not otherwise permanently residing in the U.S. under color of the law and who does not also meet and comply with all applicable requirements for establishing residency as covered under these provisions.

**Establishing a New Domicile in Idaho:** The establishment of a new domicile in Idaho by a person formerly domiciled in another state has occurred if such person is physically present in Idaho primarily for purposes other than educational and can show satisfactory proof that such person is without a present intention to return to such other state or to acquire a domicile at some other place outside of Idaho. Residency decisions for fee payment purposes are made by the Admissions Office.

**This notice provides for appeal from a final determination denying residency status in the following way:**

Appeal may be initiated by the filing of an action in the District Court of Bannock County wherein Idaho State University is located; an appeal from the District Court shall lie as in all civil actions. Normal Idaho residency requirements shall be in force for students who apply for some special graduate and professional programs. These include but are not limited to the Idaho Dental Education Program (IDEP), the WAMI (Washington, Alaska, Montana, Idaho) Regional Medical Education Program; the University of Utah College of Medicine; the WOI (Washington, Oregon, Idaho) Regional Program in Veterinary Medicine; the Western Interstate Commission for Higher Education (WICHE) Professional Student Exchange Programs (medicine, optometry and occupational therapy) and Graduate Education Program. Students who initially enroll at Idaho State University as nonresidents and later wish

to be considered for a change in residency status may submit an Idaho Residency Determination Worksheet (IRDW) with the appropriate documentation. IRDWs intended to change residency status for the current term are accepted through the tenth day of classes.

NOTE: It is the responsibility of the person requesting reclassification of residency status to provide clear and convincing evidence of bona fide domicile in Idaho.

## Western Regional Graduate Program (WRGP)

The Western Regional Graduate Program (WRGP) makes high-quality, distinctive graduate programs and healthcare-related programs available to students of the West at the resident tuition rate. As part of the Student Exchange Program of the Western Interstate Commission for Higher Education, WRGP helps place students in a wide range of graduate programs, all designed around the educational, social, and economic needs of the West.

Through WRGP, residents of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming are eligible to enroll in available programs outside of their home state at resident tuition rates. Students need not demonstrate financial need.

To be included in WRGP, programs must meet the criteria of distinctiveness (if they are not related to healthcare) and quality. Programs are nominated by their institutions, peer reviewed by other graduate institutions in the West, and then researched and reviewed by WICHE staff for final approval. At this time, some 250 programs from more than 45 Western institutions participate. A full list of WRGP programs is on the WRGP website.

To be considered for the WRGP tuition rate, students simply apply directly to the department of the enrolling institution and identify themselves as WICHE WRGP applicants. Contact information for each participating program is listed in the WRGP online directory. WRGP students must fulfill all the usual requirements of the department and institution concerned, and meet all admission deadlines.

The following graduate programs at Idaho State University have been approved by WRGP:

Audiology - AuD; Biological Sciences: PhD and DA; Deaf Education; English and the Teaching of English; Mathematics; Medical Laboratory Science; Political Science; Ph.D. in

Clinical Psychology and the Ph.D. in Experimental Psychology; Speech-Language Pathology; Waste Management and Environmental Science.

For more information please visit the WRGP website: <http://www.wiche.edu>.

## Other Fees and Charges

Graduate Classified (degree seeking)	
Application/Processing Fee	\$55.00
Unclassified (non-degree seeking)	\$25.00
Late fee (after semester has started)	\$50.00
Reapplication fee (after 8 semesters/terms)	\$55.00
Change of Status (unclassified to classified)	\$55.00

Student Health Insurance Fee: varies by semester; included in full-time fees  
<http://www.isu.edu/finserv/costinfo.shtml>

## Class Fees (in addition to regular registration fees)

Many university classes require additional fees for specialized instruction and/or supplies. See the Class Schedule for class fees required for specific courses.

## Late Registration Processing Fees

Second thru 10th day of classes	\$50.00
After 10th day of classes	\$100.00

To help defray the extra cost involved with late registration, processing fees are charged in addition to any other regular fees. All students (full-time, part-time, faculty, staff, etc.) paying fees after the deadline for fee payment are charged a late processing fee. The cashier is not authorized to accept late registration fee payment without the appropriate late processing fee. This fee is non-refundable. No department or employee of the university, other than those specifically authorized, has the authority to waive the fee.

## Faculty, Staff and Spouse Registration Fee \$20.00 + \$5.00 per credit hour

A copy of the current “Education Policy for Idaho State University Employees” is available in the Human Resources Office. Verification of employment and authorization forms for reduction in fees can be obtained from the Human Resources Office.

## Senior Citizen Registration Fee \$20.00+ \$5.00 per credit hour

Age 60 years or older: proper identification indicating date of birth is required. Fee reduc-

tion applies to Idaho residents only. It does not apply to special class fees. Fee is for courses on a space available basis only.

### Transcript Fee

Please see information at:  
<http://transcripts.isu.edu>

### Application for Graduation and Diploma Processing Fee \$20.00

This fee is collected from each applicant for each graduate degree and for each certificate. This fee is paid to the Office of the Registrar.

### Reprocessing Fee for Graduation \$20.00

This fee is paid to the Graduate School.

### Housing Costs

Please contact University Housing for more information, Stop 8083, Idaho State University, Pocatello, ID 83209, or (208)282-2120.

## Refund Policy

### General Fee Refunds

The Refund Policy applies to all for-credit classes regardless of location of the class.

All fee refunds will be paid by University check.

When any student enrolled in for-credit classes withdraws from Idaho State University or makes schedule changes that reduce the fee obligation, refunds are made on the following basis:

### General University Fees Paid Without Use of a Fee Reduction Program

Refunds are calculated and authorized by the Office of Financial Services. The drop/withdrawal date is the actual date the drop or withdrawal form is received by an authorized University office or automated system.

Refunds of registration charges for full-time fees, part-time credit hour fees, nonresident tuition, professional program fees, and departmental fees are calculated on the total amount of fees paid, using the first official day of the University semester or session as the starting date.

Federal financial aid provisions may require funds to be returned to federal programs in excess of your ISU refund. In such situations, you will be billed for the excess remitted by the University in your behalf.

The official starting and ending dates of all classes are those designated by the University registrar.

### Percentage Refund of Computed Base

#### Fall and Spring Semester:

Classes cancelled by the University	100%
16-week classes for the first (10) ten days of university classes and 8-week classes for the first (5) five days of University classes	100%
16-week classes for the next (5) five days (third week) of University classes and 8-week classes for the next (5) days (second week) of University classes.	50%
16-week classes dropped after the third week of classes. 8-week classes dropped after the tenth day of classes.	No Refunds

#### Summer Session:

Classes cancelled by the University	100%
Full term session (May - Aug) for the first 10 days of University classes and 4, 6, 8 week sessions dropped in the first 5 days of University classes.	100%
Workshop classes dropped before the 1st day of the workshop.	100%
Full term session (May - Aug) for the next 5 days (3rd week) of University classes and 4, 6, 8 week classes dropped in the next 5 days (2nd week).	50%

For classes, short courses, continuing education classes, and workshops with nonstandard starting and ending dates, refund requests are reviewed on an exception basis. The official starting and ending dates are those designated by the University registrar.

### Non-Refundable Fee Charges/Payments

1. Reduced fee charges authorized by the State Board of Education. Examples include faculty/staff/spouse reduced fees, senior citizen reduced fees, education contract classes, etc.
2. Late processing charges.
3. Amounts paid to satisfy unpaid fees/charges from previous terms.
4. Amounts paid for student malpractice insurance.
5. Student Health Insurance premiums are not refunded under this policy. Please contact the Student Insurance Coordinator at (208) 282-2972.

### Refunds for Exceptional Circumstances

In specific cases, as listed below, a full refund of the registration tuition and fees, credit hour fee, non-resident tuition and professional fees

will be granted following official withdrawal from the University, provided the withdrawal process is completed during the first half of the semester or session (i.e., first eight weeks of a semester, first four weeks of a session). Proper documentation must be presented and approval granted by the offices of Student Affairs and Finance and Administration before the refund will be processed.

1. Induction of the student into the U.S. armed forces.
2. Incapacitating illness or injury that prevents the student from returning to school for the remainder of the term. A medical withdrawal must be processed through the University Student Health Center.
3. Death of a student.
4. Death of spouse, child, parent, or legal guardian of student.

### Deductions from Calculated/Authorized Refund

The University reserves the right to deduct amounts owed the University from refunds. Refunds of fees for the term, less any outstanding fee loan balances for the term, are applied to the financial aid awarded to the student in the priority sequence shown below:

1. Amounts required by law to be returned to Federal Financial Aid programs
2. Third party agency payments of actual tuition and fees
3. University authorizations specifically for the payment of tuition and fees (i.e., graduate teaching assistant, athletics, etc.)
4. Federal aid programs (see Financial Aid Handbook for priority)
5. Miscellaneous outstanding balances due the University
6. University loan programs
7. University and donor scholarship programs

### Payment of Refund to Student

A University check for the refund balance is mailed to the home address of the student, along with an itemized disclosure of any deductions. Refund checks are processed four weeks after the beginning of the term, or a minimum of three weeks after the date of payment if the student paid the charges.

### Registration Refund Appeals

Contact the Vice President of Student Affairs or the University Controller for information about the University registration fee refund appeal process. Appeals should be submitted in writing before the end of the term for which the student is appealing.

## Room and Board Fees

Students who fail to complete their agreement with University Housing will have their room and board fees pro-rated and, after appropriate penalties have been deducted, may receive a refund. See University Housing for details on residence hall and apartment living, and for details on any penalties for breaking agreements.

## Delinquent Accounts

The cancellation of registration and withholding of academic credit of any student with a delinquent account or an unsatisfactory financial relationship with the Office of Finance and Administration is authorized without further notice, provided an attempt has been made to notify the student by the campus department in which the hold originated. This regulation may be invoked at the discretion of the Vice President, Finance and Administration, in cases of disregard in the settlement of returned checks, residence hall damage, library fines, telephone toll charges, overdue notes, traffic fines, room and/or board charges, apartment rental charges, etc.

## Dishonored Check Policy

A charge is assessed each time a check is returned, the amount is charged to the student's account, and the student is so notified. If the check is not cleared within ten (10) days, a second notice is sent and a "hold" placed on his/her records.

Any check tendered in payment of registration fees and subsequently returned by the bank will result in automatic postponement of the student's registration.

In the case of a check tendered in payment for room and board and subsequently returned by the bank, the student is notified immediately and allowed not more than five (5) days for the check to clear. If not cleared within that time, the student's meal ticket and/or room reservations is canceled.

## Federal Family Educational Rights and Privacy Act of 1974

Idaho State University in compliance with the Family Educational Rights and Privacy Act (FERPA), is responsible for maintaining educational records and monitoring the release of information of those records. Staff and faculty with access to student educational records are legally responsible for protecting the privacy

of the student by using information only for legitimate educational reasons to instruct, advise, or otherwise assist students.

Only those records defined as "directory information" may be released without the express written permission of the student. Directory information includes the student's name, address listings, telephone listings, e-mail addresses, full-time/part-time status, class level, college, major field of study, degree types and dates, enrollment status, club and athletic participation records, and dates of attendance including whether or not currently enrolled. No other information contained in a student's educational records may be released to any outside party without the written consent of the student.

A student may restrict release of all directory information by filing a Declaration of Non-disclosure of Educational Record Information form in the Office of Registration and Records. Students may choose to restrict release of their address and telephone listings only. This may be done through BENGALWEB. This restriction will apply to the students' address and telephone listings only; all other directory listings will continue to be available for release.

Students must request complete directory information restriction or address/phone listing restrictions during the first week of the fall term to prevent their information from being published in the Student Directory. Any restriction is permanent and remains in place even after the student has stopped attending or has graduated from the University unless the student requests, in writing, that it be removed. Additional FERPA information may be found on the web at: <http://www.isu.edu/areg/ferpafacts.shtml>

## Financial Support

The following financial information is a listing of the categories of financial help that may be available to graduate students. However, in many instances specific sources of assistance are available only at certain times of the year and require application with a deadline enforced. With respect to campus-based aid (special non-resident waivers, loans, and college work study), applications should be made the January preceding the fall/spring semester for which aid is desired. To obtain specific details about a particular type of financial assistance, contact the Office of Financial Aid, Museum Building, Stop 8077, Idaho State University, Pocatello, ID 83209-8077, (208) 282-2756.

## Satisfactory Academic Progress

To retain financial support as a graduate student, almost all sources of funds require that the student must maintain satisfactory academic progress. For graduate assistantships and fellowships, students ordinarily must earn nine graduate credit hours or more each semester and maintain a 3.0 grade point average. Some departments may require additional evidence of satisfactory progress for a student to remain eligible to receive assistantship or fellowship support. Students who receive financial aid through the Office of Financial Aid must meet the criteria established by that office for satisfactory progress to remain eligible for further aid.

## Assistantships and Fellowships

Assistantships and fellowships are awarded at the departmental or college level. Requests for consideration of these awards should be directed to the graduate program director, department chair, or academic dean of a specific academic unit. Most assistantships and fellowships are awarded on an academic year basis. These awards are generally made in the spring for the following academic year. To ensure consideration, a request for such financial support should be made to the academic unit by February or March. Contact individual departments or colleges for specific application deadlines.

**Only students admitted as Classified (degree-seeking) students are eligible to apply for graduate assistantships or fellowships. Classified (w/PR) and Unclassified students are not eligible to receive assistantships.** Because full-time graduate assistants are expected to work up to 20 hours per week, the maximum number of graduate credits an assistant may earn in a given semester is 12. **Normally, a full-time graduate assistant is expected to carry a minimum of nine graduate credits, which is a full load.** DA fellows are expected to carry a minimum of nine graduate credits per semester.

Permission to carry fewer than nine or more than 12 graduate credits may be granted by the Dean of the Graduate School upon written recommendation of the student's advisor or program director.

Doctoral graduate assistants ordinarily receive higher stipends than those at the master's level. Full-time graduate assistants and fellows may also be awarded scholarships to cover in-state student fees, student health insurance, and nonresident tuition in addition to the stipend.

A student with a graduate assistantship or fellowship may be employed in addition to the awarded stipend. This employment may only occur with permission of the Dean of the Graduate School and usually must be limited to 10 hours per week. Requests for permission for such employment must be sent in writing by the department chair or graduate program director to the Dean of the Graduate School.

## Graduate Assistantships (GA)

There are about 200 GAs available across the University; most of these require serving as an instructor for a department. Most assistantships are awarded in the spring semester for the next academic year. Full-time GAs are expected to work up to 20 hours/week for their stipend. Contact the department chair or graduate program director for GA application information.

Graduate assistants who are international students, whose native language is not English, and who have been assigned to teach, must complete an English speaking proficiency examination, usually the Spoken English Assessment Kit (SPEAK), administered at the ISU Student Success Center. In order for an international student to be awarded a GA and teach a course the student must score 23 or above on the Speaking Section of the TOEFL iBT.

Normally, graduate assistants are involved in classroom instruction, supervision of laboratory sections, grading papers and/or examinations, assisting faculty members in research activities, or other equivalent duties.

## Research Assistantships (RA)

Research Assistantships are available across the University through grant monies or other external sources. Conditions of employment and amounts of compensation vary. Questions about such sources of support should be directed to the academic departments or colleges.

## Fellowships

Doctor of Art Fellowships are awarded each year to students admitted to and enrolled in Doctor of Arts programs. These fellowships are available in the Departments of Biological Sciences, Mathematics, and Political Science. Most of these fellowships are awarded in the spring semester for the next academic year. Contact the departments for details and applications.

Contact	Location	Phone
Biological Sciences	Life Sciences Bldg.	282-3765
Mathematics	Physical Sciences Bldg.	282-3350
Political Science	Graveley Hall	282-2211

## Tuition and Fee Scholarships

Departments may offer tuition and fee scholarships as separate awards to graduate assistants, research assistants, and DA fellows. However, these offers are at the discretion of the departments. Non-resident tuition waivers accompany all graduate assistantships and DA fellowships but are offered as separate scholarships.

## Graduate School Awards

### Graduate Assistantship Teaching Experience (GATE)

The former “At-Large” Graduate Assistantships are renamed: Graduate Assistant Teaching Experience (GATE) Assistantships. GATE assistantships are awarded annually by the Graduate School to departments. Department applications are due December 15, with awards being made in early March annually. GATE Assistantships are one year, Master’s level awards. GATE assistants are required to participate in the GATE Curriculum and the GATE opportunity; and allocate and fulfill their assistantship hour requirements as follows:

- Up to 15 hours/week = Department discretion in support of “teaching”
- Up to 5 hours/week = dedicated to the GATE experience.

The GATE Curriculum requires GATE awardees to: (a) enroll in the GATE Seminar during their first (the Fall) semester of graduate study. The GATE Seminar (GRAD 6600) is a 1 credit graduate seminar, designed and delivered by the Graduate School, focused on enhancing, supporting, and facilitating graduate student exploration of, and success in college-level teaching; and (b) enroll/participate in 1 “elective” graduate-level academic credit (or equivalent) focused on teaching.

GRAD 6600 GATE Seminar 1 credit. A graduate seminar designed and delivered by the Graduate School, focused on enhancing, supporting, and facilitating graduate student exploration of, and success in college-level teaching. Required of GATE TA/GA recipients, but open to all ISU graduate students. Graded S/U. May be repeated.

## Non-Resident Tuition Waivers (NRTW)

There are several categories of non-resident tuition waivers. In each case a different con-

tact person or procedure must be followed in applying. It is important to note that these waivers do not cover the required in-state enrollment fees, but only the non-resident tuition. Unless other scholarships are awarded, the student must pay the in-state enrollment fees each semester, including summer.

A limited number of these awards are distributed on a competitive basis. To be eligible for consideration for an NRTW, a graduate student must have Classified admitted status and have submitted GRE/GMAT/MAT scores to the Graduate School. Students should apply using the form supplied by the Graduate School. NRTW applications must be received by May 1st for the following Fall Semester consideration and by December 1st for the following Spring Semester. The non-resident tuition waiver may be granted for the academic year or for one semester only. Awards are made after final grades for the current semester are recorded.

Minimum Criteria:

- Must be full-time (at least 9 graduate credits each semester)
- Must be a degree-seeking undergraduate student
- Must have a minimum GPA of 3.00 at the time of award and for award renewal
- Awards are renewable for up to eight semesters based on meeting the minimum criteria
- Preference given to academically superior students in under-subscribed majors

Programs that currently do not qualify for a NRTW: Counseling, CESED, Nursing, Occupational Therapy, Physicians Assistant & Physical Therapy

## Other Non-Resident Tuition Waivers (NRTW)

Additional waivers beyond those described may be available and require application to the appropriate office. These waivers are awarded on a competitive basis. Contact and application may be made to the offices listed below.

- Financial Needs—contact: Financial Aid Office—RM 337 Museum Bldg.—phone: 282-2756
- International Students—contact: Division of Student Affairs—RM 184 Hypo—style—phone: 282-2315

## Loans

Loans may be available to graduate students. To inquire about application and eligibility requirements contact the Office of Financial

Aid, Room 337, Museum Building, Stop 8077, Idaho State University, Pocatello, ID 83209-8077, (208) 282-2756.

## Grants

Federal grant programs administered by the Office of Financial Aid are not available to graduate students. Pell Grants, Supplemental Educational Opportunity Grants, and State Student Incentive Grant Programs are only available to undergraduate students who have not earned a bachelor's degree. Special non-resident waivers administered by the Office of Financial Aid are available to graduate students who are citizens or eligible non-citizens and meet other financial need criteria.

## Research Grants

A small fund in the Office of Research has been created to provide money to graduate students on a competitive basis to conduct thesis or dissertation research. Research proposals with budgets must be submitted to the Office of Research by deadlines established and posted on the Office of Research website. Guidelines for research grant proposal preparation are available from the Office of Research. The Call for Proposals is typically sent out the first Monday in February for the following Fall Semester, and the last Monday in September for Spring Semester awards.

## Scholarships

Scholarships are available to graduate students in some instances. Announcements of scholarships currently available are posted on the scholarship bulletin board located outside the Office of Financial Aid (Museum Building, Room 327). Please note that some scholarship categories are discontinued at times and new ones are created. Therefore, a regular check at the Office of Financial Aid may be useful to interested students. In addition, there may be off-campus scholarship sources such as parents' or spouses' employers, fraternal organizations, churches or businesses, or national foundations. These sources may be discovered by a systematic and careful search by the student. Departments/colleges may also have specific scholarships.

A small number of ASISU scholarships, which are derived from student fee payments, are available to graduate students. These are awarded on a competitive basis. Application materials can be obtained from the offices of Deans of academic colleges, the Office of Research and the Graduate School near the middle of each semester. The Graduate Student Scholarship Committee recommends awardees to the Scholarship Office and the ASISU Senate. Graduate student applications

for consideration of ASISU scholarships must be returned to the Graduate School to be considered for a graduate student ASISU Scholarship.

## Employment Information

A student with a graduate assistantship or fellowship may be employed for compensation in addition to the awarded stipend. This employment may only occur with permission of the Dean of the Graduate School and usually must be limited to 10 hours per week. Requests for permission for such employment must be sent in writing by the department chair or graduate program director to the Dean of the Graduate School.

Student Employment is now found at the Career Center (<http://www.isu.edu/career/>). Please contact (208) 282-2778.

Work Study: Work Study positions are part of a financial aid package and are administered through the office of Financial Aid. A complete list of work study positions is available on their website (<http://www.isu.edu/finaid/cws.shtml>)

## Travel Funds

Graduate students may request aid for travel expenses to present papers on thesis or dissertation research at regional or national meetings. Such requests should be presented only after a paper has been accepted by the official sponsoring organization of the discipline. Funds for such purposes are very limited, and only modest requests are likely to be funded. Funds for such purposes should be requested sequentially from the following contact points:

Academic Department  
Academic College  
Office of Research  
Graduate School

When submitting written requests to the Office of Research for travel funds, a breakdown of expenses for registration, lodging, travel, and per diem is necessary. See the Office of Research website for details.

## Thesis and Dissertation Research Costs

Some Academic departments meet at least some of the costs of thesis and dissertation research. In some instances such costs may be met by extramural funds obtained by faculty and/or departments. With the exception of the small research grant program listed previously, the Office of Research does not provide funds for such purposes and will refer students to the

department chair or dean of the college when such requests occur. Publication costs of theses and dissertations are met by the student unless a faculty member or department chooses to pay such costs with funds available to them.

## Physical Facilities and University Services

The Idaho State University campus is situated on 240 developed acres of its 1,100 acres of property. Its 105 buildings are surrounded by 180 acres of attractively maintained landscape. There are over 5,600 parking spaces available throughout the campus.

For convenience, a free on-campus shuttle bus is available during the fall and spring semesters. Riding a bicycle is also a popular way to get around campus. The campus is located just off of the interstate, making access very easy. The University commuter bus system brings students to the campus from over one hundred miles away from Rexburg, Idaho Falls and areas in-between. A commercial bus service is also available from Twin Falls and surrounding areas to campus.

ISU classes are located in the various campus buildings ranging from the oldest, Frazier Hall (built in 1925), to the newest, the Rendezvous Building (completed in 2007). The Rendezvous is a new 256,000 square foot, multi-use facility located in the center of campus and contains 82 new student suites that house 300 students, a 40 classroom academic building with a 250 seat lecture hall/future planetarium, a new food court service facility to serve housing students and retail customers, as well as a 120 seat drop-in computer lab and numerous styles of study and relaxation spaces. This expansive facility creates a new living, learning, studying, social and academic heart for the campus.

The L. E. and Thelma E. Stephens Performing Arts Center, completed in 2004, is located on 16.8 acres, high on a hill on the perimeter of the campus, adjacent to Interstate 15. This 123,000 square foot facility includes a 1,200 seat concert hall, an elegant rotunda, a 446 seat thrust theatre, and a 200 seat black box theatre. The three-level concert hall, the Center's largest venue, incorporates state-of-the-art design and technology to optimize sound. The Center also includes classroom space, offices for the Department of Theatre and Dance, and a conference room. The facility and the various, wonderful performances it holds are a must-see part of campus.

Opened in October 2008, the Center for Advanced Energy Studies or "CAES" Building is

a world-class research facility with offices and laboratories for collaborative projects between Idaho State University, Boise State University, the University of Idaho, and Idaho National Laboratory scientists and engineers. The building is planned as a LEED Gold building and located on our Idaho Falls campus. It is a 55,000 square foot, \$18 million facility and includes a hydrogen lab, advanced materials lab, imaging suite, radio chemistry and chemistry labs, systems modeling, power wall, and visualization cave.

Opened in 2009, ISU's 46,000 square foot ISU Meridian Building includes programs with an emphasis on health sciences.

Remodeling and updates of the campus are an ongoing process. All of the campus buildings are accessible to the disabled.

Occupied in 1971, Holt Arena was the first enclosed football stadium on any university campus. The arena is used for football and basketball games, indoor track meets, and various trade and garden shows.

Recently remodeled Reed Gymnasium provides a unique and exciting venue for basketball games, volleyball, and other sporting events. A world-class climbing wall is located in the Recreation Center along with racquetball courts, a running track, weight rooms and other sports equipment rooms as well as a swimming pool. The Recreation Center was expanded in 1996 and again in 2010.

Historic Davis Field provides a well-maintained, multi-use field and outdoor running track where Idaho State University hosts a variety of events including soccer games and track meets and Special Olympics. Bartz Field is a 30 acre, dog-friendly field used for events such as softball, archery, sledding, cross country, golf, and rugby. The Pocatello Greenway passes through the campus above Davis Field, connecting with several miles of trail through the Portneuf Valley.

Outdoor recreation opportunities abound on the many acres of developed and undeveloped campus grounds. A disc golf course, challenging cross-country track, bike trails, jogging trails, hiking areas, and walking paths are part of the Idaho State University campus, and softball, track, ultimate frisbee, soccer, and rugby are all options for the active student. Summer and winter sports including skiing are also available only minutes away in the beautiful mountains surrounding the city.

The ISU-Idaho Falls campus provides modern classroom facilities and a student union. The University also has many outreach centers available to assist students in Southeast Idaho,

Twin Falls, and Meridian.

## Student Health Services

The ISU Student Health Center provides the entire range of medical office care as is provided at a hometown doctor's office. This includes everything from treatment of colds and flu to treatment of high blood pressure and diabetes. Care is provided for broken bones, lacerations, abscesses, and other urgent care problems. Preventative health services such as immunizations, nutrition counseling, and birth control are areas of particular interest.

All full-time fee paying students (9 credits or more) are eligible to see a care provider at the Student Health Center at no charge. (Student insurance is not required to utilize the Student Health Center.)

Part-time students and spouses of full-time students are charged a clinic fee to see a care provider. The Student Health Center bills private insurance as well as student insurance when billable services such as laboratory tests, X-ray studies, special procedures, etc. are performed. Same day appointments are available as well as advance appointments. A walk-in clinic is held each day. A valid Bengal ID card is required to obtain services.

The Student Health Center is located at 990 Cesar Chavez Avenue—across from Graveley Hall. For additional information call 208-282-2330.

The Student Pharmacy provides low-cost prescription drugs as well as over-the-counter medications at reduced costs. Students may wish to transfer prescriptions to the Student Pharmacy while they are attending ISU. All ISU students, both full- and part-time can use the Student Pharmacy.

The Dental Hygiene Clinic provides dental care by dental hygiene students, evaluated by licensed hygienists serving as faculty, and supervised by licensed dentists.

The Department of Physical and Occupational Therapy operates several programs providing clinical services to patients from the university and community on a sliding payment scale.

The Department of Speech Pathology and Audiology operates the ISU Speech and Hearing Center and the Audiology Clinic, offering comprehensive evaluation, diagnostic testing and therapy services.

The ISU Wellness Center helps students maintain desired levels of health and fitness through a wide variety of classes, including aerobics, aquacise, and yoga, as well as weight

machines, free weights, and a variety of cardio machines. The Wellness Center also provides fitness assessments, health appraisals, nutrition analyses and education, and campus-wide health screenings. Many Wellness Center services are free to ISU students.

The Janet C. Anderson Gender Resource Center at Idaho State University serves as the focal point on campus for the consideration of gender issues. The mission of the Center is to increase awareness and promote open dialogue about gender through its resources and services, educational programming and support of gender-related research. In our efforts, we are especially guided by the ideal of diversity, as valued by the Division of Student Affairs, which allows us to envision a future free of the limitations imposed by our culture's standard definitions of gender. Funded by Student Affairs through mandatory student fees, the Center's primary target audience is that of ISU students; the Center also welcomes the interest and participation of prospective students, ISU faculty and staff, and members of the Eastern Idaho community.

## Counseling and Testing Center

The Center for Counseling and Testing Services provides personal counseling and individual assessments to assist students in coping with psychological, emotional and interpersonal stress. Crisis intervention and consultation with concerned faculty and staff regarding student's needs are other important services available. Counseling staff can usually assist students with concerns such as anxiety, depression, self-esteem, motivation, eating problems, stress relief, and interpersonal relations. Personal counseling is free and confidential; all staff are licensed by the State of Idaho as counselors or psychologists.

The Center administers over 50 national and several institutional tests, including those for Graduate School and professional school admission, such as the Graduate Record Exam (GRE), Graduate Management Aptitude Test (GMAT), Medical College Aptitude Test (MCAT), etc., teacher certification (NTE), and professional certification exams (Real Estate, Social Work, Dental Hygiene, etc.).

The Center is the Computer-Based Testing Center in this region for administering the GRE, GMAT, MAT, PPST, and NBTCP.

## Information Technology Services

Information Technology Services (ITS), located in the basement of the College of Business



building, is dedicated to meeting the computing needs of students. Kiosk computers are installed in numerous locations throughout campus to provide fast and convenient stand-up email and Internet access. Nine computer labs in Pocatello, three in Idaho Falls, two in Meridian, and one in Twin Falls are open to Idaho State University students. Additional computer labs with specialized discipline-specific software, operated by individual departments, but supported by ITS, are also available. Use of the computer labs, kiosks, wireless network and most departmental labs require the purchase of an ISU Computer Account (currently \$35.00 per semester and \$30.00 summer).

ISU Computer Accounts may be purchased at the IT Service Desk in Pocatello (BA-B9 and Rendezvous Computer Lab), and in the ISU-Idaho Falls, ISU-Twin Falls and ISU-Meridian computer labs. The ISU Computer Account allows access to the computer labs, kiosks, data storage, personal web page, printing, access to email and the ISU wireless network. Some courses require an ISU Computer Account.

The IT Service Desk, [help@isu.edu](mailto:help@isu.edu) or 208-282-HELP (4357), provides support to students accessing ISU's information technology services, such as Moodle ISU and e-mail from personal computers and laptops. Students may also visit our IT Service Desk locations wherever ISU Computer Accounts are sold (locations listed above).

Idaho State University's home page, <http://www.isu.edu>, provides access to a wide variety of university information (such as web-based course material, campus events, online library access and this Catalog). All admitted students have a personal customizable Web portal found at <http://my.isu.edu>. All enrolled students are provided an Idaho State University email account.

Students are encouraged to use the online technical support page at <http://help.isu.edu>.

For more information about ISU's Information Technology Services, visit <http://www.isu.edu/its> and the Computer Labs & Technology web site found on ISU's "Current Student" home page (<http://www.isu.edu/current.shtml>).

## Eli M. Oboler Library Building

The University Library, named for its past Director, Eli M. Oboler, contains major collections of books, periodicals, electronic resources, maps microforms, and government

publications, and provides a full range of services to students, faculty, and staff. The library collection of book and serial volumes and its active journal subscriptions in all formats are accessible through its automated catalog and circulation system, available through the library web page. These resources are available to the Idaho State University community. For most resources, remote access is available across the state with appropriate authentication. The University Library has been a depository for federal publications since 1908, and for State of Idaho publications since 1972. The government publications collection contains printed items and items published in microform.

General reference service is provided on the first floor, where librarians are available to assist patrons in the use of databases and other reference resources. Library instruction is available to classes and student groups, and is tailored to address students' specific needs, from general library orientation to subject-specific bibliographic research. In addition to supplying informational materials from its own collections, the library provides an interlibrary loan service equipped to locate and deliver books and periodical articles from other libraries' holdings. Using online electronic ordering and transmission, as well as postal services, the interlibrary loan service fills most requests within a week, but students should allow a two-week turnaround time.

The Idaho Health Sciences Library, a department of the Eli M. Oboler Library, supports the health sciences information needs of the university and the Idaho health-care community. It also provides specialized health science reference, research, and instruction services. The Arthur P. Oliver Law Library, located on the first floor of the Eli M. Oboler Library, houses more than 13,000 law books. An excellent reference resource for students, faculty, and staff, it is supplemented with legal databases.

Idaho Falls Services: The University Library Center at Idaho State University-Idaho Falls provides reference services, a limited reference collection, and a study area for Idaho State University students. Also available are public access workstations on which students and faculty are able to access most of the information databases available to students at the main campus. With the assistance of trained staff, students are able to request the delivery of books and journal articles from the University Library.

Twin Falls and Lewiston: The Oboler Library has agreements with the libraries at the College of Southern Idaho and at Lewis-Clark State College. These agreements ensure strong

library support for Idaho State University's students in the Twin Falls and the Lewiston areas. Under these agreements, Idaho State University students are able to access the two libraries and check out materials. They also receive full reference, instruction, interlibrary loan, and database searching services. On-line access to Idaho State University Library databases and the catalog are available.

Meridian: A similar agreement in Meridian provides Idaho State University students and faculty the same library privileges accorded to Boise State University students and faculty upon presentation of their Idaho State University Bengal identification cards.

Graduate students are encouraged to use all the services mentioned above, especially library instruction for any classes they teach. Those teaching may also take advantage of the library's reserve service for class supplemental readings. Reserve services are available online, as well as in Pocatello and in Idaho Falls. Interlibrary loan is required to supplement the local collection in certain research fields. The reference staff is available for searching specialized databases and for assisting with research.

For more detailed information regarding Library services, including hours of service and policies, please visit the library website at [www.isu.edu/library](http://www.isu.edu/library).

## Idaho Museum of Natural History

It is the mission of the Idaho Museum of Natural History to actively nurture an understanding of and delight in Idaho's natural and cultural heritage. As the official state museum of natural history, it acquires, preserves, studies, interprets, and displays natural and cultural objects for Idaho residents, visitors, and the world's community of students and scholars. The Museum also supports and encourages Idaho's other natural history museums through mentoring and training in sound museological practices.

The Idaho Museum of Natural History is home to collections in anthropology, vertebrate paleontology, earth science, and the life sciences. It holds an archive of documents and ethnographic photographs. Researchers pursue scholarly study of the collections and publish their findings in peer-reviewed and museum-sponsored publications. The Stirton-Kelson Library of the IMNH specializes in archaeological and paleontological holdings and is a branch of the main ISU Eli M. Oboler Library. Exhibitions emphasize the collections and mission of the Museum, and include perma-

ment and special offerings. Educational classes for children, families, and adults provide more in-depth exploration of the natural history of Idaho.

Curators lead national and international research in Quaternary studies. The Museum's research profile supports acquisition and use of collections for research and education. Undergraduate and graduate students have access to Museum collections for instruction, training, and graduate theses and dissertations.

The Museum offers undergraduate and graduate students educational credits under Museum prefixes and through courses in Anthropology, Biology, Education, Geo-science, History, and other affiliated Idaho State University departments.

The Idaho Museum of Natural History galleries are open from 12:30 p.m. - 5 p.m., Wednesday through Friday, 10:00 a.m. to 5:00 p.m., on Saturdays, except for Federal and State holidays. There is no admission fee.

## Affirmative Action/ Equal Opportunity

Idaho State University is committed to providing a positive education for all students. The University has a legal and ethical responsibility to ensure that all students and employees can learn and work in an environment free of harassment and discrimination. It is the ISU policy to prohibit and eliminate discrimination on the basis of race, color, national origin, religion, sex, age, or disability. This policy applies to all programs, services, and facilities, and includes, but is not limited to, recruitment, applications, admissions, access to programs and services and employment. For additional information and specific contact information, see: <http://www.isu.edu/aaction/>

## C. W. Hog

The Cooperative Wilderness Handicapped Outdoor Program (C.W. HOG) is a year-round program of activities for people with and without disabilities. Academic credit may be granted for participation in activities which include weight training, swimming, snow skiing, water skiing, and whitewater rafting.

## Americans with Disabilities

The Americans with Disabilities Act (ADA), of 1990, is the civil rights guarantee for persons with disabilities in the United States. It provides protection from discrimination for individuals on the basis of disability. The ADA extends civil rights protection to people with disabilities in matters which include

transportation, public accommodations, accessibility, services provided by state and local government, telecommunication relay services, and employment in the private sector.

Idaho State University, in the spirit and letter of the law, will make every effort to comply with "reasonable accommodations", according to section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the ADA Amendments Act, (ADAAA), of 2008. Idaho State University will not discriminate in the recruitment, admission, or treatment of students or employees with disabilities.

Students with disabilities who wish to have accommodations provided by the University must self identify to the ADA & Disabilities Resource Center for determination of need for accommodations. Information about and applications for accommodations are available at the ADA Center and may be picked up in person or requested by telephone or TDD by calling (208) 282-3599.

In order for the ADA Center to arrange accommodations for those who need assistance, they request documentation of disability as early as possible so that timely arrangements can be made.

Students and employees who need auxiliary aids or other accommodations should contact the Director, Dennis Toney, at the ADA & Disabilities Resource Center, Graveley Hall, Room 123, Stop 8121, (208) 282-3599.

## Other Student Services

In addition to the services mentioned previously, some of the other general student services available on campus are:

- the International Programs Office, which provides assistance, support and guidance to Idaho State University's international students. Services include student orientation to the Idaho State University campus and Pocatello community, on-going cross-cultural activities, student-to-student mentor programs, and additional programs to help international students make the most of their time at ISU.
- the Student Success Center, which offers programs in study skills, reading, writing, mathematics, and English for speakers of other languages, and includes individualized instruction, tutoring, and workshops. The Center also administers the Content Area Tutoring Program.
- the Career Development Center, which provides career counseling, career testing, alumni consultants, internship opportunities, student employment assistance, job interviewing techniques, networking

skills training, credential files, on-campus recruiter interview, and other career-related support to students and alumni in both individual and group settings.

- the Student Employment Center, which assists students seeking employment while enrolled at the university and provides lists of summer employment opportunities for Idaho and other states. Assistance is available to all students enrolled for 6 credit hours or more each semester. Employment vacancies are listed on the web and posted in the office.
- the Idaho State University Bookstore offers a selection of textbooks, computer supplies, school and office supplies, Idaho State University clothing, gifts and greeting cards, and general interest books. The Bookstore maintains branch offices in Idaho Falls (University Place) and Twin Falls (CSI Bookstore).
- the ASISU Early Learning Center, which provides child care for children six weeks of age through elementary school while their parents attend classes or work at the university. Children are enrolled in developmentally appropriate classes led by a professional staff assisted by student employees. Parents are encouraged to visit the Center, for more information about services.

## Alumni Association

[www.isu.edu/alumni](http://www.isu.edu/alumni) and [alumni@isu.edu](mailto:alumni@isu.edu)

The mission of the Idaho State University Alumni Association is to promote the welfare and to advance the objectives of Idaho State University through the sustained involvement of its alumni by providing philanthropic, intellectual and social opportunities.

The association is governed by a board of directors and administered through the office of Alumni Relations, 554 S. 7th Avenue, Pocatello, in the H. F. Magnuson House.

Specific goals are to identify alumni and friends to assist Idaho State University in strengthening support from its constituencies, to inform alumni and friends about Idaho State University; to provide for the efficient management of the Alumni Association, and to involve and motivate alumni and students to maintain their affiliation and support of Idaho State University.

The officers and directors meet three times a year with the director of alumni relations, who is appointed by the university administration.

## Idaho State University Foundation, Inc.

The Idaho State University Foundation is a nonprofit corporation established in 1967 under the laws of the State of Idaho.

The Mission of the Idaho State University Foundation is to stimulate voluntary private support from alumni, parents, friends, corporations, foundations, and others for the benefit of Idaho State University.

The Foundation raises and manages private resources supporting the mission and priorities of the University, and provides opportunities for students and a degree of institutional excellence unavailable with state funding levels.

The Foundation is dedicated to assisting the University in the building of the endowment to address, through financial support, the long-term academic and other priorities of the University.

The Foundation is responsible for identifying and nurturing relationships with potential donors and other friends of the University; soliciting cash, securities, real and intellectual property, and other private resources for the support of the University; and acknowledging and stewarding such gifts in accordance with donor intent and its fiduciary responsibilities.

The Idaho State University Foundation is located on the first floor of the Administration Building.

## University Housing

[www.isu.edu/housing](http://www.isu.edu/housing)  
[reslife@isu.edu](mailto:reslife@isu.edu)  
 208-282-2120  
 745 S. 5th Avenue, Stop 8083  
 Pocatello, ID 83209-8083

The mission of University Housing is to provide secure, clean, and affordable living-learning environments that promote student engagement by encouraging and supporting opportunities for academic success, personal development, community building, and the well-being of each individual resident.

### To Apply

Applying for University Housing is separate from application to Idaho State University. Housing applications are completed and submitted online. To apply go to the Housing website ([www.isu.edu/housing](http://www.isu.edu/housing)) and then click the "Apply Now" link on the left. Then select either the residence hall or apartment application. First-year students can only sign up for the residence halls. If you have questions please email [reslife@isu.edu](mailto:reslife@isu.edu).

### Housing Options

University Housing offers traditional and suite style residence halls. On-campus apartments are available for sophomores and above, married students, and students with children. A section of Pulling Courts has been designated as Graduate Student Housing. Floor plans, photos, and virtual tours, as well as cost information, can be found on our website at [www.isu.edu/housing](http://www.isu.edu/housing). The Housing fee covers all utilities, as well as local telephone service, basic cable television, and wireless internet (internet service requires an ISU computer account).

### Food Service

University food service is required for first and second-year students living in the residence halls, and is an option for other students.

## Institutes

### Biomedical Research Institute

The Biomedical Research Institute embraces the latest advances in biomedical engineering, biotechnology, nanotechnology, neuroscience and bioinformatics and bio-signaling research in medicine, biology, and healthcare. The Institute aims to further enhance the fulfillment of the mission and goal of Idaho State University as the lead among Idaho universities in the health professions.

Established in 2005 to increase the collaboration, efficiency and focus of the University's biomedical research activities, the Biomedical Research Institute will provide additional resources for faculty to improve research capabilities.

The long-term vision of the Institute is to establish a nationally and internationally recognized interdisciplinary biomedical research environment where scientists, engineers, and health professionals can interact synergistically, without the restrictions of traditional discipline barriers.

The Institute's four major focus areas are behavioral and neuroscience; bio-signaling and communication; functional genomics and biotechnology; and health science and engineering. For more information, see [IBRI.ISU.EDU](http://IBRI.ISU.EDU).

### Informatics Research Institute

The Informatics Research Institute (IRI) is an academic unit providing coordination for several interdisciplinary degrees and research centers across campus. Informatics is an integrative discipline that arises from the synergistic application of computational, informational, organizational, cognitive, and other disciplines whose primary focus is in the acquisition, storage and use of information in a broad

spectrum of domains.

### Institute of Emergency Management

The Institute of Emergency Management, (IEM) located on the Idaho State University Meridian Center Campus, was approved by the Idaho State Board of Education in July 2003. The purpose of the Institute is to offer workshops, courses, certificates, and in the future degrees, to meet the professional and career development needs of Idahoans employed in or planning a career in Emergency Management. The Institute delivers courses statewide at various sites in Idaho communities, to meet the needs of local first responders.

### Institute of Nuclear Science and Engineering

Idaho State University has established an Institute of Nuclear Science and Engineering (INSE) with approval from the Idaho State Board of Education in 2003. The Institute is a collaborative entity among ISU, University of Idaho and Boise State University. Under the INSE's administrative umbrella, the three universities jointly focus on nuclear science and engineering education at the combined Idaho Falls campus. Nuclear-related research in conjunction with the new Idaho National Laboratory is also coordinated through the INSE at University Place in Idaho Falls.

### Institute of Rural Health

The mission of the IRH is to improve the health of communities through research, education, and service. Vision: Our programs increase access to healthcare; enhance quality of care and health outcomes; improve the professional quality of life for providers; and seek to close the gap in health disparities—particularly among rural populations—by enhancing access to technology, endorsing a diversity of ideas, and encouraging cultural competency.

## Oak Ridge Associated Universities (ORAU)

Since 1993, students and faculty of Idaho State University have benefited from ISU's membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 91 colleges and universities, and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education, the DOE facility operated by

ORAU, undergraduates, graduates, postgraduates and faculty may access a multitude of opportunities for study and research. Students may participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the number of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at [www.ora.gov/orise/educ.htm](http://www.ora.gov/orise/educ.htm), or by calling either of the contact persons below.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scientist Program, consortium research funding initiatives, faculty research, and support programs, as well as services to chief research officers. For more information about ORAU and its programs, visit the ORAU website at [www.ora.gov](http://www.ora.gov) or contact:

Office of Research (208) 282-2618

or

Monnie E. Champion  
ORAU Corporate Secretary  
(865) 576-3306

## Idaho State University Education Centers

Idaho State University has education centers throughout the state, with offices in Meridian, Idaho Falls, and Twin Falls.

### Idaho State University-Meridian

Dr. Bessie Katsilometes, Dean, Academic Programs  
Idaho State University-Meridian  
1311 East Central Drive  
Meridian, Idaho 83642  
(208) 373-1700

In keeping with Idaho State University's mission to educate health professionals and address the need for graduates in the health disciplines, Idaho State University-Meridian offers several programs in the health professions.

Idaho State University-Meridian offers undergraduate programs and graduate degree pro-

grams, primarily in the health professions, including the third and fourth year in a Doctor of Audiology program. The College of Pharmacy oversees third- and fourth-year professional pharmacy students, including clinical rotations in the Meridian area. Other programs housed at Idaho State University-Meridian include a dietetic internship and a dental residency program.

The ISU-Meridian Health Science Center, which spans four acres, houses nine distance-learning classrooms, the L.S. Skaggs Pharmacy Complex; Counseling and Speech and Language clinics; and human patient simulation and clinical/medical science laboratories.

Student applications and enrollment materials are available at Idaho State University-Meridian.

### Idaho State University-Idaho Falls

Dr. Lyle Castle, Dean, Academic Programs  
Idaho State University-Idaho Falls  
350 University Place  
1784 Science Center Drive  
Idaho Falls, ID 83402  
7800 from campus telephones  
(208) 282-7800 from off campus  
[www.isu.edu/departments/ifche](http://www.isu.edu/departments/ifche)

Idaho State University - Idaho Falls is the largest provider of higher-education opportunities in one of the state's most dynamic cities.

Located at University Place, adjacent to the scenic Snake River Greenbelt and the city's Freeman Park, ISU - Idaho Falls provides opportunities for individuals from all backgrounds, from recent high school graduates and working adults to Idaho National Laboratory employees seeking career advancement.

Opportunities include complete associate, bachelor, master's and doctoral degrees that can be earned through day and evening classes. Many academic programs cover the first two years of General Education Requirements for any ISU degree.

In addition to academic programs and classrooms equipped with contemporary technology, students find computer labs, a cafeteria, bookstore, auditorium for public events, even a comfortable lounge where they can study and relax between classes.

Idaho State University is a Carnegie-classified doctoral research institution founded in 1901, educates approximately 13,000 students per year in more than 280 programs. It is Idaho's lead institution in health professions and medical education. Its seven colleges engage in a

broad range of innovative research, teaching, and learning in the natural and physical sciences, humanities, performing and visual arts, education, engineering, business, pharmacy and technology.

Students at Idaho State University-Idaho Falls take classes that are not only close to home, but also just a short drive from a three-state region's commercial, health care, business and government centers. Upper Valley residents who are seeking continuing-education opportunities find electives as well as noncredit professional- and personal-development courses. Day and evening classes also are available. Among the many degree programs that can be completed at Idaho State University-Idaho Falls are associate degrees in biology, business, English, history, mathematics and physics; the M.B.A.; the B.S. in nuclear engineering; the Ph.D. in Engineering and Applied Science (Nuclear Engineering); the B.S. in nursing; and the M.Ed. and Ed.D.

Through its partnership with the University of Idaho, students can take classes from either university using a single admission, registration and fee-payment process. A partnership with Eastern Idaho Technical College makes health-professions education available close to the city's high-tech regional medical center.

Between classes, students can cross-country ski at adjacent Freeman Park, jog on the paved riverside greenbelt, or watch University Place's resident bald eagles and ospreys soar above the river.

To learn how Idaho State University-Idaho Falls can help you achieve your goals conveniently and affordably, call (208) 282-7800; visit the campus at 1776 Science Center Drive; or browse online at [www.isu.edu/departments/ifche](http://www.isu.edu/departments/ifche).

### Idaho State University-Twin Falls

Ms. Chris Vaage, Director  
Idaho State University-Twin Falls  
Evergreen Building, Suite B-40  
College of Southern Idaho  
P.O. Box 1238  
Twin Falls, ID 83303  
(208) 736-2101 • (208) 282-4840

Idaho State University has offered courses in the Twin Falls area since the 1960s. As part of the University's mission to serve southern Idaho students, a center was established in Twin Falls in 1981. The center was moved in 1992 to the Evergreen Building on the College of Southern Idaho campus, which also houses two state-of-the-art distance learning classrooms and a student computer laboratory net-

worked with the Idaho State University campus. Three professionals and support staff advise students with curriculum questions and act as general advocates for commuting students.

Idaho State University's offerings in the Magic Valley include programs leading to one doctoral, four master's, and five baccalaureate degrees from the Colleges of Arts and Sciences, Education, and Health Professions. Idaho State University provides the upper-division and graduate work on a rotating schedule, while the general education requirements and most other lower-division courses are available through CSI. University professors and highly qualified local adjunct instructors ensure that course quality is equal to that found on the Pocatello campus.

An interactive telecommunications system has broadcast classes live from Pocatello to CSI since 1990. Courses in anthropology, biology, communication and rhetorical studies, corporate training, education, English, geosciences, health education, history, library science, mass communication, nursing, pharmacy, political science, psychology, social work, sociology, women studies, and vocational education have all been presented in this way. Regularly scheduled courses are enhanced by courses Idaho State University delivers to area school districts for teacher development. Workshops and seminars in specific professional development areas are also available.

Access to Internet, email, and a large variety of software augment the Idaho State University student experience in a 20-station computer lab networked with the main campus. Twin Falls area Idaho State University students who have home computers with modems may access the network with a local phone call. Free computer workshops are routinely scheduled in the lab.

Other services include registration, fee payment, and assistance with University forms and information. In addition, a student commuter bus operates between Twin Falls and Pocatello.



# College of Arts and Letters

Kandi Turley-Ames, Ph.D., Dean  
 Ronald Hatzenbuehler, Ph.D., Associate Dean  
 Randy Earls, D.M.A., Associate Dean

## Division Fine Arts and Humanities

### Department of Art

Chair and Professor: Martin  
 Director of MFA Program and Professor:  
 Evans  
 Professors: Evans, Warnock  
 Assistant Professors: Leeuwrik, Adams

### Master of Fine Arts in Art

The MFA degree is the recognized terminal degree in the studio arts. The MFA program is designed to refine the visual art skills of the graduate student in a particular area or areas of concentration by providing the instruction, facilities and time for the student both to develop a significant body of studio work and to expand his or her intellectual horizons in preparation for a rewarding professional career.

#### Studio Course Categories:

- Ceramics
- Drawing
- Fiber Media
- Jewelry/Metalsmithing
- Painting
- Printmaking
- Sculpture

#### Admission Requirements

Applicants for admission to the MFA program must apply to, and meet all criteria for admission to the Graduate School. For admission to the Master of Fine Arts program in the Department of Art, the Graduate School does not require submission of Graduate Record Exam (GRE) scores, however, the taking of the GRE test is recommended for students who wish to compete for a non-resident tuition waiver.

Application must also be made to the Department of Art. Departmental evaluation requires the following materials, which should be sent directly to the Department of Art, Stop 8004, Idaho State University, Pocatello ID 83209:

- A letter of intent stating the applicant's goals and objectives with regard to graduate study;
- A portfolio of work (20 digital images of studio work which the applicant feels would most effectively represent his/her involvement, ability, and potential);
  - a. Digital file portfolios must be formatted for Macintosh computers. Twenty images should be submitted on a single CD. Please submit a duplicate CD as well.
  - b. Both CDs should be labeled with the applicant's name, as well as on the sleeves. Digital images, in RGB color, may be no larger than 5 Megabytes each. We recommend a longest pixel dimension of 1600 at a resolution of approximately 140 ppi. Save files as TIFF or highest-quality JPEG formats. We will not accept directions to a web site, or files submitted in presentation software, such as Powerpoint, or PDF files.
  - c. Name and number all files with LastnameFirstname00.jpg or LastnameFirstname00.tif (e.g., JohnsonRobert12.jpg). Number images in the order to be viewed. Include with the submission a printed, hard-copy image inventory page headed with your name and the area/s of study to which you are applying. The inventory page should indicate, by corresponding number, the title, date, dimensions, and medium of each work; and
- Three letters of recommendation from undergraduate instructors, or other appropriate individuals, indicating the readiness of the applicant to pursue independent and sustained graduate-level work.

The Department has established March 15 as the application deadline for fall semester admission. Graduate Assistantship applications are also due by March 15.

October 15 is the application deadline for spring semester. (Assistantship applications are not considered for spring semester.) Applications received after these deadlines may be considered, subject to space availability.

The entire Graduate Faculty of the Department

will review all materials submitted by each applicant. Recommendations are made by measuring, as accurately as possible:

- The applicant's demonstrated preparedness and potential to be successful in the program;
- The sense, on the part of the faculty, that the faculty could contribute, in a meaningful and constructive way, to the student's development as an artist;
- Available space in the program, as well as faculty and departmental resources.

Other admission requirements include twelve credits of undergraduate Art History course work. Art History deficiencies of up to 6 credits may be compensated for by enrolling in the necessary courses concurrent with graduate work.

#### General Requirements

Basic requirements are a minimum of 60 credits in graduate courses approved by the Department of Art and the Graduate School. A minimum of six credits must be in the area of art history, and a minimum of 12 credits must be thesis project. The student may elect, as a program option, to take up to six credits in other related areas outside the Art Department. These courses must be departmentally approved. Students are required to complete ART 6601 and ART 6621. The department will accept a grade of C in one class as long as the minimum overall 3.0 GPA is maintained. The student will have the opportunity to repeat the course.

A written thesis will be submitted to the candidate's thesis committee by the MFA candidate before the oral examinations. Each candidate for the MFA degree must also have a one-person exhibit during the last semester before the granting of the degree. A collection of digital images of the exhibit must be turned in to the Art Department at this time. The thesis project consisting of original creative work by the candidate is the focal point of all the work necessary to the granting of the degree. The MFA degree is the terminal degree in the field of the visual arts. The candidate should have the time and opportunity to create a significant body of work that demonstrates a professional level of competency within a unified creative point of view. A minimum of two years of participation in the program is required for this goal. An oral examination is held concurrently with the thesis project show. Additional information is available from the Department of Art.

#### Art Graduate Courses

**ART 5518 Art of the Book 3 credits.** Expands the traditional idea of book form with

innovative structures and concepts. Textual and nontextual formats and methods for generating ideas for works are addressed. Traditional techniques for bookbinding will also be included. Cross-listed as M C 5518.

**ART 5522 World Arts 3 credits.** Study of the art produced in cultures outside of the western tradition. Topics include pre-Hispanic art of Mexico, Central and South American art, and North American Indian art, Oceanic art, and the art of Africa south of the Sahara.

**ART 5523 Nineteenth Century Art 3 credits.** History of the visual arts from the beginning of the 19th century up to the advent of Cubism.

**ART 5524 Twentieth Century Art 3 credits.** History of the visual arts from Cubism to the present.

**ART 5525 Contemporary Art Forms 3 credits.** The study of the major developments of art as an expression of contemporary society. Emphasis on art since 1950. PREREQ: PERMISSION OF INSTRUCTOR.

**ART 5526 Seminar in Art History 3 credits.** Extensive reading and discussion in Art History and aesthetics under the supervision of the instructor. May be repeated up to 6 credits.

**ART 5531-5532 Advanced Printmaking 3 credits.** Advanced work in printmaking. Choice of medium.

**ART 5541-5542 Advanced Painting and Composition 3 credits.** Special projects and experimental individual work for advanced students.

**ART 5551-5552 Advanced Metals-Jewelry 3 credits.** Experimental work. Individual projects may include plastics, electroplating, electroforming, advanced fabrication, anodizing or raising techniques.

**ART 5561-5562 Advanced Fiber Media 3 credits.** Experimental work. Individual projects may include on-loom and off-loom techniques, dyeing processes, basketry, or multi-layered fabrics.

**ART 5571-5572 Advanced Ceramics 3 credits.** Individual projects may include ceramic sculpture, mosaics or experimental problems in form and techniques.

**ART 5581-5582 Advanced Sculpture 3 credits.** Experimental work with an emphasis on scale and environmental problems.

**ART 5591 Advanced Papermaking 3 credits.** Further development of topics from ART

3391.

**ART 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U .

**ART 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ART 6601 Independent Study in Drawing 3 credits (required).** Individualized course designed to address drawing-specific concerns: technical, material, and/or conceptual possibilities inherent to various drawing media. May be repeated for a total of 6 credits.

**ART 6621 Graduate Seminar 3 credits (required).** Reading and discussion of theories and practices related to the production and presentation of studio art under the supervision of the instructor. Students will research and prepare written presentations for weekly seminar discussion and evaluation. May be repeated.

**ART 6635 Research in Studio or Theory 4 credits.** Investigation of technical, material, and/or aesthetic/theoretical problems in art history/studio areas under the supervision of the instructor. May be repeated.

**ART 6640 Experimental Problems in Studio 4 credits.** Experimentation in technical, material, and aesthetic problems in a studio area under the supervision of the instructor. May be repeated.

**ART 6645 Studio variable credit.** Studio work under the supervision of the instructor. May be repeated up to 1 - 12 credits.

**ART 6649 Thesis Proposal 1 credit.** Summary of the objectives and goals of the thesis project prepared under supervision of the student's advisor. Concurrent with application for admission to candidacy.

**ART 6650 Thesis Project 1 -12 credits; 12 credits required minimum.** Preparation and presentation in a one-person show of a significant body of work which demonstrates a professional level of competency within a unified creative point of view. An exhibition and slides of the works are required by the department under the supervision of the candidate's advisor. A graduate faculty orals committee will review and approve or disapprove the

show and thesis proposal. May be repeated up to 16 credits. PREREQ: ART 6649. Graded S/U.

**ART 6660 Special Topics 1-4 credits.** May be repeated.

**ART 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of Communication and Rhetorical Studies

Chair and Professor: DiSanza

Professors: Gribas, Legge, Loebs, Partlow

Lecturers: Broadhead, Corrigan, Czerepinski, Dixon, Eckert, Hansen, Leek, Sowell, Underwood

## Master of Arts in Organizational Communication OR Master of Arts in Rhetorical Studies Goals

The primary objectives related to the graduate program in Communication and Rhetorical Studies are to help students develop the following competencies:

1. An understanding of the history and nature of the Communication discipline.
2. The ability to read, understand, and critique scholarly communication-related research and analysis.
3. The ability to design and conduct original communication-related research and analysis.
4. The ability to engage in critical thinking.
5. The ability to communicate effectively in writing.
6. The ability to communicate effectively through oral presentation.
7. The ability to construct and evaluate persuasive messages.
8. The ability to use effective information research strategies.
9. An understanding of the role of communication in interpersonal settings.
10. An understanding of the role of communication in group settings.



11. An understanding of the role of communication in organizational settings.
12. An understanding of the role of communication in historical/current events.
13. The program will facilitate the development of knowledge and skill applicable in graduates' professional lives.
14. The program will facilitate the development of knowledge and skill applicable to graduates' personal lives.

## Admission Requirements

To be admitted to classified status, students must apply to, and meet all criteria for, admission to the Graduate School.

### Rhetorical Studies Degree Required courses:

COMM 6601 Introduction to Graduate Research Methods	3 cr
COMM 6630 Seminar in Rhetorical/Communication Theory	3 cr

### Organizational Communication Degree Required courses:

COMM 6601 Introduction to Graduate Research Methods	3 cr
COMM 6635 Seminar in Organizational Communication	3 cr

### Elective Courses for both degrees:

COMM 5508 Communication Theory	3 cr
COMM 5536 Rhetorical Criticism	3 cr
COMM 5537 Rhetorical Theory	3 cr
COMM 5540 Gender and Communication	3 cr
COMM 5541 Interpersonal Communication	3 cr
COMM 5542 American Rhetoric and Public Address	3 cr
COMM 5547 Rhetoric of Hitler and Churchill	3 cr
COMM 5551 Recent Rhetorical Issues	3 cr
COMM 5552 Conflict Management	3 cr
COMM 5554 Management Communication	3 cr
COMM 5591 Independent Research Projects	1-6 cr
COMM 5597 Professional Education Development Topics	variable cr
COMM 6650 Thesis	1-6 cr
COMM 6660 Graduate Degree Paper	1-2 cr
COMM 6691 Independent Study in Speech	1-6 cr

Students must select one of the following two options:

#### Thesis Option

A minimum of 30 credits. One to six credits may be thesis credits.

#### Degree Paper Option

A minimum of 32 credits and one degree paper. Two credits may be degree paper credits.

## Communication and Rhetorical Studies Graduate Courses

**COMM 5508 Communication Theory 3 credits.** Examines models of social science and how these contribute to the development of communication theory. Examines a variety of communication theories in interpersonal, small group, organizational contexts. Focus on history of theory development in communication.

**COMM 5536 Rhetorical Criticism 3 credits.** Study and application of various theories and methods of rhetorical criticism including Aristotelian and Burkean principles. PREREQ: COMM 5537 OR PERMISSION OF INSTRUCTOR.

**COMM 5537 Rhetorical Theory 3 credits.** Principal rhetorical theories from the Greeks through the 18th century and contemporary American theorists. Writings of Plato, Aristotle, Cicero, Quintilian, Campbell, Blair, Whately, and Burke are stressed.

**COMM 5540 Gender and Communication 3 credits.** Course examines communication arenas from a perspective that focuses on gender and includes study of similarities and differences in female/male patterns. Topics include nonverbal, organizational, language, family and friendship.

**COMM 5541 Interpersonal Communication 3 credits.** Largely theoretical course, drawing from research in social sciences as well as speech. Focuses on communication variables associated with interpersonal communication including awareness of self/others, nature/functions of language, nonverbal behavior, norms and roles.

**COMM 5542 American Rhetoric and Public Address 3 credits.** Has a dual purpose: to study the impact of rhetoric (oral and written persuasion) on major events in American history; examine great speakers and rhetorical documents in their historical context.

**COMM 5547 Rhetoric of Hitler and Churchill 3 credits.** Rhetorical theory and practice of these influential leaders and the impact of their persuasion. Topics include Hitler's oratory, Nazi propaganda, and Churchill's World War speeches.

**COMM 5551 Recent Rhetorical Issues 3 credits.** Study of the rhetoric of contemporary issues such as the Vietnam war, the Black revolution, and other current political and social topics, including the rhetoric of ongoing election campaigns (taught alternate years).

**COMM 5552 Conflict Management 3 credits.** Examines the dynamics of everyday conflicts across a variety of settings, from personal to organizational. Principles of conflict, similar across all communicative contexts, are emphasized. Theory and its applications are given equal importance.

**COMM 5554 Management Communication 3 credits.** Examines the communication goals and functions unique to organizational managers and leaders. Topics studied include socialization and training, leader-member relationships, incentive-based systems of motivation, employee identification and commitment, and organizational development.

zation and training, leader-member relationships, incentive-based systems of motivation, employee identification and commitment, and organizational development.

**COMM 5591 Independent Research Projects 1-3 credits.** Under the supervision of professors in the various areas of communication, students will prepare reports and carry out projects designed to promote professional growth. May be repeated for up to 6 credits. PREREQ: Permission of instructor and department.

**COMM 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**COMM 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**COMM 6601 Introduction to Graduate Research Methods 3 credits.** Orientation to departmental graduate program policies and expectations, overview of the communication discipline, and introduction to methods used for producing scholarly research in the field.

**COMM 6630 Seminar in Rhetorical/Communication Theory 3 credits.** In-depth study and analysis of selected rhetorical and/or communication theories. See instructor for specific topics. May be repeated once with permission of instructor.

**COMM 6635 Seminar in Organizational Communication 3 credits.** In-depth study and analysis of selected topics in organizational communication. See instructor for specific topics. May be repeated once with permission of instructor.

**COMM 6650 Thesis 1-6 credits.** Graded S/U.

**COMM 6660 Graduate Degree Paper 1-2 credits.** Graded S/U.

**COMM 6691 Independent Study 1 -3 Credits.** Under the supervision of departmental graduate faculty, students will engage in self-directed reading, exploration, and study focused on topics relevant to the communication discipline and to the students' planned academic program. May be repeated for up to 6 credits. PREREQ: Permission of instructor and department.

**COMM 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of English and Philosophy

Chair and Professor: J. Attebery  
 Director of Philosophy and Professor: Wahl  
 Assistant Chair and Associate Professor: Wolter  
 Graduate Program Director and Associate Professor: Winston  
 Composition Director and Professor: Swetnam  
 Professors: B. Attebery, J. Attebery, Baergen, A. Johnson, M. Johnson, Levenson, Schmidt, Worsham  
 Associate Professors: Engebretsen, Goslee, Hellwig, Klein, Launspach, Skidmore, Whitaker  
 Assistant Professors: Petit, Schultz-Hurst, Van Winkle

The Department of English and Philosophy offers graduate curricula in English studies that include courses in language, literature, composition/rhetoric, and English pedagogy. The Department offers the Master of Arts and the Doctor of Philosophy degrees.

### Admission Requirements for International Students

Students whose native language is not English must achieve at least one of the following minimum scores to be considered for admission into the M.A. or D.A. program in English: TOEFL 550/213; MTELP 84; IELTS 6.

### Goals

The Department has articulated the following goals and student learning outcomes for students in graduate programs:

#### Learning Outcomes - Master of Arts

Stated Mission and Goals: The M.A. program provides students advanced training in language, literature, and composition/rhetoric in preparation for varying personal and career goals. Such training provides students with the sound foundations needed to teach in secondary schools, to teach in two- and four- year colleges, and to enter fields in which verbal and analytical training is essential, and to prepare for further graduate work in MFA, or Ph.D. programs.

#### Student Learning Outcomes

1. Masters-level English students will have an understanding of the history of British and U.S. literatures.
2. Masters-level English students will understand important theoretical approaches to the study of literature and culture.
3. Masters-level English students will design and carry out scholarly research projects.
4. Masters-level English students will understand language as a medium of common linguistic principles; they will understand the relationship of these linguistic principles to communication and expression.

#### Learning Outcomes - Doctor of Philosophy

Stated Mission and Goals: The Ph.D. in English and the teaching of English is a terminal degree program that trains students for teaching careers in English at colleges and universities.

#### Student Learning Outcomes

1. Ph.D. students will have a professional understanding of the history of British and American literatures.
2. Ph.D. students will understand and employ in their own work major theoretical approaches to literature and culture.
3. Ph.D. students will understand theories of college-level English teaching and will be able to effectively translate these theories into practice.
4. Ph.D. students will define, research, and complete a significant research project within English studies, and be prepared to conduct research independently once they graduate.
5. Ph.D. students will understand language as a medium of common linguistic principles; they will understand the relationship of these linguistic principles to communication and expression.
6. Ph.D. students will be prepared for future professional activities as college-level English teachers.

## Doctor of Philosophy in English and the Teaching of English

The Doctor of Philosophy in English and the Teaching of English prepares students for teaching careers in English at colleges and universities. The program emphasizes the study of English and American literature, course work in content-specific pedagogy, and supervised teaching internships. Students also undertake directed, specialized research in a required dissertation.

### Admission Requirements

For full consideration for admission and financial aid, applications for fall admission must arrive by February 15.

Applicants for classified admission and/or financial support must submit the following materials:

1. Undergraduate and graduate transcripts.
2. An M.A. in English (or appropriate related field) with an accumulative grade point average of 3.5 in M.A.-level English courses.
3. Three letters of recommendation from professors who can comment on the student's recent academic work.
4. Scores at or above the 50th percentile on the verbal section of the GRE general test. Scores on the analytical writing section will also be considered in admission decisions.
5. A writing sample (about 10-20 pages).
6. A brief statement (about 500 words) describing the applicant's academic background, reasons for applying to the program, research interests, and professional goals.

The Graduate Committee in consultation with the department Chair evaluates these materials to determine admission to the program. Priority will be given to experienced, successful teachers.

### General Requirements

The Doctor of Philosophy in English requires a minimum of 39 semester credits beyond the M.A.

A course completed as part of a student's M.A. program may be approved by the Graduate Director to satisfy a particular requirement of the Ph.D. program, up to a maximum of 9 credits; however, the substitution of course work does not waive the minimum credit requirement for the Ph.D. program.

With the approval of the Graduate Director, students may transfer up to 9 credits of coursework beyond the M.A. from other institutions.

Three semesters of full-time residence study are required.

Students must maintain a 3.5 grade point average to advance to candidacy for the Ph.D. Three grades below B- during the entire program will automatically disqualify a student.

Graduate students must follow the policy on incomplete grades as it is listed in the Idaho State University Graduate Catalog.

Teaching assistantships and Ph.D. fellowships

will not be renewed for students with incomplete grades on their transcripts.

## Special Requirements

1. Student must complete at least 27 of the required 39 credits at the 6600 level or higher.
2. Students must complete two supervised teaching internships. The student must submit a detailed proposal for each internship to the Graduate Committee for approval prior to the semester of the internship. The proposal must be endorsed by the member of the graduate faculty who has agreed to supervise the internship. An unacceptable Ph.D. internship will have the same consequences as a course grade of C.
3. Students will write a dissertation with a section exploring the implications of the research for the student's teaching of English. This dissertation project will be designed in consultation with a member of the English graduate faculty, who will serve as chair of the dissertation committee. The dissertation committee shall consist of three members of the graduate faculty, at least two of whom are English graduate faculty. In consultation with the dissertation director, the student is responsible for assembling the dissertation committee. The dissertation proposal must be approved by all members of the student's dissertation committee and then submitted, with the comprehensive exam lists attached, to the Graduate Director for review, according to the guidelines in the English Graduate Handbook. A Graduate Faculty Representative (GFR) will be appointed after review of the proposal and exam lists.
4. Students must present a colloquium on the topic of the dissertation research, given in the last semester of their degree work, which will allow them to obtain experience in presenting the results of their research to their peers.

## Course Work

### Required Core Course

ENGL 6612 Introduction to Graduate Studies in English 3 cr

### Pre- and Post-1800 Literature Component

A minimum of six credits, fulfilling the following requirements:

1. One seminar in the 662x series that is focused on pre-1800 literature
2. One seminar in the 662x series that is focused on post-1800 literature

### Teaching Component

A minimum of 12 semester credits, fulfilling the following requirements:

1. ENGL 6631 Seminar in Teaching Writing

2. ENGL 7700 Supervised Teaching Internship 3 cr
3. An additional seminar in the teaching of English, approved by the department 3 cr
4. An additional supervised teaching experience, chosen from:

ENGL 7700 Supervised Teaching Internship 3 cr  
ENGL 7783 Practicum in Second Language Teaching 3 cr

## Language Component

A minimum of 3 credits, chosen from the following list:

ENGL 5501 Advanced Composition  
ENGL 5580 Varieties of American English  
ENGL 5581 Studies in Grammar  
ENGL 5584 Special Topics in Linguistics  
ENGL 5585 Linguistic Analysis  
ENGL 5586 Old English  
ENGL 5587 History of the English Language  
ENGL 5588 Introduction to Sociolinguistics  
ENGL 6680 Introduction to Linguistics  
ENGL 6685 Seminar in Linguistics  
COMM 5536 Rhetorical Criticism  
COMM 5537 Rhetorical Theory

## Electives

Students take 15 additional credits of electives (chosen in consultation with their advisor) that will contribute to knowledge and skills necessary for their dissertation topics and professional goals.

## Course Work Limitations

A maximum of 6 semester credits taken outside of ENGL-prefixed courses may be counted toward degree requirements, with the approval of the Graduate Director.

## Comprehensive Examination

Students are eligible to take the comprehensive exam after completing 36 credits beyond the M.A. Students must take the exam before defending the dissertation.

The comprehensive examination is both written and oral. The examination tests the student in the general areas listed below, but the student in consultation with his/her dissertation committee will design the specific subjects and reading lists on which he/she will be tested. The exam lists must be approved by all members of the student's dissertation committee and then submitted, along with the dissertation proposal, to the Graduate Director for review, according to the guidelines in the English Graduate Handbook.

The exam areas are:

- a. the student's dissertation area
- b. a broader field or literary period
- c. an area in the teaching of English

The examining committee will consist of the three-member dissertation committee. In order

to ensure that the examining committee has sufficient expertise to test the student in all three exam areas, the dissertation committee chair may propose to substitute a member of the dissertation committee with another member of the graduate faculty, so long as two members of the examining committee are English graduate faculty. The substitution must be approved by the Graduate Director.

The comprehensive examination may be repeated only once, and must be retaken within 12 months.

## Foreign Language Requirement

Students must demonstrate proficiency in one foreign language, either modern or ancient, before the program of study is complete. The purpose of this requirement is for students to have a current knowledge of a language other than English and of its relation to the culture from which it originates.

Students may satisfy this requirement in one of the following ways:

1. By passing four semesters of one foreign language with an average grade of B, either during the course of study for the graduate degree or with an interval of no longer than two years between the completion of the last language course and the beginning of graduate study in English at Idaho State University.
2. By passing with a grade of B a two-part examination administered by the Foreign Language Department.
3. By having completed a major in a foreign language, as verified by a college transcript.
4. By having satisfied a foreign language requirement as part of having completed an M.A. in English with an interval of no longer than two years between the completion of the last language course and the beginning of graduate study in English at Idaho State University.

Students who have a first language other than English will be considered to have satisfied this requirement.

## Master of Arts in English

The Master of Arts in English prepares graduates for careers and for doctoral study in English and closely related fields. The program emphasizes study in English and American literature and requires course work in the English language and linguistics. A well-developed mentoring program provides supervised teaching experience in composition for students holding assistantships.

## Admission Requirements

Applications for admission and funding are due February 15th (to begin in fall semester), and October 1st (to begin in spring semester). Applicants must apply to and meet all criteria for admission to the Graduate School. In addition to the general requirements of the Graduate School, applicants must submit the following materials:

1. All undergraduate and any graduate transcripts, showing accumulative grade point average of at least 3.0 over the last 60+/- credits (90 +/- for quarters) undergraduate coursework.
2. GRE general test scores, a score at or above the 50th percentile on the verbal section of the GRE general test. Scores on the analytical writing section will also be considered in admission decisions.
3. Three letters of recommendation, preferably from professors who know the student's recent academic work.
4. A brief statement (about 500 words) of academic and professional goals.
5. A brief writing sample (about 5 pages). The English Department Admissions Committee, in consultation with the department chair, evaluates the applicant's materials to determine admission to the program. When these materials are evaluated, the Admissions Committee will look at the student's preparation for graduate work in English, his/her academic promise (as indicated by transcripts, GRE scores, and letters of recommendation), and the fit between the student's goals (as indicated in their statement) and the mission and strengths of the M.A. program.

Students admitted to the M.A. program are called Classified students. Some students may be admitted as Classified with performance requirements which means they must fulfill certain requirements specifically indicated with their admission and are not eligible for graduate assistantship support until they achieve Classified status. Continuation in the program is subject to a student's meeting this requirement. Students admitted without at least 21 credits of undergraduate courses in English, excluding freshman composition, may be required to make up deficiencies in their undergraduate work.

## General Requirements

The Master of Arts in English program requires a minimum of 30 semester credits in courses approved by the Department of English. Students must take at least 18 of these credits in 6600-level courses.

Students may fulfill these credit requirements in one of three options:

1. Final Exam Option: The student takes 30

credits of coursework, at least 18 of which must be at the 6600-level, and complete a final exam.

OR

2. M.A. Paper Option: The student completes 30 credits, including at least 18 credits at the 6600-level, and completes a 3-credit final M.A. Paper, a revised paper based on work done in a course completed as part of the M.A. program, which must be submitted with a cover letter, CV, and statement describing their rationale for choosing the paper and the revision process. Up to 3 credits of portfolio work may count toward the 6600-level requirement.

OR

3. Thesis Option: The student completes 30 credits, including at least 18 credits at the 6600-level, and completes a thesis. Up to 6 credits of thesis may count toward the 6600-level requirement.

Students selecting any of these options must also demonstrate proficiency in one foreign language and may do so in the following ways:

1. By demonstrating that they have obtained an intermediate level of competence in a foreign language, equal to completing the second sophomore-level (2200-level) course with a grade of B or better. Students may demonstrate this proficiency in one of three ways:
  - By completing all foreign language coursework (at the 2200-level or above) with an average grade of B or better, and with an interval of no longer than four years between the conclusion of the last language class and the beginning of graduate study in English at Idaho State University.
  - By passing the equivalent of four semesters of one foreign language with an average grade of B or better.
  - By passing the CLEP exam and earning credit for a 2200 course.

OR

2. By passing with a grade of B or better a two-part examination administered by the Language and Literature Department.

OR

3. By having completed a major or a minor in a foreign language, as verified by a college transcript.

OR

4. By taking 6 credits beyond the normal 3 credits of required Language Studies coursework. These 6 credits, which do not count toward the degree require-

ments, must include:

- a. ENGL 5586 Old English and ENGL 5587 History of English Language

OR

- b. ENGL 5586 or ENLG 5587, plus one additional course in linguistics approved by the department.

OR

5. By having a first language other than English.

All students must maintain a satisfactory record of scholarship. Three grades below B-during the entire program will automatically disqualify a student from continuing in the program.

Graduate students must follow the policy on incomplete grades as it is listed in the Idaho State University Graduate Catalog.

Teaching Assistantships will not be renewed for students with incomplete grades on their transcripts.

All students must take the following 12 required credits:

ENGL 6612 Introduction to Graduate Studies in English	3 cr
A 6600-level seminar focusing on pre-1800 literature	3 cr
A 6600-level seminar focusing on post-1800 literature	3 cr
One course in English language studies, chosen from the following group:	3 cr
ENGL 5501 Advanced Composition	
ENGL 5581 Studies in Grammar	
ENGL 5585 Linguistic Analysis	
ENGL 5586 Old English	
ENGL 5587 History of the English Language	
ENGL 6680 Introduction to Linguistics	
ENGL 6685 Seminar in Linguistics	
COMM 5536 Rhetorical Criticism	
COMM 5537 Rhetorical Theory	

Students appointed to teaching assistantships must also take the following 6 required credits:

ENGL 6631 Seminar in Teaching Writing	3 cr
ENGL 7731 Practicum in Teaching Writing	3 cr

## TESOL Certificate

Recommendations regarding admission will be made by the co-directors of the TESOL program in conjunction with the Graduate Director.

## Admission Requirements

For admission into the TESOL Certificate program, applicants must satisfy the following criteria:

1. A bachelor's degree from an accredited institution.
2. An accumulative grade point average of 3.0 over the last two years of undergraduate course work for the B.A.
3. In addition to the Graduate School requirements, score at or above the 35th

percentile on the verbal section of the GRE general test.

4. Three letters of recommendation, preferably from professors, or colleagues who know the applicant's recent academic or professional work.
5. Applicants whose first language is not English need to meet the following TOEFL requirements for Classified admission: (1) Internet-based test (iBT): a total score of 80 with a score of at least 20 on each Section (graduate assistants who teach courses must score 23 or above on the Speaking Section) on the iBT; or (2) Computer-based test: a total score of 213 with a score of at least 21 on Section 1 (Listening Comprehension) on the computer test; or (3) Paper-based test: a total score of 550 with a score of at least 55 on Section 1 (Listening Comprehension) on the paper test, or a score of 84 on the MTELP, or a score of 6 on the IELTS.

It is strongly recommended that applicants have some knowledge of a second language.

## General Requirements

The certificate program is 18 credits and is granted alone or in addition to a graduate degree.

All students must take the following 12 credits:

ENGL 6680 Introduction to Linguistics	3 cr
ENGL 6681 Theory of Second Language Acquisition	3 cr
ENGL 6682 TESOL Methodology	3 cr
ENGL 7783 Practicum in Second Language Teaching	3 cr

In addition to the required courses, students must take two 3-credit electives chosen from the graduate-level linguistics offerings in either the Department of English and Philosophy or the Department of Anthropology.

**ENGL 5501 Advanced Composition 3 credits.** An advanced course in which students develop an independent style in writing such types of essays as the personal, biographical, argumentative, and critical. May contain prose analysis.

**ENGL 5506 Advanced Creative Writing Workshop 3 credits.** Production and discussion of student writing. Study in a specific genre. Repeatable with different topics.

**ENGL 5509 Literary Magazine Production 3 credits.** Hands-on experience in literary magazine production: editing, proofreading, and design. Strategies for screening and selecting stories, poems, and reviews. Consideration of the role of the small press in national literary culture.

**ENGL 5531 Teaching and Writing Projects: Special Topics 3 credits.** Aids teachers of all grade levels and all academic subjects in developing skills in teaching writing. Combines composition theory and practical classroom exercises with ongoing writing and critiques. Repeatable with different topics.

**ENGL 5540 Philosophy and Literature 3 credits.** Reflections on the relation between poetic and speculative discourse. Topics include forms of consciousness, temporality and narrative, metaphysics of genre. Cross-listed as PHIL 5540. Repeatable with different topics.

**ENGL 5541 History of Literary Criticism 3 credits.** Teaches major theorists and debates that have influenced the interpretation of literature. Students read key theoretical texts. Course may use a thematic or chronological approach. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**ENGL 5553 American Indian Literature 3 credits.** Considers literary works by and about North American native people, especially in relationship to history, genre, and culture, including oral traditions. Repeatable with different topics.

**ENGL 5555 Studies in a National Literature 3 credits.** Studies in important literatures and cultures not otherwise covered in the curriculum. Will include literatures in translation and literature written in English outside of America and the British Isles. Cross-listed as LANG 5515. Repeatable with different topics.

**ENGL 5556 Comparative Literature 3 - credits.** The analysis of ideas, problems, and techniques common to important writers of various national literatures. Repeatable with different topics.

**ENGL 5561 Classical Literature 3 credits.** Study of the major literature of the classical Greek and Roman periods, especially in relationship to its cultural backgrounds. Repeatable with different topics.

**ENGL 5562 Medieval Literature 3 credits.** Study of the major literature of the Middle Ages and its background, with emphasis upon the development of English literature. Repeatable with different topics.

**ENGL 5563 Renaissance Literature 3 credits.** Study of the major literature of the Renaissance and its background, with emphasis upon the development of English literature. Repeatable with different topics.

**ENGL 5564 Seventeenth-Century Litera-**

**ture 3 credits.** Study of the major literature of the seventeenth century and its background, with emphasis on English or American or other literature of the period. Repeatable with different topics.

**ENGL 5565 Eighteenth-Century Literature 3 credits.** Study of the major literature of the eighteenth century and its background, with emphasis on English or American or other literature of the period. Repeatable with different topics.

**ENGL 5566 Early Nineteenth-Century Literature 3 credits.** Study of the major literature of the early nineteenth century and its background, with emphasis on English or American or other literature of the period. Repeatable with different topics.

**ENGL 5567 Late Nineteenth-Century Literature 3 credits.** Study of the major literature of the late nineteenth century and its background, with emphasis on English or American or other literature of the period. Repeatable with different topics.

**ENGL 5568 Early Twentieth-Century Literature 3 credits.** Study of the major literature of the early twentieth century and its background, with emphasis on English or American or other literature of the period. Repeatable with different topics.

**ENGL 5569 Contemporary Literature 3 credits.** Study of recent major literature and its background, with emphasis on English or American or other literature of the period. Repeatable with different topics.

**ENGL 5570 Post-Colonial Literature 3 credits.** Study of post-colonial literary texts, with attention to the role of literature in history, political resistance, and social movements of one or more colonized cultures. Repeatable with different topics.

**ENGL 5572 Proseminar in a Major Literary Figure 3 credits.** Intensive study in a single major author other than Chaucer, Milton, and Shakespeare, demanding some independent study and small group participation. Repeatable with different topics.

**ENGL 5573 Chaucer 3 credits.** Intensive study of selected works of Chaucer.

**ENGL 5574 Milton 3 credits.** Intensive study of selected works of Milton.

**ENGL 5576 Shakespeare 3 credits.** Intensive study of selected works of Shakespeare.

**ENGL 5577 Shakespeare in Performance 3 credits.** Intensive study of selected works by

Shakespeare, with emphasis placed upon performance issues. Includes field trip to attend live dramatic productions of Shakespearian plays.

**ENGL 5580 Varieties of American English 3 credits.** In-depth study of various dialects of American English, including historical evolution of different dialects, effects of migration on dialects, and influences of non-English immigrant languages on development of American English. Field-work studying the Snake River dialects of Idaho. Cross-listed as ANTH 5580.

**ENGL 5581 Studies in Grammar 3 credits.** Focus on the study of transformational-generative grammar and its application to sentence level problems.

**ENGL 5584 Special Topics in Linguistics 3 credits.** Rotating topics in different areas of linguistics. Consult current schedule of classes for exact course being taught.

**ENGL 5585 Linguistic Analysis 3 credits.** Advanced topics course in the techniques of language analysis. Examples are phonology and morphology, semantics, or rhetorical grammar. Repeatable with different topics.

**ENGL 5586 Old English 3 credits.** Intensive study of the Old English language, with attention to its intrinsic structure and its relation to Middle and Modern English.

**ENGL 5587 History of the English Language 3 credits.** Linguistic and historical study of the major changes and developments in the English Language.

**ENGL 5588 Introduction to Sociolinguistics 3 credits.** Study of the patterned covariation of language and society, social dialects and social styles in language; problems of bilingualism, multilingualism, creoles and language uses. Cross-listed as ANTH 5550.

**ENGL 5590 Topics in Folklore 3 credits.** Focused study of an issue in folkloristics or a particular genre of folklore, including history of the scholarship concerning that issue or genre. Rotating topics. Repeatable with different topics. Cross-listed as ANTH 5590.

**ENGL 5592 Folklore and Literature 3 credits.** Study of cross-influences between oral and written literatures. Emphasis may be on a written genre that imitates and draws upon oral genres, a movement or period in which oral tradition strongly influences written forms, or a particular writer who incorporates motifs and storytelling patterns from folklore. Rotating topics. Repeatable with different topics.

**ENGL 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**ENGL 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ENGL 6610 Careers in English 1 credit.** Preparation for English job searches and teaching careers. Graded S/U. Does not count toward degree requirements.

**ENGL 6611 Literary Theory and Criticism 3 credits.** Focused study of selected literary theories/critical approaches and their applications. Repeatable with different topics.

**ENGL 6612 Introduction to Graduate Studies in English 3 credits.** Introduces students to major literary theories and approaches and trains them in scholarly research methods. Requires development of a substantial research proposal.

**ENGL 6613 Literary Bibliography/Manuscripts/Editing 3 credits.** Training in bibliographical, manuscript, and/or editing methodologies relevant to English. Repeatable with different topics.

**ENGL 6621 Seminar in a Major Literary Genre 3 credits.** Focused study of the theory and conventions of a major form (such as lyric poetry or novel) or a broader genre (such as realism, pastoral, or the fantastic). Repeatable with different topics.

**ENGL 6623 Seminar in Literary Themes 3 credits.** Focused study of literature cohering around thematic content (such as religion, exploration, or diaspora). Repeatable with different topics.

**ENGL 6625 Seminar in a Literary Period 3 credits.** Focused study of a literary period and issues in periodization. Repeatable with different topics.

**ENGL 6627 Seminar in Major Literary Figures 3 credits.** Focused study of the writings of one or two major writers. Critical and biographical topics and historical significance may be considered. Repeatable with different topics.

**ENGL 6631 Seminar in Teaching Writing 3 credits.** Systematic application of contempo-

rary composition theory to the teaching of writing; includes readings in and discussion of theories, research, issues, and practices relevant to effective teaching and learning in composition classrooms.

**ENGL 6631L Teaching Composition Lab 1 credit.** Lab for English 6631. Experiential training for new M.A. T.As. Requires attending graduate faculty mentor's English 1101, regular meetings with mentor, teaching five times, and supervised grading. Graded S/U with written report by mentor. Required of first-semester M.A. T.As. PRERQ OR CORREQ ENGL 6631. Does not count toward degree requirements.

**ENGL 6632 Seminar in Teaching Literature 3 credits.** Theoretical and practical approaches to teaching literature and literary interpretation at the undergraduate level, with attention to issues in course design and implementation, such as designing syllabi, leading discussion, and grading papers.

**ENGL 6633 Seminar in Teaching Business and Professional Writing 3 credits.** Preparation to teach undergraduate business and technical writing courses, including the nature and history of business and technical writing, as well as attention to practical issues in teaching, such as pedagogical strategies, textbook choice, and research design.

**ENGL 6635 Special Topics in the Teaching of English 3 credits.** Focused study of topics in English pedagogy that are not regularly covered in ENGL 6631, ENGL 6632, ENGL 6633, ENGL 6681, or ENGL 6682. Repeatable with different topics.

**ENGL 6640 Interdisciplinary Seminar 3 credits.** Focused study of a literary or literary related problem or subject using the theories and methods of literature and other closely-related disciplines such as folklore, communications, rhetorical studies, history, linguistics, or anthropology. Repeatable with different topics.

**ENGL 6642 Seminar in Oral/Popular Culture 3 credits.** Focused study of a body of oral and/or popular cultural expression in related historical and cultural contexts with emphasis on literary connections. Repeatable with different topics.

**ENGL 6650 M.A. Thesis 1-6 credits.** Master's thesis. Optional. Graded S/U. May be repeated.

**ENGL 6651 M.A. Paper 1-3 credits.** Substantial revision of a graduate paper to produce a manuscript suitable for submission to a peer-reviewer publication in the field. M.A. Pro-

gram Only. Optional. Graded S/U. May be repeated. Up to 3 cr. May count toward degree requirements.

**ENGL 6662 Seminar in Creative Writing 3 credits.** Advanced study of creative writing. Course involves intensive readings in one or more selected genres (poetry, prose, drama), analyzed from the perspective of criticism and craft, and the development of course-related writing projects. **PREREQUISITE:** ENGL 5506 or equivalent. Repeatable with different topics.

**ENGL 6680 Introduction to Linguistics 3 credits.** Introduction to fundamental concepts and methodologies of modern linguistics, including phonetics, phonology, morphology, syntax, semantics, sociolinguistics, pragmatics, and language acquisition. May include opportunities to explore the practical application of course topics.

**ENGL 6681 Theory of Second Language Acquisition 3 credits.** The course will: 1) address theories describing the processes underlying second language acquisition, as well as relevant research, 2) consider what conditions increase the likelihood of successful second language acquisition, and 3) review the implications of 1 and 2 for second language learning and teaching.

**ENGL 6682 TESL Methodology 3 credits.** Building on the theoretical framework of ENGL 6681, students develop effective ESL materials and curricula, taking into account SLA research as well as the characteristics, needs, and motivation of learners. The class will involve a large practical component. **PREREQ OR COREQ:** ENGL 6681.

**ENGL 6685 Seminar in Linguistics 3 credits.** Advanced studies in selected topics in linguistics. Course includes application of linguistic theories to specific forms of communication within the discipline of English. Repeatable with different topics.

**ENGL 6690 Graduate Reading 3 credits.** Supplementary reading course, arranged on an individual basis, to cover course content not otherwise available in the graduate program. Requires conferences with a faculty supervisor, written assignments or examination, and approval of a prospectus by the Graduate Committee. Repeatable with different topics. Does not count toward degree requirements.

**ENGL 6694 Dissertation and Comprehensive Exam Preparation 1-6 credits.** Student prepares a dissertation proposal and comprehensive exam lists and studies for qualifying exams in consultation with his or her dissertation director. Requires dissertation director's

approval of projected dissertation research area, exam areas, and committee members. Limited to Ph.D. students only. Does not count toward degree requirements. Repeatable up to 7 credits. Graded S/U.

**ENGL 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ENGL 7700 Supervised Teaching Internship 3 credits.** Practical experience in classroom or laboratory teaching. Enrollment limited to Ph.D. students. Repeatable to up to 9 credits. Graded S/U.

**ENGL 7731 Practicum in Teaching Composition 3 credits.** Teaching composition under supervision. Required of, and limited to, second semester M.A. teaching assistants. **PREREQ:** ENGL 6631. Graded S/U.

**ENGL 7750 Doctoral Thesis 1-6 credits.** Doctoral thesis, consisting of two papers, each the equivalent of a well-developed article. D.A. program only. May be repeated for a maximum of 12 credits. Graded S/U.

**ENGL 7783 Practicum in Second Language Teaching 3 credits.** Supervised practicum in ESL teaching or tutoring. Required for TESOL certificate. **PREREQ:** ENGL 6681, 6682 AND 12-15 CREDITS TOWARD TESOL CERTIFICATE.

**ENGL 8850 Doctoral Dissertation variable credits.** Research project with a section exploring implications for the teaching of English. Ph.D. program only. Repeatable. Graded S/U.

## Philosophy Graduate Courses

**PHIL 5500 Philosophy of Art 3 credits.** Study of philosophic problems encountered in perceiving, interpreting, and evaluating works of art. Topics include the nature of a work of art, aesthetic response, expression, symbol; the nature and role of representation; the nature of interpretive and evaluative claims.

**PHIL 5510 Philosophy of Language 3 credits.** Study of theories of language, with emphasis on contemporary thinkers such as Frege, Heidegger, Russell, Wittgenstein, Piaget, and Chomsky. Topics include the nature and origin of meaning, the temporal dimension of discourse, the significance of syntax, animal languages, computer languages.

**PHIL 5520 Philosophy of Mind 3 credits.**

Inquiry into the mind-body problem and representative solutions, such as dualism, philosophical behaviorism, central-state materialism. Related topics include the self, personal identity, immortality, claims of parapsychology, mystical consciousness.

**PHIL 5525 Existentialism 3 credits.** A survey of major works of Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus. Topics may include the origins of values, the death of God, the varieties of despair, the inevitability of love's failure and the absurdity of life.

**PHIL 5530 Philosophy of Science 3 credits.** A survey of the philosophical issues related to science. Topics include the nature of scientific theories, science and non-science, scientific explanation and causation, realism and anti-realism in science, and scientific revolutions. Specific, evaluated graduate-level activities are identified in the course syllabus.

**PHIL 5535 Metaphysics 3 credits.** A study of some of the main questions of metaphysics including such topics as being, substance, universals, space and time, appearance and reality, identity, freewill and determinism, causality and the nature and possibility of metaphysics itself.

**PHIL 5540 Philosophy and Literature 3 credits.** Reflections on the relation between poetic and speculative discourse. Topics include forms of consciousness, temporality and narrative, metaphysics of genre. Cross-listed as ENGL 5540.

**PHIL 5550 Ethical Theory 3 credits.** Study of the nature of value claims, stressing ethical value claims; examination of the scope of reason in ethical decision-making. Applications to normative ethical theories. Related topics include human rights, justice, ethical and legal systems.

**PHIL 5560 Theory of Knowledge 3 credits.** A survey of topics in epistemology such as the nature of knowledge, the problem of skepticism, and the nature of justification. Various claims about the sources of knowledge, and truth will also be considered. Readings from classical and contemporary sources. Specific, evaluated graduate-level activities are identified in the course syllabus.

**PHIL 5570 Symbolic Logic and Foundations of Mathematics 3 credits.** A comprehensive study of formal methods of determining validity and of systems of symbolic logic, with attention to the philosophy of logic and the relationship between logic and mathematics.

**PHIL 5590 Philosophy Seminar 1-3 credits.**

Advanced reading and discussion on selected topics in philosophy. May be taken for credit more than once with permission of the department.

**PHIL 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**PHIL 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PHIL 6600 Ethics in Health Care 3 credits.** Application of ethical principles and theories to current issues in health care. Topics include allocation of scarce resources, informed consent, duty to treat, research on human subjects, organ transplants, death and dying.

**PHIL 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of Languages and Literatures

Program Director: Park  
Professors: Park, Sieber  
Associate Professors: Hunt, Tarp  
Instructor and Lab Director: McCurry  
Adjunct Faculty: Bassett, Brookman, Coffield, Dillon, Eldredge, Fukuoka, Heath, Johnsen, Robredo, Tatarova

### Goals

To increase knowledge and understanding of languages and cultures other than English through the development of foreign language skills in speaking, writing, reading, listening, and cultural competence.

### Foreign Languages Graduate Courses

(No graduate degrees are offered)

**LANG 5537 The Teaching of Foreign Languages 2-3 credits.** Study of the various methods used in teaching foreign languages, the

extent and scope of language courses; the selection of suitable textbooks; audio-visual techniques and their contribution to language instruction. PREREQ: PERMISSION OF INSTRUCTOR.

**LANG 5555 Introduction to Phonetics 3 credits.** Introduction to descriptive linguistics focusing on phonetics and phonetic phenomena of English and the other languages of the world. Extensive practice in perception and production of such phenomena. Cross-listed as ANTH 5555. PREREQ: LANG/ANTH 1107.

**LANG 5556 Introduction to Phonology and Morphology 3 credits.** Phonological theory and analysis; current theories in morphology. Phonological rules, representations, underlying forms, derivation, justification of phonological analyses; morphological structure, derivational and inflectional morphology; relation of morphology to phonology. Cross-listed as ANTH 5556. PREREQ: LANG/ANTH 1107.

**LANG 5577 Phonology 3 credits.** Study of articulatory phonetics and practice in phonetic transcription of a broad survey of languages; phonological analysis and theory. PREREQ: PERMISSION OF INSTRUCTOR.

**LANG 5584 Special Topics in Linguistics 3 credits.** Rotating topics in different areas of linguistics. Consult current schedule of classes for exact course being taught. Specific and evaluated graduate level activities and performances are identified in the course syllabus. PREREQ: PERMISSION OF INSTRUCTOR.

**LANG 5588 Foreign Language Seminar 3 credits.** Advanced studies in selected topics from language, culture, literatures or methods of research. May be conducted in English. May be repeated up to 6 credits with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**LANG 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**LANG 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**LANG 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the schedul-

ing department. Experimental courses may be offered no more than three times. May be repeated.

## Comparative Literature Courses

**CMLT 5515 Studies in Major National Literatures 3 credits each.** Studies in important literatures and cultures not otherwise covered by regular course offerings. Will include literatures in translation and literature written in English outside of America and the British Isles. Also listed as ENGL 5555.

**CMLT 5588 Comparative Literature Seminar 3 credits.** Advanced work in the areas of cultural studies, literature, and research methods. May be conducted in English. May be repeated for up to 6 credits with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**CMLT 5535 Topics in World Film Studies 3 credits.** Rotating topics in world film studies. Consult schedule of classes for topic being taught. May be repeated with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**CMLT 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CMLT 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## French Graduate Courses

**FREN 5500 French Advanced Grammar 3 credits.** Survey of selected grammar and composition topics on the advanced level. PREREQ: PERMISSION OF INSTRUCTOR.

**FREN 5565 French Translation and Interpretation 3 credits.** Theory and principles of translation and/or interpretation and their application in the fields of literature, business, law, and medicine. Topics may vary, may be repeated once with different content. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: PERMISSION OF INSTRUCTOR.

**FREN 5565L Interpretation/Translation Lab 1-3 credits.** Intensive application of interpretation practices and procedures presented in



**FREN 4465.** Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: FREN 3301 or FREN 3302. Prereqs may be taken concurrently. Lab Fee.

**FREN 5570 Readings in French 2 credits.** Reading, discussion, and writing on selected topics in French literature. May be repeated once with different content. Conducted in French. PREREQ: PERMISSION OF INSTRUCTOR.

**FREN 5575 Topics in Culture & Literature 3 credits.** This course is designed to offer students an opportunity to explore a topic of interest in French or francophone literature and culture at a more advanced level through the study of a wide variety of literary and cultural texts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: CMLT 3360 or FREN 3301 or FREN 3302. Prereqs may be taken concurrently.

**FREN 5595 Topics in Lang & Cult for Professions 1-3 credits.** Workshops offer students opportunities to enhance and supplement linguistic and cultural proficiency in a variety of professional contexts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Workshop Fee.

**FREN 5580 Independent Study in French 3 credits.** A directed project, under the guidance of an instructor, emphasizing individual study or research according to the needs of the student. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**FREN 5590 French Senior Seminar 3 credits.** Advanced studies in selected topics from language, culture, literatures or methods of research. May be repeated up to 6 credits with different content. Conducted in French. PREREQ: PERMISSION OF INSTRUCTOR.

**FREN 5595 Topics in Lang & Cult for Professions 1-3 credits.** Workshops offer students opportunities to enhance and supplement linguistic and cultural proficiency in a variety of professional contexts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: N/A. Workshop Fee.

**FREN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the schedul-

ing department. Experimental courses may be offered no more than three times. May be repeated.

**FREN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## German Graduate Courses

**GERM 5560 German Translation and Interpretation 3 credits.** Theory and principles of translation and/or interpretation and their application in the fields of literature, business, law, and medicine. Topics may vary, may be repeated once with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**GERM 5560L Interpretation/Translation Lab 1-3 credits.** Intensive application of interpretation practices and procedures presented in GERM 4460. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: GERM 3301 or GERM 3302. Prereqs may be taken concurrently. Lab Fee.

**GERM 5570 Readings in German 1-2 credits.** Reading, discussion, and writing on selected topics in German literature. May be repeated once with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**GERM 5575 Topics in Culture & Literature 3 credits.** This course is designed to offer students an opportunity to explore a topic of interest in Germanic literature and culture at a more advanced level through the study of a wide variety of literary and cultural texts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: CMLT 3360 or GERM 3301 or GERM 3302. Prereqs may be taken concurrently.

**GERM 5580 Independent Study in German 3 credits.** A directed project, under the guidance of an instructor, emphasizing individual study or research according to the needs of the student. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**GERM 5590 German Senior Seminar 3 credits.** Advanced studies in selected topics from language, culture, literatures or methods of research. May be repeated up to 6 credits with different content. Conducted in German. PREREQ: PERMISSION OF INSTRUCTOR.

**GERM 5595 Topics in Lang & Cult for Professions 1-3 credits.** Workshops offer students opportunities to enhance and supplement linguistic and cultural proficiency in a variety of professional contexts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: N/A. Workshop Fee.

**GERM 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**GERM 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Japanese Graduate Courses

**JAPN 5570 Readings in Japanese 2 credits.** Reading, discussion, and writing on selected topics in Japanese literature. May be repeated once with different content. Conducted in English or Japanese, depending on each student's skills. PREREQ: PERMISSION OF INSTRUCTOR.

**JAPN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**JAPN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Latin Graduate Courses

**LATN 5570 Readings in Latin 2 credits.** Reading, discussion, and writing on selected topics in Latin literature. May be repeated once with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**LATN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the schedul-

ing department. Experimental courses may be offered no more than three times. May be repeated.

**LATN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Russian Graduate Courses

**RUSS 5570 Readings in Russian 2 credits.** Reading, discussion, and writing on selected topics in Russian literature. May be repeated once with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**RUSS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**RUSS 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Spanish Graduate Courses

**SPAN 5500 Spanish Advanced Grammar 3 credits.** Survey of selected grammar and composition topics on the advanced level. PREREQ: PERMISSION OF INSTRUCTOR.

**SPAN 5560 Spanish Translation and Interpretation 3 credits.** Theory and principles of translation and /or interpretation and their application in the fields of literature, business, law, and medicine. Topics may vary. May be repeated once with a different content. PREREQ: PERMISSION OF INSTRUCTOR.

**SPAN 5560L Interpretation/Translation Lab 1-3 credits.** Intensive application of interpretation practices and procedures presented in SPAN 4460. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: SPAN 3301 or SPAN 3302. Prereqs may be taken concurrently. Lab Fee.

**SPAN 5570 Readings in Spanish 2 credits.** Reading, discussion, and writing on selected topics in Spanish literature. May be repeated

once with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**SPAN 5575 Topics in Culture & Literature 3 credits.** This course is designed to offer students an opportunity to explore a topic of interest in Hispanic literature and culture at a more advanced level through the study of a wide variety of literary and cultural texts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: CMLT 3360 or SPAN 3301 or SPAN 3302. Prereqs may be taken concurrently.

**SPAN 5580 Independent Study in Spanish 3 credits.** A directed project, under the guidance of an instructor, emphasizing individual study or research according to the needs of the study. PREREQ: S PERMISSION OF INSTRUCTOR.

**SPAN 5590 Spanish Senior Seminar 3 credits.** Advanced studies in selected topics from - language, culture, literatures or methods of research. May be repeated up to 6 credits with different content. Conducted in Spanish. PREREQ: PERMISSION OF INSTRUCTOR.

**SPAN 5595 Topics in Lang & Cult for Professions 1-3 credits.** Workshops offer students opportunities to enhance and supplement linguistic and cultural proficiency in a variety of professional contexts. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated 3X with different content. Prereqs: N/A. Workshop Fee.

**SPAN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SPAN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## School of Performing Arts

Chair and Associate Professor: Thomas Hasenpflug

Professors: Bond, Brooks, Dienstfrey, Earles, Lane, Livingston Friedley, Schroder, Young  
Associate Professors: Gross, Harwood, Hasenpflug

Assistant Professors: V. Ballam, Helman, Kloss, K. York

Assistant Lecturer: Helman, Romine

Adjunct Faculty: G. Adams, M. Adams, B. Attebery, Banyas, Cha, Drake, Espinosa, G. Friedley, Hughes, LoPiccolo, Neiwirth, O'Brien, Romine, Sorenson, M. York

## Master of Education in K-12 Education Music Education

36 Credits

(Music content courses listed below)

The M Ed in Music Education is a degree program housed in the College of Education and presented in collaboration with the Department of Music. For admission into this program, apply first to the College of Education Department of Educational Foundations. Music content courses are listed in this section.

The M.Ed. in Music Education is designed to strengthen the student's understanding, knowledge, and skills in three major areas—Core Professional Studies, Specialty Studies, and Integrative Field Research Studies—as they relate to music education. The program is designed to meet the needs of music education specialists who work in the public school system (grades K-12) or who aspire to further graduate study and teaching in music education.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, individuals applying for admission to the Master of Education/Music Education, must meet the following admission requirements:

- Bachelor's degree in music from an accredited college or university.

It is expected that students will meet basic requirements for public school certification.

- Completion of entrance examinations in music history and music theory. Students whose examination indicate deficiencies will be granted Classified (w/PR) Status. Any course used to remove deficiencies does not count toward the degree. When

deficiencies have been removed, the student may seek Classified Status.

## General Requirements

Students complete a minimum of 36 semester credit hours for the Master's degree. Students seeking Idaho Certification in the area of their training must meet any requirements of the State Board of Education for certification. It is recommended that students have professional experience in an education context.

### Education Core (12 credits)

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr
EDUC 6616 Integration of Technology into School Curriculum	3 cr

### Pedagogy and Content (24 credits)

MUSC 5515 Seminar in Band Music	2 cr
OR	
MUSC 5516 Seminar in Choral Music	2 cr
OR	
MUSC 5518 Seminar in Orchestral Music	2 cr
MUSC 5545 Advanced Instrumental Conducting	2 cr
MUSC 5546 Advanced Choral Conducting	2 cr
MUSC 6601 Foundations in Music Education	3 cr
MUSC 6610 Practicum in Rehearsal Techniques	2 cr
MUSC 6671 Music Education Seminar	3 cr
Graduate Performance Ensemble (2 semesters)	2 cr
Music History/Theory Elective	2-3 cr
Music History/Theory Elective	2-3 cr
Other Music Electives	4-6 cr
Total	36 cr

## Music Graduate Courses

**MUSC 5506 Opera Literature 3 credits.** Masterworks of operatic literature.

**MUSC 5507 Symphonic Music Literature 3 credits.** Masterworks of symphonic literature.

**MUSC 5508 Chamber Music Literature 3 credits.** Masterworks of chamber music literature.

**MUSC 5511 Instrument Literature 2 credits.** A study of instructional materials and literature for an orchestral instrument or guitar. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC OR PERMISSION OF INSTRUCTOR.

**MUSC 5512 Instrument Pedagogy 2 credits.** A survey and comparative study of pedagogical materials, principles and procedures. Application of pedagogical techniques in teaching situations. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC OR PERMISSION OF INSTRUCTOR.

**MUSC 5513 Piano Literature 2 credits.** A study of instructional materials and literature for piano. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC OR PERMISSION OF INSTRUCTOR.

**MUSC 5514 Piano Pedagogy 2 credits.** A survey and comparative study of pedagogical materials, principles and procedures for piano. Application of pedagogical techniques in teaching situations. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC OR PERMISSION OF INSTRUCTOR.

**MUSC 5515 Seminar in Band Music 2 credits.** Analysis and study of instrumental works from the Baroque to the present era with particular attention to performance practice. PREREQ: MUSC 3305-3306 OR EQUIVALENT.

**MUSC 5516 Seminar in Choral Music 2 credits.** Analysis and study of choral works from the Renaissance through the present era with particular attention to performance practice.

**MUSC 5518 Seminar in Orchestral Music 2 credits.** Analysis and study of orchestral works from the Baroque to the present era with particular attention to performance practice. PREREQ: MUSC 3305 and MUSC 3306 or equivalent.

**MUSC 5519 Voice Literature 3 credits.** Instructional materials and literature for voice. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC OR PERMISSION OF INSTRUCTOR.

**MUSC 5520 Voice Pedagogy 3 credits.** A survey and comparative study of pedagogical materials, principles, and procedures for voice, with application. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC OR PERMISSION OF INSTRUCTOR.

**MUSC 5524 Music in the Baroque Era 3 credits.** Intensive study of music from Monteverdi through J.S. Bach.

**MUSC 5525 Music in the Classical Era 3 credits.** Intensive study of music in the Classical era, principally 1730 through Beethoven.

**MUSC 5526 Music in the Romantic Era 3 credits.** Intensive study of music in the Romantic era, principally 1800 to 1900.

**MUSC 5527 Music in the Modern Era 3 credits.** Intensive study of music in the Modern era, principally since 1900.

**MUSC 5529 Advanced Music History Survey 3 credits.** Study of music history topics, including vocal and instrumental forms and styles. PREREQ: MUSC 3304, MUSC 3305 AND MUSC 3306.

**MUSC 5532 Instrumental Arranging 2 credits.** Arranging music for different instrumental combinations and various textures.

**MUSC 5533 Composition 2 credits.** Individual instruction in the organization of musical ideas into logical and homogeneous forms with an emphasis on contemporary styles. May be repeated up to 12 credits.

**MUSC 5535 Analysis of Musical Styles 2 credits.** The techniques of stylistic analysis of music from the Baroque period through the 20th century.

**MUSC 5538 Special Topics in Music Theory 2 credits.** Advanced studies in selected topics in music theory. May be repeated up to 6 credits with change of topic.

**MUSC 5539 Advanced Music Theory Survey 3 credits.** Study of music theory methods, including harmonic and formal analysis.

**MUSC 5545 Advanced Instrumental Conducting 2 credits.** Designed for secondary school music educators. Practical experience in analyzing and rehearsing instrumental conducting techniques for a wide variety of instrumental music. PREREQ: MUSC 3320.

**MUSC 5546 Advanced Choral Conducting 2 credits.** Designed for secondary school music educators. Practical experience in analyzing and rehearsing choral conducting techniques for a wide variety of choral music. PREREQ: MUSC 3319.

**MUSC 5591 Independent Study 1-4 credits.** Supervised study in selected areas, primarily research, writing, or analysis. May be repeated to a maximum of 7 credits. PREREQ: PERMISSION OF INSTRUCTOR AND DEPARTMENT CHAIR.

**MUSC 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**MUSC 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MUSC 6601 Foundation in Music Education 3 credits.** Historical, philosophical, and psychological foundations of music education, with their application to current instruction and evaluation.

**MUSC 6610 Practicum in Rehearsal Techniques 2 credits.** Advanced techniques of

ensemble rehearsal, including procedures, diagnostic and achievement evaluation, planning and pedagogy. PREREQ: MUSC 5515 OR MUSC 5516, MUSC 5517.

**MUSC 6650 Thesis Project 1-4 credits.** The student will present a public graduate recital, supervised by a faculty member in the music department. In addition to the recital, a paper will be submitted demonstrating extensive familiarity with research relative to the music performed in the recital. This paper will be written under the supervision of a faculty member from the College of Education and faculty members from the Music Department. The completed paper and recital are to be accepted by the examining committee and the paper filed with the dean of the College of Education. A recording of the recital will be filed with the music department. May be repeated. Graded S/U.

**MUSC 6671 Music Education Seminar 3 credits.** Advanced examination of concepts, principles, models, and theories of instruction in music education. Seminar format requires active participation in readings, discussion, presentations, and written assignments. PREREQ: MUSC 6601 AND MUSC 6610.

**MUSC 6695 Graduate Recital 2 credits.** Public recital culminating from applied music study at the graduate level. Graded S/U.

**MUSC 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Graduate Performance Ensembles

**MUSP 5566 Chamber Choir 1 credit.** Reading, study and performance of representative literature for chamber choir. Emphasis is placed on the individual's contribution toward the highest of choral standards. May be repeated. PREREQ: Junior level standing in applied music.

**MUSP 5567 Opera Workshop 1 credit.** Ensemble course devoted to the study and presentation of an opera. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC.

**MUSP 5568 Instrumental Ensemble 1 credit.** Ensemble training in various instrument combinations, such as string quartet and various woodwind and brass ensembles. Section 1, Woodwind Ensemble; 2, Brass Ensemble; 3, Percussion Ensemble; 4, String Ensemble; 5,

Guitar Ensemble; 6, Keyboard Ensemble. May be repeated.

**MUSP 5569 Orchestra 1 credit.** Sight reading of representative orchestral literature; orchestral routine, study, and public performance of major symphonic compositions including orchestral accompaniments. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC.

**MUSP 5572 ISU Women's Choir 1 credit.** Study, rehearsal and performance of traditional and non-traditional choral music for treble voices. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC.

**MUSP 5573 Concert Choir 1 credit.** Study and performance of the entire body of choral music. Includes several performances and concerts. Emphasis on attaining high musical standards and levels of choral-vocal proficiency. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC.

**MUSP 5577 Symphonic Band 1 credit.** Rehearsal and performance of traditional and contemporary wind literature in on- and off-campus concerts. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC.

**MUSP 5578 Jazz Band 1 credit.** Rehearsal and performance of standard and contemporary big-band literature. One or two concerts are given each semester. PREREQ: JUNIOR LEVEL STANDING IN APPLIED MUSIC.

## Applied Music—Private Lessons

**MUSA 5521 Piano 1-3 credits each.** May be repeated.

**MUSA 5531 Voice 1-3 credits each.** May be repeated.

**MUSA 5541 Organ 1-3 credits each.** May be repeated.

**MUSA 5561 Strings 1-3 credits each.** Section 1, Violin; 2, Viola; 3, Cello; 4, String Bass; 5, Classical Guitar. May be repeated.

**MUSA 5565 Brass Instruments 1-3 credits each.** Section 1, Trumpet; 2, French Horn; 3, Euphonium; 4, Trombone; 5, Tuba.

**MUSA 5575 Woodwind Instruments 1-3 credits each.** Section 1, Flute; 2, Clarinet; 3, Oboe; 4, Bassoon; 5, Saxophone.

**MUSA 5585 Percussion Instruments 1-3 credits each.**

# Master of Arts in Theatre

## Goals

The primary objectives related to the graduate Theatre program are to help students develop the following competencies:

1. A highly developed understanding of the history and literature of the art.
2. The ability to read, understand, and critique scholarly theatre-related essays and books.
3. The ability to contribute to general theatre scholarship.
4. The demonstrated ability to continue with graduate work toward a terminal degree, whether an M.F.A. or Ph.D.
5. To develop pedagogical skills enabling the students to pass on their knowledge to others.
6. Knowledge of theatre as a social and aesthetic experience.
7. Knowledge of the history of the theatre and related dramatic literature.
8. Competence in basic acting and directing skills.
9. Competence in technical aspects of theatre.
10. Competence in study skills.
11. Competence in research skills.
12. Competence in thinking clearly, logically, and independently.
13. Ability to effectively communicate and work within a collaborative art.

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School.

## General Requirements

THEA 6601 Introduction to Research in Drama	3 cr
THEA 6641 Seminar in Drama Theory	3 cr
THEA 6642 Seminar in Drama Theory	3 cr
THEA 6650 Thesis	1-6 cr
Theatre Electives	15-20 cr
Minimum Total Credits	30 cr

The Theatre electives may be selected from 5000 - and 6000- level courses in Theatre or other graduate courses approved by the Theatre Director of Graduate Studies. Students may not register for a 5000-level course if they have already earned undergraduate credit in the equivalent 4000-level course, unless approval is obtained from the Theatre Director of Graduate Studies.

## Theatre Graduate Courses

**THEA 5500 Theatre Backgrounds I 3 credits.** Theatre and drama, from their origins through the Jacobean period.

**THEA 5501 Theatre Backgrounds II 3 credits.** Study of the theatre and drama from the Spanish Golden Age through the “well-made play.”

**THEA 5502 Stage Costume History 3 credits.** A survey of the history of western clothing from Ancient Egypt through the present. Study of the social context and motivations behind the evolution of clothing, silhouette, and costume components.

**THEA 5503 Stage Costume Design 3 credits.** Costume design for the theatre incorporating the influence of period, concept, and mood. Course work includes text analysis, research, drawing, painting, and collage.

**THEA 5504 Problems in Acting 3 credits.** Focuses on special acting problems such as characterization, movement, voice, pantomime, and film and television acting. Content varies from year to year. May be repeated once with the consent of the instructor.

**THEA 5505 Advanced Costume Construction 3 credits.** A study in period corset and millinery construction. A lab course in which students gain practical experience and skills crucial to a career in costume technology.

**THEA 5506 Advanced Light Design 3 credits.** Study of lighting design in performing arts. Students gain knowledge through actualized projects, study of television and film lighting, and exploration of the Controllable properties including color.

**THEA 5512 Scenic Painting 3 credits.** A study of painting techniques as used in theatrical scenery; theory, practice, and equipment will be investigated as they apply to the art of stage painting.

**THEA 5519 Modern European Theatre 3 credits.** Continental and British theatre and drama from 1850 to mid-twentieth century.

**THEA 5520 American Theatre 3 credits.** American theatre and drama from the beginning to mid-twentieth century.

**THEA 5521 Basic Pattern Drafting for Stage Costuming 3 credits.** Cutting patterns from measurements. Adjusting various patterns to designs. Alterations and fittings. PREREQ: PERMISSION OF INSTRUCTOR.

**THEA 5522 Period Pattern Drafting for Stage Costuming 3 credits.** Use of the basic patterns to reproduce historical costumes from the 12th century to 1950. PREREQ: PERMISSION OF INSTRUCTOR.

**THEA 5524 Advanced Acting Styles 3 credits.**

Study of the various period styles of acting including Greek, Medieval, Elizabethan, Restoration, and 19th century melodrama. The student will act in a series of special projects encompassing a variety of styles. PREREQ: PERMISSION OF INSTRUCTOR.

**THEA 5526 Advanced Scene Design 3 credits.** Study of scene design in performing arts and beyond. Students work toward portfolio-quality work in realized and non-realized projects in theatre, television, film, and design areas.

**THEA 5555 Beginning Stage Direction 3 credits.** Consideration of aesthetics of dramatic production and the relationship of basic techniques of stage direction. Includes the direction of scenes and short one-act plays. PREREQ: PERMISSION OF INSTRUCTOR.

**THEA 5556 Advanced Stage Direction 3 credits.** Advanced theories in techniques of stage direction including consideration of period styles. The student will direct a series of advanced projects including scenes and a complete one-act play. PREREQ: THEA 5555, OR PERMISSION OF INSTRUCTOR.

**THEA 5570 Contemporary Theatre 3 credits.** World drama and theatre during the five most recent decades.

**THEA 5590 Practicum Theatre Arts II 1-3 credits.** Integrated projects for advanced students in various areas of theatre arts emphasizing analysis and presentation of experimental work. May be repeated for a maximum of four credits, with different content.

**THEA 5591 Independent Research Project II 1-2 credits.** Under the supervision of the drama faculty, students will undertake special research projects in theatre. May be repeated once with different content.

**THEA 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**THEA 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated. Graded S/U.

**THEA 6601 Introduction to Research in Drama 3 credits.**

**THEA 6641 Seminar in Drama Theory 3**

**credits.**

**THEA 6642 Seminar in Drama Theory 3 credits.**

**THEA 6650 Thesis 1-6 credits.** May be repeated. Graded S/U.

**THEA 6660 Graduate Degree Papers 1-2 credits.** May be repeated. Graded S/U.

**THEA 6691 Independent Study in Drama 1-4 credits.** Supervised individual study in drama. Instructor's consent required. May be repeated for a maximum of 4 credits.

**THEA 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Museum

Director, Research Curator and Anthropology Division Head; Director, Idaho Virtualization Laboratory; Director, Center for Archaeology, Materials, and Applied Spectroscopy, and Anthropology Research Professor: Maschner  
Anthropology Collections Manager (IMNH): Tews  
Earl R. Swanson Archaeological Repository Manager (IMNH): Commendador-Dudgeon

## Mission Statement

The Mission of the Idaho Museum of Natural History is to acquire, preserve, study, interpret, and display objects relating to the natural history of Idaho and the Northern Intermountain West for research and education. The Museum seeks to enhance in the citizens of Idaho and visitors an understanding of and delight in Idaho's natural and cultural heritage. Specific areas of interest encompass the anthropology, botany, geology, paleontology, and zoology of Idaho and the Northern Intermountain West. Audiences served include citizens of Idaho, visitors, and the national and international community of students and scholars. Information is disseminated through exhibitions, public and professional presentations, publications, formal and informal education, telecommunications, and other interpretive programs.

## Museum Graduate Courses

(No graduate degrees are offered)

**MUSE 5550 Independent Study in Museum Methods 1-3 credits.** Individual projects based on student's background and interests. Could include, but not limited to, advanced work in collections management, exhibit de-

sign and construction, museum education, or administration. May be repeated up to 6 credits. PREREQ: MUSE 4411 OR PERMISSION OF INSTRUCTOR.

## Division of Social and Behavioral Sciences

### Department of Anthropology

Interim Chair and Professor Stocks  
Professors: Cartwright, Loether, Lohse  
Associate Professors: Reedy-Maschner  
Assistant Professors: Dudgeon, Peterson  
Native Language Instructor: Gould  
Adjunct Faculty: Dean,  
Research Affiliate Faculty: Hansen, Woods

#### Mission

The mission of the Department of Anthropology is to research and teach about humankind the world over from the distant past to the present. Anthropology consists of sub-fields that specialize in the human past, human biology and evolution, language, society, and culture, and provides cross-cultural, environmental, international, and global perspectives on past and present human behavior. An important part of the anthropology mission at Idaho State University is to apply anthropological concepts to the resolution of important social, cultural, and environmental problems of our times. The Department of Anthropology offers graduate students courses leading to the Master of Arts or Master of Science degree in Anthropology, with opportunities for specialization in archaeological science, ecological, medical, and applied anthropology, linguistics, biocomplexity, informatics, and oral history.

#### Goals

Students who have completed a graduate degree in Anthropology at Idaho State University should be able to:

1. Read and understand anthropological theory at a professional level.
2. Understand current debates within the field of anthropology.
3. Synthesize and critically evaluate the professional literature.
4. Use a comparative approach to theorize about the similarities and differences in the human condition across space and through time.

Measurable Outcomes - The Thesis or Special

Project should show the following competencies based on the learning objectives:

1. Write a proposal for pure research or the application of theory to contemporary social issues.
2. Perform quantitative and/or qualitative analysis of data appropriate to the chosen subdiscipline.
3. Competently conceive, conduct, and write-up either research in anthropology or applications of anthropology at a level suitable for publication.

#### Admission Requirements

The student must apply to, and meet all criteria for admission to the Graduate School. In addition the student must provide:

1. A letter of application, including areas of interest and professional goals;
2. Three letters of recommendation;
3. Undergraduate transcripts and transcripts of any previous post-graduate coursework;
4. Minimum grade point average of 3.0;
5. Total GRE scores that average at least the 50th percentile for admission;
6. An undergraduate degree in anthropology is not required for acceptance into the program; however, students without upper division coursework in sociocultural anthropology, archaeology, and human origins equivalent to ANTH 5501, 5503, 5530, and an upper division linguistic anthropology course will be required to take these courses or approved readings courses before enrolling in content-respective graduate seminars.

#### General Requirements

##### Option 1: Master of Arts

1. A minimum of 30 credits must be taken, including 15 at the 6600-level or higher and these required courses:

ANTH 6605 Seminar in Linguistic Anthropology	3 cr
ANTH 6615 Seminar in Biological Anthropology	3 cr
ANTH 6625 Seminar in Sociocultural Anthropology	3 cr
ANTH 6635 Seminar in Archaeology	3 cr
PLUS	
ANTH 6641 Research Project	6 cr
OR	
ANTH 6650 Thesis	6 cr

2. An additional 9 credits of graduate level courses approved by the student's advisor are also required.
3. Fours semesters of foreign language must be completed, or equivalent competence must be demonstrated.

##### Option 2: Master of Science

1. A minimum of 30 credits must be taken, including 15 at the 6600-level or higher and these required courses:

Two of the following graduate seminars:	
ANTH 6605, 6615, 6625, 6635	6 cr

PLUS	
ANTH 6641 Research Project	6 cr
OR	
ANTH 6650 Thesis	6 cr

2. An additional 9 credits of advanced techniques and methods courses are also required.

#### Additional Requirements for Option 1 and Option 2:

1. By the end of the first semester, each student must develop a proposed program of study specifying elective courses (Options 1 and 2) and techniques and methods courses (Option 2) in consultation with the student's graduate advisor.
2. Students completing an M.S. or M.A. in Anthropology with an MPH degree may apply up to 9 credits to both degrees subject to approval of the student's advisors in both programs.
3. To maintain Classified status, students must register for a minimum of 6 credits in the Fall and Spring Semesters of the first year.
4. Each student must write a Master's thesis or publishable manuscript, and must successfully defend it in a formal oral examination.

#### Anthropology Graduate Courses

**ANTH 5501 History and Theory of Sociocultural Anthropology 3 credits.** Survey of the development of anthropology, various schools of thought, important personalities, and concepts that have contributed to anthropology over time. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5502 Ecological Anthropology 3 credits.** Interaction of human bio-cultural systems and environment. Relations of natural resources, technological inventories, social organization, cultural categories. Native resource management practices. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5503 Method and Theory in Archaeology 3 credits.** History of the development of current methods and theory in archaeology and contemporary applications. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5504 Material Culture Analysis 3 credits.** Method and analyses used in archaeology and anthropology to understand the relationship between objects and culture. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5505 Analytical Techniques Laboratory 1 credit.** Analytical techniques laboratory to accompany ANTH 5504. Students will complete an assigned project in material culture analysis. PREREQ: PERMISSION OF -

INSTRUCTOR.

**ANTH 5506 American Indian Health Issues 3 credits.** An overview of health concerns, both current and past, of American Indian people, and the biological and sociocultural factors which influence health status. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5507 Anthropology of Global Health 3 credits.** How cultures define health and illness, and how these definitions ultimately influence the health status of individuals. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5508 Topics in Medical Anthropology 3 credits.** Rotating topics, including international health issues, ethno-psychiatry, ethnomedicine and non-western healing systems. May be repeated for a maximum of 6 credits. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 5507 or PERMISSION OF INSTRUCTOR.

**ANTH 5509 Clinical Medical Anthropology 3 credits.** Explores the culture of biomedicine and the beliefs of patients. Topics include doctor/patient communication, cultural competency, cultural construction of risk, critiques of high-tech medicine and the international pharmaceutical industry.

**ANTH 5510 Introduction to Cultural Resources Management 3 credits.** Introduction to CRM reviewing historic preservation and federal legislation as they pertain to archaeology; practical experience in site survey and recording. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5513 Old World Archaeology 3 credits.** Prehistory of the Old World. Precise areal focus and periods may vary. Includes both theory and exposition. May be repeated for up to 6 credits with different course topics. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 2203 OR PERMISSION OF INSTRUCTOR.

**ANTH 5514 New World Archaeology 3 credits.** Examination of the prehistory of the Americas with emphasis on the North American Continent. May be repeated for up to 6 credits with different course topics. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 2203 OR PERMISSION OF INSTRUCTOR.

**ANTH 5530 Human Evolution 3 credits.** Examines relevant topical issues/problems in human evolution from a bioanthropological,

ecological and demographic perspective, including paleoanthropology, evolutionary genetics, and the impact of health, nutrition and disease in human populations. May be repeated for up to 6 credits. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 22230 OR PERMISSION OF INSTRUCTOR.

**ANTH 5532 Human Osteology 3 credits.** Provides a comprehensive, working knowledge of the human skeletal system presented in a laboratory context, including identification of individual bones, osteogenesis, pathologies, demography and the applications of knowledge and techniques in real world settings. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 2230 OR PERMISSION OF INSTRUCTOR.

**ANTH 5539 Principles of Taphonomy 3 credits.** Effects of processes which modify organisms between death and the time the usually fossilized remains are studied. Emphasis on vertebrates. Cross-listed with BIOL 5539 and GEOL 5539. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5549 Qualitative Research Methods 3 credits.** Study of qualitative research methods. Data gathering techniques and data analysis will be covered. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 2250 OR PERMISSION OF INSTRUCTOR.

**ANTH 5550 Sociolinguistics 3 credits.** Study of the patterned covariation of language and society, social dialects and social styles in language; problems of bilingualism, multilingualism, creoles and language uses. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Cross-listed as ENGL 5588. PREREQ: ANTH 1107, ENGL 2281, OR PERMISSION OF INSTRUCTOR.

**ANTH 5552 American Indian Verbal Arts 3 credits.** Analysis of current theories in the study of oral literature and ethnopoetics, focusing on the oral traditions of American Indians.

**ANTH 5554 Survey of American Indian Languages 3 credits.** History of scholarship, analysis and classification of American Indian languages with emphasis on the languages of a particular phylum or geographical area. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5555 Phonetics 3 credits.** Introduction to descriptive linguistics focusing on phonetics

and phonetic phenomena of English and the other languages of the world. Extensive practice in perception and production of such phenomena. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Cross-listed as LANG 5555. PREREQ: ANTH/LANG 1107.

**ANTH 5556 Phonology and Morphology 3 credits.** Phonological theory and analysis; current theories in morphology. Phonological rules, representations, underlying forms, derivation, justification of phonological analyses; morphological structure, derivational and inflectional morphology; relation of morphology to phonology. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Cross-listed as LANG 5556. PREREQ: ANTH/LANG 1107.

**ANTH 5558 Historical Linguistics 3 credits.** The methods and theories of the historical study of language. The comparative method, internal reconstruction, linguistic change over time, genetic typology of languages, and applications to prehistory.

**ANTH 5559 Linguistic Field Methods 3 credits.** Practical experience in linguistic analysis of a language using data elicited from a native speaker. May be repeated up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5563 Applied Statistics in Anthropology 3 credits.** Practical applications of commonly used statistical analyses in anthropology. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5564 Advanced Analytical Methods in Anthropology 3 credits.** Examination and practical experience in applying advanced quantitative, qualitative, and laboratory methods and analyses. May be taken for up to 6 credits. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ANTH 5563 OR PERMISSION OF INSTRUCTOR.

**ANTH 5572 Native American Arts 3 credits.** Survey of Native American arts and industries, including prehistoric, ethnographic, and contemporary venues. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5574 Topics in Indian Education 3 credits.** Rotating review of topics dealing with issues in Indian education. Consult current schedule of classes for exact course being taught. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated.

**ANTH 5578 Federal Indian Law 3 credits.**

Examination of tribal governments; their relationship with the federal government; sovereignty, jurisdictional conflicts over land and resources; and economic development. Cross-listed as POLS 5578.

**ANTH 5579 Tribal Governments 3 credits.** Complex legal position of Indian tribes as self-governing entities; principles of inherent powers; governmental organization, lawmaking, justice, relation to state and federal government. Cross-listed as POLS 5579.

**ANTH 5580 Varieties of American English 3 credits.** In-depth study of various dialects of American English, including historical evolution of different dialects, effects of migration on dialects, and influences of non-English immigrant languages on development of American English. Field work studying the Snake River dialects of Idaho. Cross-listed as ENGL 5580.

**ANTH 5581 Topics in Sociocultural Anthropology 3 credits.** Selected topics in social, political, economic, and religious systems/organization. Intensive survey of literature and analysis of relevant materials. See current schedule of classes for exact course titles. Maybe be repeated for up to 9 credits with different course topics. Specific, evaluated graduate level activities and/or performances are identified in the course syllabus. PREREQ: UPPER DIVISION STATUS OR PERMISSION OF INSTRUCTOR.

**ANTH 5582 Independent Problems in Anthropology 1-3 credits.** Investigation of an anthropological problem chosen by the student and approved by the staff. May be repeated up to 6 credits.

**ANTH 5583 Field Research 3 credits.** Practical experience in field research. May be repeated for up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5585 Anthropology of War and Violence 3 credits.** Survey of war and violence from evolutionary foundations through modern representations. The course covers violence and war among chimpanzees, the genetics and biochemistry of violence, the role of evolution in making humans aggressive, and the history and ethnography of violent conflict around the world.

**ANTH 5586 Archaeology Field School 1-9 credits.** Practical field and laboratory training in archaeological excavation techniques and methods of analysis. May be repeated to a total of 9 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5587 Ethnographic Field School 1-6**

**credits.** Supervised fieldwork in cultural anthropology in a given ethnographic setting where students and faculty work on a specific set of field problems. May be repeated to a total of 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5589 Topics in American Indian Studies 3 credits.** Rotating review of topics dealing with issues in American Indian studies. Consult current schedule of classes for exact course being taught. May be repeated with different topics. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**ANTH 5590 Topics in Folklore 3 credits.** Focused study of an issue in folkloristics or a particular genre of folklore, including history of the scholarship concerning that issue or genre. Rotating topics. May be repeated up to 9 credits with different topics. Cross-listed as ENGL 5590.

**ANTH 5591 Archaeology Laboratory - Analysis 3 credits.** Directed analysis of archaeological remains and report writing. May be repeated up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5594 Visual Anthropology 3 credits.** Documentary and ethnographic filmmaking techniques including story structure, interviewing, audio and lighting, camera handling, composition, POV, and editing. Anthropological critiques of visual representation. Students create their own short film for a final project. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 5595 Department Colloquium 1 credit.** Presentations of current research issues in Anthropology by faculty and students. May be repeated.

**ANTH 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**ANTH 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ANTH 6605 Seminar in Linguistic Anthropology 3 credits.** Discussion of theories, methods, and results in linguistic anthropology. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 6610 Seminar in Medical Anthropology 3 credits.** Discussion of current topics within the various specializations of medical anthropology. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 6615 Seminar in Biological Anthropology 3 credits.** Discussion of theories, methods, and results in biological anthropology. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 6625 Seminar in Sociocultural Anthropology 3 credits.** Discussions of theories, methods, and results in sociocultural anthropology. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 6635 Seminar in Archaeology 3 credits.** Studies in current theories, methods, and results in archaeological anthropology. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 6641 Research Project 1-6 credits.** The student will pursue original research under staff guidance. The final report will result in a publishable manuscript. May be repeated. Graded S/U. PREREQ: PERMISSION OF THE CHAIR OF STUDENT'S GRADUATE COMMITTEE.

**ANTH 6642 Practicum in Teaching Anthropology 3 credits.** Directed preparation of an anthropology course with a review of course materials, format, teaching techniques, films, and other aids. The trainee will participate in a supervised teaching experience.

**ANTH 6649 Independent Study 1-4 credits.** Independent research under the guidance of faculty. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**ANTH 6650 Thesis 1-6 credits.** May be repeated. Graded S/U.

**ANTH 6655 Internship in Applied Anthropology 3-6 credits.** Supervised experience in the development and implementation of an anthropological project.

**ANTH 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.



## Department of Economics

Professors: Benson, Stegner, Tokle  
Associate Professors: Green

### Economics Graduate Courses

(No graduate degrees are offered)

**ECON 5504 Game Theory 3 credits.** Use game theory to model conflicts, cooperation and strategy, with applications in economics, business, political science, psychology, sociology, anthropology and biology. Equilibrium concepts, information structures, static and multi-period games will be discussed. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ECON 2201 and ECON 2202 or ECON 6610/MBA 6610 or permission of instructor.

**ECON 5509 Industrial Organization 3 credits.** Industrial organization extends the theory of the firm to examine firms' strategic behavior, including methods to differentiate products and aggressive pricing schemes, and the government's response to these activities. PREREQ: ECON 2210 AND ECON 2202.

**ECON 5511 Political Economy 3 credits.** A critical introduction to the relationship between economic institutions and social analysis. The social implications of different views on economic concepts, such as the division of labor, capital, and value, are investigated from a classical, neoclassical and an institutional perspective.

**ECON 5531 Money and Banking 3 credits.** The study of financial instruments, money, interest rates, the banking industry, and the structure and monetary policies of the Federal Reserve Bank. An examination of past and present monetary policy. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ECON 2201 and ECON 2202 or MBA 6610.

**ECON 5533 Economic Development 3 - credits.** Theories and principles of economic development, characteristics, and problems of underdeveloped and developing countries, alternative techniques and policies for the promotion of growth and development.

**ECON 5534 International Trade 3 credits.** Explain international trade patterns of goods, services and factors. Study government trade policies, trade laws, and national and international trade institutions. Study trade strategy from the perspective of governments and business. Understand the different levels of eco-

nomics integration among countries and the political economy of trade policies and trade conflicts/cooperations. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ECON2201 and ECON 2202 or ECON 6610/MBA 6610 or permission of instructor.

**ECON 5535 International Finance 3 credits.** Study foreign exchange market and theories of exchange rate determination. Discuss the effectiveness of fiscal and monetary policies in an open economy and the implications of international macroeconomic policy coordination/conflict for government officials and business. Learn about foreign exchange hedging and risk management for country and business. Study lessons from recent international financial crises. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ECON 2201 and ECON2202 or ECON 6610/MBA 6610 or permission of instructor.

**ECON 5539 State and Local Finance 3 credits.** Study of taxation, borrowing and spending by state, city, county and other local governments. Taxing and spending patterns are evaluated and compared by states.

**ECON 5572 Comparative Economic Systems 3 credits.** Study and comparison of the theories and practices found in various economic systems. Includes a study of both the free market and socialistic planning.

**ECON 5574 Senior Seminar 3 credits.** Discussion-driven capstone class that integrates selected topics in economics. Students will be required to do economic research, and write on and discuss current economic issues. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: Permission of Instructor.

**ECON 5581 Independent Study 1-3 credits.** Individuals will be assigned independent problems for research under the supervision of a departmental faculty member. May be repeated up to 6 credits.

**ECON 5585 Econometrics 3 credits.** The application of statistical and mathematical methods to the analysis of economic data, with a purpose of giving empirical content to economic theories and verifying them or refuting them. PREREQ: ECON 2201, ECON 2202, AND MATH 1153.

**ECON 5591-5592 Economic Seminar 1-3 credits.** May be repeated.

**ECON 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the develop-

ment and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**ECON 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ECON 6610 Applied Economics 3 credits.** Applied principles and techniques of analysis in micro and macro economics. Cross-listed as MBA 6610.

**ECON 6620 Seminar: Philosophy of Social Science 3 credits.** The application of mathematical and scientific methods to the study of social, economic, and political life will be considered through the reading of certain seminal writings. Attention will be given to the fundamental assumptions about the nature of scientific rationality. Required of D.A. students.

**ECON 6621 Seminar: Interdisciplinary Topics in Social Sciences 3 credits.** Examination of selected topics in the social sciences from the analytic orientations and perspectives common and peculiar to the disciplines of political science, economics and sociology. Required of D.A. students.

**ECON 6650 Thesis 1-6 credits.** The student will do research of an economic nature supervised by a faculty member in the Economics Department. The research project will be of an interdisciplinary nature and the student will be supervised by faculty members from the department(s) involved as well as from the Economics Department. Graded S/U.

**ECON 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of History

Chair and Associate Professor Marsh  
Professors: Christelow, Hatzenbuehler, Woodworth-Ney

Associate Professors: Kuhlman

Assistant Professors: Jones, Youngs

Adjunct Faculty: Reinke, Stamm

Emeritus Faculty: Christelow, Marley, Owens, Ruckman, Swanson

Research Faculty: Owens, Stephenson

Lecturers: Sivitz, Stover

## Master of Arts in Historical Resources Management

The M.A. in Historical Resources Management trains students to apply sophisticated information technologies to a rigorous analysis of historical problems. Emphasis is placed on a practical, interdisciplinary approach to applied history, using new technologies to examine changes through time and place. Students within this innovative program choose between two concentrations or “tracks.”

1. The GIS track combines the use of geographic information systems (GIS) and related information technologies with historical research methods to conduct spatial analyses of the past. ISU is an internationally recognized center in applying GIS to historical research. Students may work closely with the award-winning ISU GIS Teaching and Research Center, which provides technical training and support and promotes multidisciplinary collaboration among ISU faculty and graduate students. Geotechnology is a powerful tool and a highly sought skill in most job sectors, where demand far exceeds the supply of trained graduates. This technological training complements the fundamental historians’ skills of research, analysis, and writing that are always in demand.
2. The Digital Media track focuses upon using a variety of media tools to communicate historical information and interpretation. Students learn techniques of web design, museum displays, film production, and scholarly publishing. In addition to collaboration with faculty in the James E. Rogers Department of Mass Communication, students may gain experience from working with three peer-reviewed journals edited by faculty in the History Department, on-campus production facilities of Idaho Public Television, and local museums. Graduates will conduct significant historical research and

present interpretations in a variety of engaging and effective formats.

Students in both tracks complete an internship that develops skills in analysis, collaboration, and communication. Both options emphasize individual research into historical documents and publication or presentation by students in a variety of formats. Students receive strong training that will enable graduates to compete successfully for a wide variety of jobs with businesses and educational, government, and private agencies and to prepare them for further graduate study.

### Admission Requirements

The student must apply and meet all criteria for admission to the Graduate School. In addition, the student must comply with the following departmental requirements:

1. Applicants must submit three letters of recommendation at least two of which should be from individuals familiar with their academic work.
2. Applicants should have at least 12 credits of previous course work in History at the upper-division level.
3. Applicants planning to pursue the GIS track must have taken GIS for Social Sciences, Principles of Geographic Information Systems, an equivalent class, or present evidence that such a course will be completed prior to entering the Historical Resources Management master’s program. Note: student’s lacking this prior training may be admitted for the GIS track in the spring semester upon condition that they take one of these GIS classes during that first semester.
4. Applicants must submit, as part of their admissions application, a statement of interest in historical studies and personal goals that identifies which track the student’s wishes to pursue. Particular attention should be given to explaining how these interests and goals relate to a particular track within the Historical Resources Management master’s program.
5. To be successful, an applicant must receive the support of someone in the department willing to chair the applicant’s graduate committee.

### General Requirements

1. A minimum of 30 semester credits, at least 15 of which must be at the 6600-level.
2. Core Courses (complete all of the following classes):
 

HIST 5590	Cartography: History and Design	3 cr
HIST 5590L	Cartography Lab	1 cr
HIST 6000	Graduate Proseminar	3 cr
HIST 6610	History in the Digital Age	3 cr
HIST 6642	Conferences and Grants	3 cr

3. Track-specific Requirements:

#### Digital Media Track

MC 5570 Communication through Web Design 3 cr

4. An internship (HIST 6664) is required for a minimum of 3 credits.
5. Electives: at least enough credits at the 5500 and/or 6600-level beyond the required core courses and internship to reach the credit requirements stated in item #1 previously. At least 3 of these credits must be for individual research, usually either HIST 6645 or HIST 6650.
6. There will be a final oral examination. For students pursuing the thesis option, the examination will be based on the thesis. For those with the non-thesis option, the examination will be based on an independent research project and/or internship work. The format of the non-thesis option examination will be flexible in order to accommodate a wide variety of possible student experiences.

## History Graduate Courses

**HIST 5505 Problems in History 3 credits.** A thorough consideration of historical problems, particularly from a comparative perspective. Designed to give deeper insight into problems, issues, and topics which are treated more generally in other courses. May be repeated with different content.

**HIST 5511 Intro to Museum Studies 2 credits.** History, philosophy, purposes, organization and administration of museums. Practical work in collections management and museum interpretation. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Pocatello.

**HIST 5518 U.S. History for Teachers 3 credits.** U.S. history from indigenous cultures through modern America. Based on Idaho Department of Education Standards for High School Students. PERMISSION OF INSTRUCTOR.

**HIST 5521 Federal Indian Relations 3 credits.** This course provides a legal-historical examination of the relationship between North American tribal peoples and the U.S. federal government between 1750 and the present. Special emphasis will be placed on Indian removal, assimilation policy, treaty negotiation, the Dawes Severalty Act, education policy, Indian reorganization policy, and termination.

**HIST 5523 Idaho History 3 credits.** A survey of the social, cultural, environmental, and political history of Idaho from pre-contact indigenous cultures to the present, emphasizing Idaho’s relation to other states and regions in the West.

**HIST 5525 Women in the North American West 3 credits.** Comparative examination of the varied experiences of women in the North American West. Analyzes perceptions of women and women's views of themselves, women's activism, and women's cultural activities. Places special emphasis on the use of non-textual historical sources in uncovering the past lives of North American western women.

**HIST 5527 North American West 3 credits.** History of the North American West from pre-contact indigenous cultures to the present, with an emphasis on exploration, settlement, ethnic groups, borderlands, environment, federal policy, and cultural depictions.

**HIST 5529 Foreign Relations since 1900 3 credits.** An introduction to the history of international relations in the twentieth century. This course emphasizes the impact of wars on various peoples and cultures, anti-colonialism and the rise of the so-called 'Third World,' and the processes of political, cultural and economic 'globalization.'

**HIST 5530 Global Environmental History 3 credits.** Comparative examinations of historical interactions between humans and environmental factors in various time periods and regions throughout the world, and an assessment of their impacts on historical change.

**HIST 5535 Colonial Frontiers in America and Africa 3 credits.** A comparative examination of exploration, conquest, and resistance, and the interaction of cultures in frontier settings. Examines both the realities of the frontier and their impact on Western thought and imagination.

**HIST 5537 Families in Former Times 3 credits.** Reconstructs the marriage patterns and domestic lives of people in pre-industrial Europe (1000-1700 AD).

**HIST 5538 Women in Pre-Industrial Europe 3 credits.** Compares and contrasts the social, cultural and economic roles of women from 700-1700 AD, and analyzes the impacts of historical change on their lives.

**HIST 5539 Feminism and Equality in World History 3 credits.** Comparative study of the history of feminism and women's rights in different world regions, involving the social constructs of gender, race, and class. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Pocatello.

**HIST 5541 The Viking Age 3 credits.** Studies the cultures and societies of Scandinavia,

England and continental Europe from 700 to 1100 AD.

**HIST 5543 English History 3 credits.** Survey of the more important British political, constitutional, economic, and cultural developments from Anglo-Saxon times to the Victorian Period.

**HIST 5544 Victorian England and After 3 credits.** England, 1837 to the present. An examination of the cultural, social, political, and economic history of the most prosperous and productive period of English history including British national and imperial decline in the twentieth century.

**HIST 5546 Social and Economic History of Greece and Rome 3 credits.** Investigates ways in which geography, demography and politics affected the mentalities and behaviors of social groups—women, patrons, clients and slaves—and the functioning of households, villages and cities.

**HIST 5548 Medieval Social and Economic History 3 credits.** Analyzes the impact of political instability, migration and environment upon Europeans (AD 200 - 1400).

**HIST 5550 Golden Age Castile 3 credits.** History of a major European country in an age of globalization, military revolution, religious conflict, and significant cultural development, 1450-1700.

**HIST 5553 Renaissance Creativity 3 credits.** Examination of the conditions promoting individual creativity among Europeans in the first global age, 1400-1700. Special emphasis on geospatial research on the history of printing.

**HIST 5560 The Global Hispanic Monarchy 3 credits.** The African, American, Asian, European, and Oceanic domains of the Iberian Habsburg dynasty, especially those of Castile and Portugal, whose officials and subjects created and maintained many of the communications routes that defined the first global age. Students prepare geospatial datasets on these routes.

**HIST 5561 Independent Study: U.S. 1-3 credits.** Selected readings in areas and periods not covered by the regular curriculum offerings. May be repeated. PREREQ: PREVIOUS UPPER-DIVISION COURSE WORK IN THE SUBJECT AREA, WITH A MINIMUM GRADE OF A-; GPA OF 3.5 IN ALL HISTORY COURSES; PERMISSION OF INSTRUCTOR; AND APPROVAL BY THE DEPARTMENT CHAIR.

**HIST 5562 Independent Study: Europe 1-3 credits.** Selected readings in areas and periods

not covered by the regular curriculum offerings. May be repeated. PREREQ: PREVIOUS UPPER-DIVISION COURSE WORK IN THE SUBJECT AREA, WITH A MINIMUM GRADE OF A-; GPA OF 3.5 IN ALL HISTORY COURSES; PERMISSION OF INSTRUCTOR; AND APPROVAL BY THE DEPARTMENT CHAIR.

**HIST 5563 Independent Study: World Regions 1-3 credits.** Selected readings in areas and periods not covered by the regular curriculum offerings. May be repeated. PREREQ: PREVIOUS UPPER-DIVISION COURSE WORK IN THE SUBJECT AREA, WITH A MINIMUM GRADE OF A-; GPA OF 3.5 IN ALL HISTORY COURSES; PERMISSION OF INSTRUCTOR; AND APPROVAL BY THE DEPARTMENT CHAIR.

**HIST 5565 U.S. Political History 3 credits.** Study of the political history of the United States involving a discussion of theories of popular voting behavior, critical elections, and political party systems. Cross-listed as POLS 5565,

**HIST 5571 Historical Geography of Idaho 3 credits.** Influences of geography and geology on Idaho's economic, political and cultural history. May be team taught, and includes field trips, discussion sections. Cross-listed as GEOL 5571 and POLS 5571.

**HIST 5574 Islam and Nationalism in the Modern World 3 credits.** A study of the interaction of Islam and national and ethnic identities in the Middle East including North Africa from 1800 up to the recent past.

**HIST 5578 Imperialism and Progressivism 3 credits.** A study of the world 1880-1920. Movements of change within the West, Third World responses to the Western challenge, and global crisis.

**HIST 5579 Disease and U.S. Public Health 3 credits.** A survey of health, disease, and public health developments in American history. The course takes a broad approach to health, but includes the development of public health offices, the role of disease in society, specific diseases and related eradication programs, and questions related to health, equity, and civil liberties.

**HIST 5589 GIS for Social Sciences 3 credits.** An introduction to geographic information systems theory and applications focusing on subjects related to human systems in historical context (census, health, urban communities, etc.). Students will work directly with GIS software and learn foundational data management and processing skills along with introductory spatial analysis. Requires competence

in computer operating systems.

**HIST 5590 Cartography: History and Design 3 credits.** History of how map-makers represent geographic, spatial data. Special attention to the elements of successful cartographic design. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. COREQ: 5590L. Pocatello.

**HIST 5590L Cartography Lab 1 credit.** Focuses on the application of cartographic design concepts and techniques discussed in lecture. Provides students with hands-on practice designing map products of publication quality. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. COREQ: HIST 5590. Pocatello.

**HIST 5591 Seminar 3 credits.** Reading, discussion, and preparation for research papers on selected topics.

**HIST 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**HIST 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**HIST 6600 Graduate Proseminar 3 credits.** Introduction to graduate studies. Focus on contemporary historiographical debates, with emphasis on understanding significant developments in the profession. May be repeated with different topics.

**HIST 6610 History in the Digital Age 3 credits.** Seminar exploring the developing field of digital history and investigating multiple tools for analysis and presentation. The course examines how geographic information systems and other digital tools are changing the field of history. Emphasis placed on students developing their own project proposals. Lab Fee \$60. Pocatello.

**HIST 6621 Seminar: Interdisciplinary Topics in Social Sciences 3 credits.** Examination of selected topics in the social sciences from the analytic orientations and perspectives common and peculiar to the disciplines of political science, economics, sociology, and history.

**HIST 6642 Conferences and Grants 3 cred-**

**its.** Emphasizes visual and oral skills for disseminating research to professional audiences. Students will develop and organize a campus-wide colloquium highlighting graduate research. Provides an introduction to grant writing with a focus upon funding sources for the social sciences and humanities.

**HIST 6645 Independent Research Project 1-6 credits.** Individual research project employing Geographic Information Systems. Topic selected by the student. May be repeated up to six credits. PREREQ: PERMISSION OF INSTRUCTOR WHO WILL DIRECT THE PROJECT AND OF THE STUDENT'S HISTORICAL RESOURCES MANAGEMENT GRADUATE COMMITTEE.

**HIST 6650 Thesis 1-9 credits.** Open to students seeking the M.A. in Historical Resources Management with the thesis option. May be repeated. Graded S/U.

**HIST 6664 Graduate Internship 3-12 credits.** Supervised experience in the application of Geographic Information Systems (GIS) and other relevant Information Technologies to a historical project in a collaborative work environment. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR WHO WILL DIRECT THE INTERNSHIP AND OF THE STUDENT'S HISTORICAL RESOURCES MANAGEMENT GRADUATE COMMITTEE.

**HIST 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Women's Studies Graduate Courses

**WS 5561 Independent Study 1-3 credits.** Selected readings and research in areas of Women's Studies not covered by the regular curricular offerings. May be repeated for a maximum of six credits. PREREQ: 3.0 CUMULATIVE GPA AND W S 201 OR EQUIVALENT; PERMISSION OF INSTRUCTOR.

**WS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**WS 6699 1-6 credits.** This is an experimental course. The course title and number of credits

are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## James E. Rogers Department of Mass Communication

Chair and Professor Terry  
Professors: Frazier, Jull  
Assistant Professors: Beachboard-Robinson,  
Hallaq

### Mass Communication Graduate Courses

(No graduate degrees are offered)

**M C 5518 Art of the Book 3 credits.** Expands the traditional idea of book form with innovative structures and concepts. Textural and nontextual formats and methods for generating ideas for works are addressed. Traditional techniques for bookbinding will also be included. Cross-listed as ART 5518.

**M C 5531 Teaching High School Journalism 2 credits.** Current high school journalism practices. Includes newspapers, broadcast, advertising, photography as appropriate. Emphasis is on applying the content of other journalism courses in the high school.

**M C 5540 Media Law and Ethics 3 credits.** Principles of the law of libel, privacy, obscenity, press freedom, responsibility and ethics as they apply to the news media.

**M C 5541 Intellectual Property Law 3 credits.** Examination of principles and laws regarding intellectual property including copyright and trademark and examination of the regulation of commercial speech.

**M C 5552 Mass Communication and Society 3 credits.** Interface between mass media (news, entertainment and advertising) and audiences. Analysis of public's right to know, press freedom, censorship, political and other leanings in the media, media effectiveness, and ethics. PREREQ: JUNIOR STANDING OR PERMISSION OF INSTRUCTOR.

**M C 5560 Corporate Video Production 3 credits.** Producing for corporate, educational, home video, documentary and other nonfiction markets. Advanced production techniques. Major project required. PREREQ: M C 300.

**M C 5570 Communication Through Web Design 3 credits.** Theory, ideology and practical application of interactive document design

utilizing several different software applications. Emphasis placed on communication. Also taught within a practical and aesthetic context, ethics, current practices, purposes, styles, genres and directions in authoring for the world wide web. PREREQ: M C 2260 OR PERMISSION OF INSTRUCTOR.

**M C 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**M C 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of Political Science

Chair and Professor: Anderson

Professors: Gabardi, McBeth

Associate Professor: Lybecker

Assistant Professor: Carlisle, Callen, Hummel,

Adjunct Faculty: Eckert, Kellam, Phippen

Emeritus Faculty: Burns, Hjelms, Maughan,

Nilson

## Doctor of Arts in Political Science

This program is intended for students interested in careers teaching political science in a variety of higher education settings ranging from community colleges to universities. Doctor of Arts recipients are prepared to teach a variety of political science courses including those in American politics and in two additional specialties selected from among the fields of public law, political theory, comparative/international politics, and public administration. Doctor of Arts students will have three interdisciplinary options to choose from. Option #1: D.A. students will take 9 credits each in TWO of the following five cooperating social science departments: Anthropology, Economics, History, Psychology, and Sociology. Option #2: D.A. students will take 18 credits in ONE of the following five cooperating social science departments: Anthropology, Economics, History, Psychology, and Sociology. Option #3: D.A. students will take 18 credits from at least two of the five cooperating social science departments: Anthropology, Economics, History, Psychology, and Sociology built around an interdisciplinary theme such as methodology or theory (courses and theme must be pre-approved by the chair of

the student's D.A. committee).

The D.A. in political science is generalist in nature. The emphasis is on a thorough grounding in political science supported by work in committee-approved social science disciplines. The program places emphasis on teaching political science rather than on the development of a narrow research specialty. A nine-credit-hour component of the program includes the development of pedagogical skills as well as sustained experience in the classroom.

### Goals

1. Graduates will demonstrate literature-based knowledge in three subfields of political science.
2. Graduates will gain this knowledge of political science through an interdisciplinary approach that includes course work in one or two cognate social science disciplines.
3. Graduates will have extensive training in pedagogy, craft a distinct teaching philosophy, and demonstrate a variety of pedagogical techniques and skills.
4. Graduates will demonstrate their research skills by presenting their work at professional conferences and/or submitting their work for publication review.
5. Graduates will gain employment and establish their careers in higher education.

### Admission Requirements

For full admission to the Doctor of Arts program, the applicant should have a cumulative GPA of 3.0 for the last two years of undergraduate study, an average score in the 50th percentile or above on any one of the three sections of the GRE exam, and a 3.5 GPA in all previous graduate study. The candidate must also submit to the Department of Political Science three letters of recommendation and a statement of his/her personal goals that will be weighted equally with the applicant's GPA and GRE scores.

The program also employs an admission scoring system which awards D.A. applicants points based on the evaluation and scoring of four components: (1) upper-division undergraduate GPA or GPA in an MA program; (2) scores on the Graduate Record Exam (GRE); (3) the quality of letters of recommendation; and (4) the quality of the applicant's goal statement. Applicants who are slightly under official admission requirements may be admitted if they are given an overall favorable admissions score.

### General Requirements

An applicant entering with a B.A. or B.S. de-

gree must fulfill a minimum of 79 credit hours including the teaching internship and up to a maximum of six dissertation credits. No more than 18 interdisciplinary credit hours (exclusive of interdisciplinary seminars) count toward the 79 credit hour minimum requirement. Candidates have the option of completing the M.A. or M.P.A. in political science en route to the D.A.; if they choose the non-thesis M.A. or M.P.A. program, only 30 hours of course work from the M.A. or M.P.A. will apply to the Doctor of Arts program. Candidates entering the Doctor of Arts program with M.A. degrees must complete a minimum of 49 credit hours, including two full-time consecutive semesters in residence, including a maximum six hours of dissertation credit. The total length and number of credit hours of a student's program, above the minimum, is dependent upon the student's academic preparation and his/her committee's recommendations.

### Political Science

Doctoral students are examined in three fields of political science. For all doctoral students, the major field of American politics is required.

1. American Politics, and
2. Any two of the following fields:
  - a. Public Law
  - b. Political Theory
  - c. Comparative/International Politics
  - d. Public Administration

Doctor of Arts students are required to take nine hours of 6600-level seminar courses (not including POLS 6694) selected from the following courses: POLS 6611, 6612, 6613, 6614, and 6615. Students may repeat these courses, even from the same professor, as long as the subject matter is different. Each course can only be repeated once. D.A. students are required to complete the methodology course POLS 5519, 5519L. Doctor of Arts students are also required to take POLS 8850, Dissertation, for a minimum of 3 credits.

Doctor of Arts students write a doctoral dissertation that may deal with either substantive disciplinary issues or pedagogical innovations or techniques. The D.A. student committee will consist of two political science faculty and a Graduate Faculty Representative (GFR). The student may request a professor from his/her interdisciplinary area to serve as the G.F.R.

After the successful completion of written comprehensive examinations, the D.A. student is required to present and defend a dissertation prospectus to the doctoral committee. The D.A. student may elect to have a public presentation of the dissertation prospectus (a colloquium) separate from the prospectus de-

fense. When the candidate's committee determines that the dissertation is ready for a defense, there will be a public presentation by the student followed by a closed and balloted defense of the dissertation with the candidate and the committee.

#### **Pedagogy**

Students must complete a nine-credit component of pedagogy to include POLS 6694, POLS 7702, and POLS 7703.

#### **Interdisciplinary Component**

##### **Option #1:**

D.A. students will take 9 credits each in TWO of the following five cooperating social science departments: Anthropology, Economics, History, Psychology, and Sociology.

##### **Option #2:**

D.A. students will take 18 credits in ONE of the following five cooperating social science departments: Anthropology, Economics, History, Psychology, and Sociology.

##### **Option #3:**

D.A. students will take 18 credits from at least two of the five cooperating social science departments: Anthropology, Economics, History, Psychology, and Sociology built around an interdisciplinary theme such as methodology or theory (courses and theme must be pre-approved by the chair of the student's D.A. committee).

#### **Interdisciplinary Classes**

D.A. students must take POLS 6620, Philosophy of the Social Sciences, and POLS 6621, Interdisciplinary Topics in the Social Sciences.

#### **Examinations**

Comprehensive written examinations are administered at the conclusion of the program of study that test the candidate's knowledge of three fields of political science. This occurs after all course work is completed and before the dissertation prospectus is defended.

## **Master of Arts in Political Science**

The mission of the Master of Arts (MA) program is to prepare students for future graduate study in political science by helping them develop knowledge and skill in political science and research methodology. This program emphasizes general preparation in political science and research.

Specific outcomes of the program include:

### **Goals**

1. Graduates will master literature-based knowledge in two areas of political science.
2. Graduates will develop an understanding of political science research methodology and the role of research in academia.
3. Graduates will further their graduate careers by pursuing a doctorate in political science.
4. Graduates pursuing a terminal degree will find professional employment in education, public service, and business.

### **Objectives**

1. Graduates will pass comprehensive examinations.
2. Graduates will present papers at professional conferences.
3. Graduates will be accepted into doctoral graduate programs.
4. Graduates will find employment in education, public service, and business.

#### **Thesis/non-thesis options are available.**

Areas of emphasis in the M.A. program are limited, because of the research nature of the degree, to American governmental institutions and political behavior, public law, political theory, public administration and comparative/international politics.

M.A. students are required to present themselves for comprehensive examination on their thesis and/or in two of the five areas of emphasis mentioned previously.

### **Admission Requirements**

The student must apply to, and meet all criteria for admission to the Graduate School. In addition to the general requirements of the Graduate School, a student must have achieved a cumulative GPA of 3.0 in upper-division undergraduate study, and submit official GRE scores. The applicant must also submit to the Department of Political Science three letters of recommendation and a statement of his/her personal goals that will be weighted equally with the applicant's GPA and GRE scores.

The program employs an admission scoring system that awards M.A. applicants points based on the evaluation and scoring of four components: (1) upper-division undergraduate GPA; (2) scores on the Graduate Record Examination (GRE); (3) the quality of letters of recommendation; and (4) the quality of the applicant's goal statement.

Students may choose a thesis or non-thesis program. The requirements for these respective options are detailed below.

### **Thesis Program**

Requirements include a total of 36 credits in graduate level courses approved by the Department of Political Science and the Graduate School. Internship credits are not counted as part of the 36 total credit requirement. Required courses are POLS 5519 and POLS 5519L (Political Research Methods, 4 credits) and POLS 6650 (Thesis, 6 credits). Students must also complete course work in two subfields. Other requirements include a minimum of 15 credits (other than POLS 6650) taken at the 6600-level; a maximum of 9 credits of directed reading courses; a comprehensive oral examination that covers the student's graduate course work and the literature in two subfields; and the M.A. thesis. The thesis may be defended a second time if the first defense is not satisfactory and further revisions are required.

### **Non-thesis Program**

Political Research Methods, POLS 5519 and 5519L, are required. Other requirements include a total of 36 credits in graduate level courses approved by the Department of Political Science and the Graduate School; a minimum of 15 credits taken at the 6600-level; a maximum of 9 credits of directed reading courses; a comprehensive written examination that covers the student's graduate course work and the literature in two subfields; and a final oral examination, which, like the final written examination, may be taken no more than twice. Internship credits are not counted as part of the 36 total credit requirement.

## **Master of Public Administration**

The Master in Public Administration degree is an inter-university cooperative graduate program offered jointly by Boise State University, Idaho State University and the University of Idaho. The purpose of the program is to provide present and prospective public administrators with the basic intellectual preparation necessary to understand and to adjust to a changing and challenging environment, through an introduction to the theories and practices of administration, management and social science research as these relate to effective performance in public organizations.

The inter-university MPA program has been designed in accordance with the Guidelines and Standards for Professional Master's Degree Programs in Public Affairs and Public Administration prescribed through the National Association of Schools of Public Affairs and Administration (NASPAA).

### **Goals**

1. Graduates will develop an appreciation of

- serving the public interest.
2. Graduates will respect the law and the Constitution.
  3. Graduates will demonstrate personal integrity.
  4. Graduates will promote ethical organizations.
  5. Graduates will develop distinctive public administration skills.
  6. Graduates will strive for professional excellence and updating of skills throughout their professional careers.

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with departmental requirements. Students may enroll in the MPA program by applying to one of the participating universities. Acceptance by any one of the three universities admits a student into the MPA program. A matriculated student should complete graduate studies at the institution that offers the area of specialization that she/he wishes to emphasize. Each student's program will be established by an advisory committee consisting of three faculty members. It is anticipated that students will come from widely differing academic preparations, since no specific undergraduate program is required in preparation for the MPA program. However, some course work in humanities and social sciences is essential to the foundation of the MPA program for all students.

In addition to the general requirements of the Graduate School, students seeking admission must have completed a baccalaureate degree from an accredited institution, demonstrate satisfactory academic competency by attaining a cumulative GPA of 3.0 in upper-division undergraduate course work, or a 3.5 GPA in previous graduate courses, submit official GRE scores, submit three letters of recommendation from individuals who are qualified to evaluate the applicant's academic potential, and submit a statement of the student's personal goals. The letters and statement of goals will be weighted equally with the applicant's GPA and GRE scores. Please contact the Department for specific guidelines for letters of recommendation and statement of goals.

The program employs an admission scoring system that awards MPA applicants points based on the evaluation and scoring of four components: (1) upper-division undergraduate GPA or GPA in an M.A. program; (2) scores on the Graduate Record Examination (GRE); (3) the quality of letters of recommendation; and (4) the quality of the applicant's goal statement.

## General Requirements

The MPA degree may be achieved through the successful completion of at least 39 semester credit hours of approved course work plus 3 credits of public service internship. The internship requirement may be waived for students who have substantial professional work experience in public service or the not-for-profit sector. The MPA director will determine if a student's experience is substantial, and if so can approve waiver of the internship requirement. Twenty-seven credit hours must be completed in courses selected from prescribed "core areas" with 12 additional credit hours completed in designated optional areas of emphasis. Students may follow a thesis or non-thesis option in pursuing the MPA. Students choosing to write a thesis (POLS 6650 - 6 credits) do so in addition to normally MPA course work and internship requirements. The thesis is written in lieu of the comprehensive written examinations. Students must have completed 24 credit hours of core course work before taking the Capstone in Public Administration course. Those following the thesis option will complete an oral examination covering the thesis and program course work. The non-thesis option requires an oral examination over program course work. The academic program of each student must satisfy the general requirements of an integrated program designed to meet career objectives of the student in public administration.

## Core and Optional Area Requirements

The specific course requirements of the MPA program are set forth in a list of courses that has been approved by the inter-university committee. This list is available through each of the cooperating universities. Courses are available at each institution in the "core areas." The optional "areas of emphasis" may vary among the universities according to the resources and competence that exist in the respective departments. A description of those areas of emphasis that are presently operational at each institution and admission forms to the MPA program are available through the Political Science Department at Idaho State University or the Departments of Political Science at Boise State University or the University of Idaho.

## I. Core Area Requirements

All students must take 27 credit hours of core area courses. Students must choose nine courses from this list, one of which is POLS 6680 Capstone in Public Administration.

POLS 5505 The Administrative Process  
 POLS 5541 Administrative Law  
 POLS 5551 Organizational Theory & Bureaucratic Structure  
 POLS 5552 Financial Administration and Budgeting

POLS 5553 Public Policy Analysis  
 POLS 5554 Public Personnel Administration  
 POLS 5558 Public Administration Ethics  
 POLS 6622 Public Administration Research Methods  
 POLS 6623 Program Assessment  
 POLS 6680 Capstone in Public Administration  
 POLS 5519 Research Methods for Political Science may be substituted for POLS 6622 if needed.

## II. Specialized Areas

All students must take 12 credit hours in a specialized area listed below. Courses that are used to fulfill a core requirement cannot also be counted as specialized courses. (Students should follow instructions under each specialized area.)

### Specialized Area 1 State, Local, and Non-Profit Administration

#### Required Course:

POLS 5567 State and Local Public Administration

#### Choose three courses:

POLS 5505 Administrative Process  
 POLS 5506 Intergovernmental Relations  
 POLS 5509 Community and Regional Planning  
 POLS 5541 Administrative Law  
 POLS 5552 Financial Administration and Budgeting  
 POLS 5553 Public Policy Analysis  
 POLS 5554 Public Personnel Administration  
 POLS 5558 Public Administration Ethics  
 POLS 5566 Public Land Policy  
 POLS 5578 Federal Indian Law  
 POLS 5579 Tribal Governments  
 POLS 6612 Seminar in State and Local Government  
 POLS 6616 Seminar in Public Policy and Administration  
 POLS 6623 Program Assessment

The following courses outside the Political Science department may be used to meet the course requirement for the state, local, and non-profit administration concentration. No more than two courses may be used to meet the requirement.

COMM 5541 Interpersonal Communication  
 COMM 5552 Conflict Management  
 COMM 5554 Management Communication  
 ECON 5533 Economic Development  
 ECON 5539 State and Local Finance  
 ENGL 6607 Advanced Professional Writing  
 HIST 5589 GIS for the Social Sciences  
 SOC 5566 Sociology of Community  
 SOC 5567 Community Networking  
 SOC 6615 Social Institutions

### Specialized Area 2 Environmental Administration

#### Required courses:

POLS 5555 Politics of Environmental Problems  
 POLS 5566 Public Lands Policy  
 or  
 POLS 6606 Environmental Law and Regulation

#### Choose two courses:

POLS 5505 Administration Process  
 POLS 5506 Intergovernmental Relations  
 POLS 5509 Community and Regional Planning  
 POLS 5553 Public Policy Analysis  
 POLS 5558 Public Administration Ethics  
 POLS 5566 Public Lands Policy  
 POLS 6606 Environmental Law and Regulation  
 POLS 6623 Program Assessment

The following courses outside the Political Science department may be used to meet the course requirement for the environmental administration concentration. No more than one course may be used to meet the requirement.

COMM 5541 Interpersonal Communication  
COMM 5552 Conflict Management  
ENGL 6607 Advanced Professional Writing  
HIST 5589 GIS for the Social Sciences

Appropriate science courses may be substituted with consent of the Master of Public Administration program director.

### Specialized Area 3 Public Health Administration

#### Required course:

MPH 6609 Seminar in Public and Community Health

#### Choose three courses:

PHIL 6600 Ethics in Health Care (This course is strongly recommended)  
POLS 5505 Administrative Process  
POLS 5553 Public Policy Analysis  
POLS 5558 Public Administration Ethics  
POLS 6623 Program Assessment

Appropriate courses in the Master Public Health program may be substituted with consent of the Master of Public Administration program director.

## III. Public Administration Internship

Each student must complete at least 3 but no more than 9 credit hours of an approved internship. Three credit hours of internship are equal to 200 hours of work as an intern. The internship requirement may be waived for students who have substantial professional work experience in public service of the not-for-profit sector. The MPA director will determine if a student's experience is substantial and be allowed to waive the internship requirement.

## American Politics Graduate Courses

**POLS 5501 Political Parties and Interest Groups 3 credits.** The nature and development of political parties and pressure groups as exemplified in the United States.

**POLS 5503 The Presidency 3 credits.** Evolution and development of the office of the president; its major responsibilities in domestic and foreign affairs, with emphasis on particular power problems that confront the president.

**POLS 5504 The Legislative Process 3 credits.** Nature and functions of the U.S. Congress. Topics covered: Legislative campaigns, the politics of law-making, congressional investi-

gations, and major problems facing the Congress.

**POLS 5506 Intergovernmental Relations 3 credits.** Analysis of patterns of intergovernmental relations including changing patterns of program and fiscal responsibility in the federal system. The emerging role of new federal structures, state and substate regional organizations will be reviewed in the context of "new" federalism and its implications for intergovernmental relationships.

**POLS 5508 Metropolitan and Urban Studies 3 credits.** Analysis of metropolitan and smaller urban systems with emphasis on relationships among general groups, political organizations and institutions. Federal, state and interlocal programs will serve as a focus for analyzing particular problems of metropolitan and urban systems in the 20th century.

**POLS 5509 Community and Regional Planning 3 credits.** Steps involved in planning will be analyzed in the context of community and regional decision-making processes. Two perspectives will be stressed—that of the decision-maker, the social structure within which the decision-maker operates and strategies for implementing decision; and that of the citizen or group interest which lies outside the power structure of the community. Each perspective will be used as a framework for analyzing power configurations, techniques of identifying patterns of decision making, and various forms of citizen participation.

**POLS 5527 Voting and Public Opinion 3 credits.** Analysis of the way citizens and government communicate with each other. Elections, public opinion, and media influence are studied.

**POLS 5553 Public Policy Analysis 3 credits.** Theoretical and practical analyses of public policies, including theories of policy formation and their political implementation through governmental institutions. Case studies will provide the means of analyzing specific policy problems.

**POLS 5555 Environmental Politics and Policy 3 credits.** Study of the political forces affecting environmental policy and investigation of several specific policies affecting the environment, such as pollution control, energy production, hazardous chemicals, and the public lands.

**POLS 5556 Labor Organization 3 credits.** Evolution of economic systems and labor's response to changing patterns of production is studied, and a counter perspective to traditional management views of "efficiency" is presented. Emphasis is on governmental employ-

ee unions.

**POLS 5565 U.S. Political History 3 credits.** Study of the political history of the United States involving a discussion of theories of popular voting behavior, critical elections, and political party systems. Cross-listed as HIST 5565.

**POLS 5566 Public Lands Policy 3 credits.** Analysis of the historical and contemporary use and disposition of the federal public lands. The agencies that manage the public lands, major laws, and regulations and the political conflict that surrounds their use and conservation.

**POLS 5571 Historical Geography of Idaho 3 credits.** Influences of geography and geology on Idaho's economic, political and cultural history. May be team taught, and includes field trips, discussion sections. Cross-listed as HIST 5571 and GEOL 5571.

**POLS 5578 Federal Indian Law 3 credits.** Examination of tribal governments; their relationship with the federal government; sovereignty, jurisdictional conflicts over land and resources; and economic development. Cross-listed as ANTH 5578.

**POLS 5579 Tribal Government 3 credits.** Complex legal position of Indian tribes as self-governing entities; principles of inherent powers; governmental organization, lawmaking, justice, relation to state and federal government. Cross-listed as ANTH 5579.

## Political Analysis Graduate Courses

**POLS 5512 Modern Political Analysis 3 credits.** Methods of political inquiry and theories and doctrines of politics, with emphasis on modern developments.

**POLS 5519 Political Research Methods 3 credits.** This class investigates the theory and application of various research methods and statistical techniques common to the social sciences, with particular reference to their use in political inquiry.

**POLS 5519L Political Research Methods Lab 1 credit.** Application of, and practice in research methods.

## Administrative Graduate Courses

**POLS 5505 Administrative Process 3 credits.** Analysis of the principles of public administration with an introduction to theories of organization and administration.



**POLS 5541 Administrative Law 3 credits.** Introductory survey of the legal principals defining governmental administrative processes. Topics include judicial review, tort liability of governments and offices, rules and rule-making, due process, and the limits of administrative discretion.

**POLS 5551 Organizational Theory and Bureaucratic Structure 3 credits.** Introduction to the study of complex organizations and organizational behavior in the administration of public policy. Emphasis on public institutions.

**POLS 5552 Financial Administration and Budgeting 3 credits.** Emphasis on different approaches to financial administration, ranging from incremental and short-term planning to more recent and comprehensive emphases on management by objectives and zero-based budgeting. The development of the Office of Management and Budget and its relationship with the President, Congress and the Federal bureaucracy will be considered as well as political, organizational and behavioral constraints on budgetary decision-making.

**POLS 5554 Public Personnel Administration 3 credits.** Operations and processes of personnel management in public institutions. Major topics include personnel processes, public employee rights and duties, employee motivation and morale, the political environment of public personnel administration, and the impact of professionalism, technology, and participatory democracy on public personnel practices.

**POLS 5557 Grantwriting 3 credits.** Steps involved in the grantwriting process from strategic planning, research, writing to finding appropriate grant sources.

**POLS 5558 Public Administration Ethics 3 credits.** A course in applied ethics serving to educate students from a theoretical and a practical point of view. The course provides a historical and social perspective of ethics in public administration.

**POLS 5567 State and Local Administration 3 credits.** Seminar in the practice and principles of state, municipal, and sub-state management. Emphasis is given to the evolution of interaction between different branches of sub-national government.

## Political Theory Graduate Courses

**POLS 5511 American Political Theory 3 credits.** Political ideas in the United States

from Colonial and Revolutionary times through the controversies of the Civil War to the present.

**POLS 5518 Topics in Political Theory 3 credits.** This course requires examination, analysis and investigation of selected texts and topics in political philosophy. May be repeated for a maximum of 6 credits.

**POLS 5520 Contemporary Political Theory 3 credits.** Recent 20th century political philosophies and theories ranging from democratic, Marxist, and existentialist thought to Critical Theory and post-modernism.

**POLS 5521 Democratic Political Thought 3 credits.** Historical and contemporary models of democracy as well as contemporary debates in democratic thought. Democracy is treated as a contested idea.

## International Politics Graduate Courses

**POLS 5525 Topics in International Politics 3 credits.** This course requires examination analysis and evaluation of selected topics in international politics. May be repeated for a maximum of 6 credits.

## Comparative Politics Graduate Courses

**POLS 5532 Comparative Politics: Change and Political Order 3 credits.** The nature of political change is examined in a multifaceted framework consisting of concepts such as political order, progress and decay, revolutionary violence, and political culture. The technological and post-industrial revolutions are examined as they relate to political change and stability in developed societies.

**POLS 5533 Politics of Developing Nations 3 credits.** An examination of political change, political order, political culture and the role of revolutionary violence. Change and order in the context of globalization is emphasized.

**POLS 5534 Terrorism and Political Violence 3 credits.** A survey of forms of domestic and trans-national terrorism, other forms of political violence, and problems of counter-terrorism.

**POLS 5535 Topics in National/Regional Studies 3 credits.** Surveys the political, economic, and social issues of a nation or regions. May be repeated once for different topics.

## Public Law Graduate Courses

**POLS 5542 Constitutional Law 3 credits.** Analysis of opinions of the United States Supreme Court concerning the distribution of authority between the national government and the states and the relationship among the branches of the national government.

**POLS 5543 Constitutional Law 3 credits.** Analysis of opinions of the United States Supreme Court with a special emphasis on criminal cases and civil liberties.

**POLS 5545 Jurisprudence 3 credits.** Nature, source, and theories of law; the role of law in modern society; and the application of legal philosophy to the political system.

**POLS 5550 Special Topics in Law 3 credits.** Examine and analyze selected topics in constitutional law and legal philosophy. Topics may include the constitution and foreign affairs, women and the law, law and literature, and law and film. May be repeated for up to 6 credits.

## General Graduate Courses

**POLS 5559 Government Internship 1-9 credits.** Directed student internship in government and organizations or associations related to public policy and the selection of public officials involving supervised work experience in research, staff management practices, or making and implementing public policies. The student will be placed in a supervised position commensurate with his or her abilities as determined and approved by faculty in the department. May be repeated up to 9 credits. Graded S/U.

**POLS 5591-5592 Seminar 1-3 credits.** Research, reading, discussion, and the preparation of reports on selected topics. Ordinarily for seniors majoring in political science and having the instructor's consent. Each course may be repeated for a total of 6 credits.

**POLS 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**POLS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**POLS 6606 Environmental Law and Regulation 3 credits.** Federal, state, and local environmental regulations addressing environmental impact assessment; water and air pollution control, hazardous waste, resource recovery, reuses, toxic substances, occupational safety and health radiation, siting, auditing, liability. Cross-listed as ENGR 6606. PREREQ: PERMISSION OF INSTRUCTOR.

**POLS 6608 Environmental Case Law 3 credits.** The legal analysis of regulation as a method of controlling pollution and hazardous waste. PREREQ: POLS 6606.

**POLS 6609 Environmental Law: Natural Resources 3 credits.** Federal and Idaho statutes and regulations as they apply to natural resources such as public lands, endangered species, and the EIS process. PREREQ: POLS 6606.

**POLS 6611 Seminar: Political Theory 3 credits.** Review of the primary and recent literature of political theory.

**POLS 6612 Seminar: State and Local Politics 3 credits.** Analysis of state, local and regional political institutions and processes from the federal and comparative perspectives.

**POLS 6613 Seminar: American Politics Behavior 3 credits.** Micro inquiry and analysis into political behavior. Areas relevant to such inquiry may include but are not limited to, political psychology, political socializations, attitude and opinion formation, and voting behavior.

**POLS 6614 Seminar: American Politics Institutions 3 credits.** Macro inquiry and analysis into the basic institutional structures and processes of the American political system. Areas of emphasis include, but are not limited to, executive, legislative and judicial processes, political parties and interest groups.

**POLS 6615 Seminar: World Politics 3 credits.** World politics is analyzed both from the perspective of relationships between nation-states and the domestic political sources which influence and determine these relationships.

**POLS 6616 Seminar: Public Administration and Public Policy 3 credits.** Analysis of selected topics and academic literature in public administration and public policy.

**POLS 6620 Seminar: Philosophy of Social Science 3 credits.** The application of mathematical and scientific methods to the study of social, economic, and political life will be considered through the reading of certain seminal writings. Attention will be given to the fundamental assumptions about the nature of

scientific rationality. Required of all D.A. students.

**POLS 6621 Seminar: Interdisciplinary Topics in Social Science 3 credits.** Examination of selected topics in the social sciences from the analytic orientations and perspectives common and peculiar to the disciplines of political science economics and sociology. Required of all D.A. students.

**POLS 6622 Public Administration Research Methods 3 credits.** Emphasis on the role of research methodology in administrative decision-making. Topics to be covered include modeling, evaluation design, ethics, sampling, data collection, data processing, data analysis, and report writing.

**POLS 6623 Program Assessment 3 credits.** Techniques and analytical methods of assessing governmental program success. Emphasis is given to program designs, data collection, ethics, and quantitative applications.

**POLS 6649 Research Problems 1-6 credits.** Independent research on non-thesis and non-dissertation disciplinary questions. Credit hours and subject must be approved by instructor. May be repeated to a maximum of 6 credits. Graded S/U.

**POLS 6650 Thesis 1-6 credits.** Graded S/U.

**POLS 6669 Independent Problems-Tutorial 1-3 credits.** A directed project emphasizing individual study, research, or the development of expository writings according to the needs of the individual student. May be repeated. Graded S/U.

**POLS 6680 Capstone in Public Administration 3 credits.** Should be one of the last courses taken in the MPA program. Integration of all core material into discussion around a number of classes; individual papers, small group projects and presentations.

**POLS 6694 Seminar in College Teaching 3 credits.** Literature-based review of theory and practice for effective college teaching. Required of all D.A. candidates and must be successfully completed prior to matriculation in POLS 7702 or POLS 7703.

**POLS 7701 Supervised Administrative Internship in Higher Education variable up to 6 credits.**

**POLS 7702 Team Teaching 3 credits.** Doctor of Arts candidates team teach an entire course with a faculty member. PREREQ: POLS 6694

**POLS 7703 Solo Teaching 3 credits.** Doctor

of Arts candidates assume total responsibility for teaching a class. PREREQ: POLS 6694 AND POLS 7702.

**POLS 8850 Dissertation variable credits.** May be repeated. Graded S/U.

## Department of Psychology

Chair and Professor: Lynch

Professors: Hatzenbuehler, Roberts, Turley-Ames, Vik, Wong

Associate Professors: Lawyer, Letzring, Rasmussen

Assistant Professors: Brumley, Haight, Stewart, Weller

Adjunct Faculty: Heyneman, Landers, Pongratz, Simonson, Sommer

## Doctor of Philosophy in Clinical Psychology

Doctoral training in clinical psychology is fully accredited by the American Psychological Association. All educational experiences needed to obtain a license to practice psychology in Idaho, and most other states and provinces, are offered. Theory, research, and practice are integrated into a comprehensive, five-year program. It is the goal of the doctoral training program to produce clinical psychologists who are well trained in the science of human behavior and its application to diverse clinical populations. All students are required to participate in course work and practica that emphasize assessments and treatments in all major areas of child and adult psychopathology. Evaluations of each student's clinical-professional development and scholarship-research skills are continuous.

### Goals

Five program goals have been defined: Research Knowledge and Skills; Professional Knowledge and Skills; Integration of Science and Practice; Professional Identification and Ethical Practice; and Appreciation of Individual Differences, Cultural Differences, and Diversity of Practice. Each goal has associated objectives and competencies.

### Admission Requirements

Admission requirements are as stated for the Master of Science in Psychology with the following additions: all students must have been recommended by the Clinical Admissions Committee of the Psychology Department.

## General Requirements

All doctoral students must complete the Master of Science in Psychology, or its equivalent, as noted below. Students entering the doctoral training program at Idaho State University with a master's degree from another institution will receive full or partial credit, based on an examination of completed course work and research. The Department Chair, the Director of Clinical Training, and the departmental subject matter expert(s) will review all relevant documents and determine the course work and research, if any, that will be required to compensate for omissions and/or non-equivalency. The following requirements are all in addition to the Master of Science requirements.

## Required Courses

### Assessment Sequence

PSYC 6620 Psychodiagnostic I	3 cr
PSYC 6621 Psychodiagnostics II	3 cr
PSYC 6623 Advanced Psychological Measurements	3 cr

### Clinical Core

PSYC 5512 Ethical & Professional Issues in Psychology	2 cr
PSYC 6634 Cultural Diversity	3 cr
PSYC 6645 Adult Psychopathology & Treatment I	3 cr
PSYC 6646 Adult Psychopathology & Treatment II	3 cr
PSYC 6649 Child Psychopathology & Treatment	3 cr
PSYC 7701 Clinical Psychology	2 cr
PSYC 7702 Introduction to Psychotropic Medication	2 cr
PSYC 7703 Advanced Ethics Seminar	1 cr
PSYC 7736 Clinical Proseminar	6 cr

### Practicum

PSYC 5517 Interdisciplinary Evaluation Team	1 cr
PSYC 7724 Community Practicum	0-3 cr
PSYC 7725 Psychology Clinic Practicum	4-7 cr
PSYC 7749 Clinical Internship	3 cr

### Research

PSYC 8850 Dissertation	12 cr
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### General Electives

Each student must complete 3 additional graduate credits in psychology. Students may request the Clinical Training Committee to approve graduate credits in other departments to satisfy this requirement.

### Methodological Elective

Each student must complete an additional 3-credit course in advanced statistics acceptable to the Clinical Training Committee.

### History and Systems Requirement

PSYC 6672 History and Systems	3 cr
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Minimum Total Credits

66

The 12 elective credits earned for the Master of Science degree, described below, will satisfy course requirements for the Doctor of Philosophy, subject to the approval of the Depart-

mental Chair.

## Scholarship - Research Development

Upon completion of Area Requirements plus PSYC 6627 and PSYC 6632, and the thesis prospectus, doctoral students are required to pass a Qualifying Exam to be admitted to doctoral candidacy. The exam samples each student's integrative writing skills and conceptual abilities. Students write independently on integrative topics from across the foundational areas of general psychology or from an individualized and focused area of scholarly research.

Students may be admitted to candidacy for the doctoral degree upon satisfactory completion of the Master of Science degree (or its equivalent) and the Qualifying Exam. Candidates for the doctoral degree may not propose a dissertation (PSYC 8850) until admitted to candidacy.

A five-member doctoral committee will be formed by the student and his/her advisor. Three members of the doctoral committee must be full-time equivalent faculty members of the Department of Psychology, including at least one clinical and one experimental faculty member. The fourth and fifth members must meet Graduate School requirements and include the Graduate Faculty Representative. Students will present findings and implications of the dissertation to departmental faculty, students, and community members at an open forum.

## Clinical - Professional Development

All students must complete 7 credits of PSYC 7725 (Psychology Clinic Practicum) and 1 credit of PSYC 5517 (Interdisciplinary Evaluation Team). Up to 3 credits of PSYC 7724 (Community Practicum) may be substituted for credits of PSYC 7725. Progress in the development of professional skills is evaluated by faculty supervisors and the Clinical Training Committee. Satisfactory evaluations of professional development by the Clinical Training Committee is a degree requirement.

All students must satisfactorily complete a one-year full-time clinical internship at a site belonging to the Association of Psychology Post-doctoral and Internship Centers or comparable supervised clinical practice approved by the Clinical Training Committee. Concurrent enrollment at Idaho State University in 1 credit of PSYC 7749 (Clinical Internship) is required. Students enrolled in PSYC 7749 will be considered full-time Idaho State University students. Application to clinical internships and acceptance into clinical internships re-

quires completion of the dissertation prospectus and the approval of the Clinical Training Committee.

## Doctor of Philosophy in Experimental Psychology

Doctoral training in Experimental Psychology provides students with education and research training in the core areas of psychological science, e.g., personality, social psychology, learning, sensation and perception, cognition, developmental psychology, and physiological psychology. Students who complete the Ph.D. program may pursue academic or non-academic careers. To prepare for their future careers, students need to (i) have a solid foundation in basic areas of psychology (breadth of knowledge) and also (ii) develop an expertise in their research areas (depth of knowledge). Our program offers a variety of courses to help students accomplish their career goals.

### Goals

Four program goals have been defined; Research knowledge and expertise; Breadth of knowledge and integration of core areas in psychology; Competencies in scientific methodology and analysis; and Effective communication skills. Each goal has associated objectives and competencies.

### Admission Requirements

Admission requirements are as stated for the Master of Science in Psychology with the following additions: all students must be recommended by the Experimental Admissions Committee of the Psychology Department

### General Requirements

All doctoral students must complete the Master of Science in Psychology, or its equivalent. Students entering the doctoral training program at Idaho State University with a master's degree from another institution will receive full or partial credit, based on an examination of completed course work and research. The Department Chair, the Director of Experimental Training, and the department subject matter expert(s) will review all relevant documents and determine the course work and research, if any, that will be required to compensate for omissions and/or non-equivalency. The following requirements are all in addition to the Master of Science requirements.

### Required Courses

PSYC 5583 and/or PSYC 6641 Special Problems	10 cr
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### Research

PSYC 8850 Dissertation	12cr
Electives	18 cr

In addition, students must complete 18 credits of elective classes. Up to nine credits of these electives may be taken outside the Psychology Department. Electives should be approved by the student's faculty advisor. The 12 elective credits earned for the Master of Science degree will satisfy course requirements for the Doctor of Philosophy, subject to approval of the Departmental Chair.

Minimum Total Credits - 40

## Scholarship - Research Development

Upon completion of Area Requirements plus PSYC 6627 and PSYC 6632, and the thesis prospectus, doctoral students are required to pass a Qualifying Exam to be admitted to doctoral candidacy. The exam samples each student's integrative writing skills and conceptual abilities. Students write independently on integrative topics from across the foundational areas of general psychology or from an individualized and focused area of scholarly research.

Students may be admitted to candidacy for the doctoral degree upon satisfactory completion of the Master of Science degree (or its equivalent) and the Qualifying Exam. Candidates for the doctoral degree may not propose a dissertation (PSYC 8850) until admitted to candidacy.

A five-member doctoral committee will be formed by the student and his/her advisor. Three members of the doctoral committee must be full-time equivalent faculty members of the Department of Psychology, including at least one clinical and one experimental faculty member. The fourth and fifth members must meet Graduate School requirements and include the Graduate Faculty Representative. Students will present findings and implications of the dissertation to departmental faculty, students, and community members at an open forum.

## Master of Science in Psychology

### Goals

To ensure that students who receive a master's degree in psychology will be prepared for further post-graduate study and for careers in related areas, the department has identified the following goals: an understanding of core areas and the breadth of the field of psychology and its applications; ability to integrate knowledge and theories across, and to think critically about, topics within the domains of psychology; competence in library information

technology and computer applications related to the study of psychology; competence in scientific methodology and analysis as they apply to the study of psychology; ability to communicate effectively, in both oral and written form, about issues within the field of psychology; active participation in the research process; and understanding and compliance with the APA code of ethics pertaining to research conduct. Each goal has associated objectives and competencies.

## Admission Requirements

1. In addition to the general requirements of the Graduate School, the applicant must have: Minimum entrance requirements include a 3.0 grade point average during the last two years of undergraduate study. Graduate Record Exam scores of the 50th percentile or higher are preferred on two of the three aptitude tests (verbal, quantitative, or analytical writing) and the advanced subject test in psychology.
2. An undergraduate major in psychology or the equivalent.
3. Recommendation by the Experimental or Clinical Admissions Committee of the Department of Psychology. The Clinical and Experimental Admissions Committees only admit students into the combined Master of Science and Doctor of Philosophy course of study.

## General Requirements

Area requirements assume the satisfactory completion of undergraduate courses that prepare the student for advanced study. Specifically, students must have completed undergraduate courses in experimental psychology, neuroanatomy, sensation, perception, learning, social psychology, developmental psychology, personality, history and systems, or the equivalent of these topic areas. Each student's records will be reviewed by the Departmental Chair in consultation with departmental staff. Students deficient in area prerequisites may be required to enroll in additional course work and/or experience limitation of choices. An Area Requirement Plan of Completion must be finalized during the student's first month following matriculation. The Chair, the student, and one or more faculty appointed by the Chair will meet and approve each student's Plan of Completion. Students admitted by the Clinical Admissions Committee must complete the Clinical Area Requirements; students admitted by the Experimental Admissions Committee must complete the Experimental Area Requirements.

### Required Courses (12 credits)

PSYC 6627 Statistics and Research Design I	3 cr
PSYC 6632 Statistics and Research Design II	3 cr
PSYC 6650 Thesis	6 cr

## Clinical Area Requirements (12 credits)

Each student must complete one, 3-credit course from each of the following core areas of psychology:

### Area A: Biological Bases of Behavior:

PSYC 5504 Sensation & Perception	3 cr
PSYC 5531 Physiological Psychology I	3 cr
PSYC 5532 Physiological Psychology II	3 cr

### Area B: Cognitive-Affective Bases of Behavior:

PSYC 6642 Cognitive Psychology	3 cr
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### Area C: Social Bases of Behavior:

PSYC 6643 Advanced Social Psychology	3 cr
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### Area D: Individual Behavior:

PSYC 6644 Advanced Developmental Psychology	3 cr
PSYC 6647 Personality and Individual Differences	3 cr

OR

## Experimental Area Requirements (12 credits)

Students must complete four, 3-credit courses from among the following core areas of psychology:

PSYC 5504 Sensation & Perception	3 cr
PSYC 5531 Physiological Psychology I	3 cr
PSYC 5532 Physiological Psychology II	3 cr
PSYC 5570 Advanced Topics in Learning	3 cr
PSYC 6642 Cognitive Psychology	3 cr
PSYC 6643 Advanced Social Psychology	3 cr
PSYC 6644 Advanced Developmental Psychology	3 cr
PSYC 6647 Personality and Individual Differences	3 cr
Electives (12 credits)	

In addition, students must complete 12 credits of elective classes. Up to six credits of these electives may be taken from outside of the Psychology Department. Electives should be approved by the student's faculty advisor.

Minimum Total Credits - 36

## Psychology Graduate Courses

**PSYC 5501 Theories of Personality 3 credits.** Detailed study of the leading theories of personality with emphasis on the Freudian, Neo-Freudian, humanistic and existential theories. PREREQ: PSYC 2225 OR 3301.

**PSYC 5502 Teaching of Psychology 1-2 credits.** Prepare students to teach independently. Pedagogy, use of technology, and problem solving skills related to teaching psychology courses will be discussed. Supervised teaching will be treated as a separate module. Repeatable up to 4 credits. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

**PSYC 5504 Sensation and Perception 4 credits.** The anatomical and physiological

basis of sensation will be reviewed. Moreover, traditional and contemporary theories of perception will be critically considered. Students will be expected to do laboratory work illustrating basic concepts of sensory and perceptual function. PREREQ: PSYC 3303.

**PSYC 5508 Science, Pseudoscience, and Psychology 3 credits.** Designed to teach scientific thinking and how to critically evaluate fringe-science, paranormal, and other unproven claims. The psychological processes underlying pseudo-scientific thinking and beliefs also are introduced.

**PSYC 5512 Ethical and Professional Issues in Psychology 2 credits.** Topics include informed consent, confidentiality, deception, duty to protect, competency, malpractice, dual and collegial relationships, and impaired professionals in research and practice. PREREQ: 24 CREDITS IN PSYCHOLOGY OR PERMISSION OF INSTRUCTOR.

**PSYC 5517 Interdisciplinary Evaluation Team 1 credit.** Introduction to the principles and techniques associated with interdisciplinary evaluation. Disciplines emphasized: Audiology, Nursing, Physical Therapy, Psychology, Social Work, Special Education, Speech-Language Pathology. Cross-listed as NURS 5517, SOWK 5517, SPA 4417.

**PSYC 5531 Physiological Psychology I 3 credits.** Introduction to neuropsychology with an emphasis on methods, basic neuroanatomy, and neurophysiology. PREREQ: PSYC 3303.

**PSYC 5532 Physiological Psychology II 3 credits.** Survey of the physiological bases of psychological processes, including learning, emotion, motivation, sensation, and perception. Emphasizes current research and theory concerning brain mechanisms and behavior. PREREQ: PSYC 4431 OR PERMISSION OF INSTRUCTOR.

**PSYC 5535 Animal Behavior 3 credits.** Study of experiments in animal learning that have thrown light upon the problem of understanding human learning. Course is concerned with both observation and experimental studies of habit formation, conditioning, related endocrinology, and nerve structure as they are associated with behavior capabilities. PREREQ: SIX HOURS IN PSYCHOLOGY BEYOND PSYC 1101-1102 OR PERMISSION OF INSTRUCTOR.

**PSYC 5545 Psychology of Learning 3 credits.** Survey of the major principles of learning, including the processes underlying classical and instrumental conditioning and motor skills behavior. PREREQ: PSYC 3303-4404 OR PERMISSION.

**PSYC 5563 Clinical Psychology and the Law 3 credits.** An introduction to the field of forensic psychology by exposing students to the primary areas in which clinical psychology relates to the legal system. Emphasis will be on expert testimony by clinicians in matters of criminal responsibility, mental competency, civil commitment, and child custody.

**PSYC 5564 Dilemmas of Youth 3 credits.** This course surveys theory and research concerned with dilemmas of identity formation. Personal accounts, literature-classic and psychological-will serve to illustrate dilemmas and explain their resolution.

**PSYC 5565 Behavioral Medicine 3 credits.** Psychological issues of health, disease states, and prevention. Critical evaluation of clinical research and practice including nontraditional healing techniques and current models used to understand health and disease. PREREQ: PSYC 1101 OR PERMISSION OF INSTRUCTOR.

**PSYC 5567 Topics in Psychology 1-3 credits.** Selected topics in psychology. Contents vary. May be repeated with different content and departmental approval for a total of 6 credits. PREREQ: Permission of Instructor

**PSYC 5570 Advance Topics in Learning 3 credits.** In-depth study of the major theories, principles, and research in learning. Areas of emphasis include the experimental analysis of behavior, stimulus control, schedules of reinforcement, aversive control, and quantitative analysis of behavior. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: PSYC 4445 OR PSYC 5545 OR PERMISSION OF INSTRUCTOR.

**PSYC 5583 Special Problems 1-3 credits.** Research or readings in a special area of interest to be arranged on an individual basis with individual faculty. May be repeated to a maximum of 12 credits. PREREQ: Permission of Instructor.

**PSYC 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**PSYC 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PSYC 6601 Family Assessment and Therapy 3 credits.** Introduction to clinical work with families, including theoretical models and intervention techniques, assessment methods, current research, and special topics relevant to families.

**PSYC 6611 Advanced Motivation 3 credits.** Surveys current and traditional theories of motivation with emphasis on empirical research illustrating the effects of motivational systems on both human and animal models. PREREQ: PSYC 5545 OR EQUIVALENT.

**PSYC 6612 Theories of Perception 3 credits.** Theories of perception, ecological, constructive, gestalt, and motivational, will receive critical review. Students will perform measurements of perception and research guided by theoretical accounts of the perceptual process.

**PSYC 6620 Psychodiagnostics I 3 credits.** Theory, measurement development, and current use and limitations of major tests of intelligence, academic achievement, development, and neurological function. Practice in test administration is included. PREREQ: PSYC 5527 OR PERMISSION OF INSTRUCTOR.

**PSYC 6621 Psychodiagnostics II 3 credits.** Theory, measurement development, and current use and limitations of major tests of personality, both objective and projective, with an emphasis on classification decisions. Practice in test administration is included. PREREQ: PSYC 6620 OR PERMISSION OF INSTRUCTOR.

**PSYC 6623 Advanced Psychological Measurements 3 credits.** Psychological measurement theory, the mathematical basis of reliability and validity constructs, and test construction strategies are introduced. Measurement principles are then generalized across response modes and methods, focusing on direct observation technologies.

**PSYC 6627 Statistics and Research Design I 3 credits.** Critical review of the theory and the methods used to evaluate the outcome of empirical research in the life and social sciences. Chi square, correlation, regression, analysis of variance designs are considered and related to the theoretical distributions basic to statistical inference. PREREQ: Psychology Graduate Student or PERMISSION OF INSTRUCTOR.

**PSYC 6632 Statistics and Research Design II 3 credits.** Basic assumptions in the philosophy of scientific investigation, principles of design and analysis of experiments, including tests of significance and factorial designs, and reporting of research, in which the student is

required to prepare reports of his own work as if for publication. PREREQ: Psychology Graduate Student or PERMISSION OF INSTRUCTOR.

**PSYC 6633 Psychology of Addictive Behaviors 3 credits.** Reviews research on alcohol and other drug use within biopsychosocial framework. Included are etiological factors and natural history, assessment and diagnosis, comorbidity, motivational interviewing, treatment models, and special population issues.

**PSYC 6634 Cultural Diversity 3 credits.** Examines various dimensions of cultural diversity in psychological science and practice. Topics include: conceptual, political, and practice considerations, cultural world views, psychologically relevant aspects of various diverse cultural groups, and culturally competent assessment and intervention.

**PSYC 6635 Marital Assessment and Therapy 3 credits.** Introduction to assessment of marital distress, theoretical approaches to treating couples, intervention techniques, current research, and special topics in the clinical study of couples.

**PSYC 6636 Neuropsychological Assessment 3 credits.** Introduction to the selection, administration, scoring, and interpretation of commonly used neuropsychological tests, including tests of conceptual, perceptual, and linguistic ability. PREREQ: PSYC 6620 AND PSYC 6621.

**PSYC 6637 Multivariate Statistics and Research Design 3 credits.** Continuation of research principles in design and analysis, emphasizing the use of multiple dependent variables, strategies for investigating latent variables, and testing complex causal models. PREREQ: PSYC 6632 OR PERMISSION OF INSTRUCTOR.

**PSYC 6641 Special Problems 1-3 credits.** Individual work under faculty guidance. The student will pursue original research in some area of psychology of particular interest to him or her and write a report of his or her work in a form suitable for publication. Repeatable up to 12 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**PSYC 6642 Cognitive Psychology 3 credits.** Examines cognitive processes underlying perception, attention, mental imagery, memory, language, and problem solving/decision making. Cognitive development and individual differences are discussed. Both theory and experimental findings are emphasized in each area.

**PSYC 6643 Advanced Social Psychology 3**

**credits.** Review of current research and major theories of social psychology. Areas of emphasis include attitude, persuasion, prejudice and stereotyping, attraction, aggression, helping, and social cognition.

**PSYC 6644 Advanced Developmental Psychology 3 credits.** Study of developmental theories, issues, and research across the life span. Emphasis is on current empirical research, highlighting the interaction of biological, cognitive, and social domains of development within and between individuals.

**PSYC 6645 Adult Psychopathology & Treatment I 3 credits.** Exposure to fundamental issues in etiology and assessment of adult psychopathology, including advancements in diagnostic classification, focusing on Axis I disorders such as anxiety and mood disorders. Empirically supported treatment methods are emphasized.

**PSYC 6646 Adult Psychopathology & Treatment II 3 credits.** Continued review of theories and forms of adult psychopathology, diagnostic categories, and models of treatment. Empirically supported treatment models that consider the therapeutic process, therapeutic relationship, and sociocultural context are emphasized. PSYC 6645 OR PERMISSION OF INSTRUCTOR.

**PSYC 6647 Personality and Individual Differences 3 credits.** This course will explore contemporary personality theory, as well as significant areas and trends in the current empirical literature.

**PSYC 6649 Child Psychopathology & Treatment 3 credits.** Review of the psychopathology, assessment, diagnosis, and treatment of major psychological disorders of childhood, including mental retardation, autism, learning disability, attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder.

**PSYC 6650 Thesis 1-6 credits.** Graded S/U. May be repeated

**PSYC 6672 History and Systems 3 credits.** Survey of historical and philosophical bases of theories of psychology presently used. Emphasis on understanding impact of political, cultural, and historical forces on ideas and methods used in psychology. PREREQ: PERMISSION OF INSTRUCTOR.

**PSYC 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be re-

peated.

**PSYC 7701 Clinical Psychology 2 credits.** Orientation to professional training, evaluation, diagnosis, and treatment. Orientation to the Idaho State University Psychology Clinic procedures and report writing requirements. Introduction to clinical interviewing, crisis management, supervision, and consultation.

**PSYC 7702 Introduction to Psychotropic Medication 2 credits.** Introduction to clinical psychopharmacology meeting American Psychological Association guidelines for Level 1 predoctoral training. Disorders of substance abuse, psychosis, mood, anxiety, and development are highlighted. PREREQ: PSYC 5532.

**PSYC 7703 Advanced Ethics and Professional Issues 1 credit.** Systematic review of ethical decision-making emphasizing analysis of complex ethical issues. Professional topics include supervision, post-doctoral training, licensure, management of high-risk patients, self-care, and emerging models of behavioral health consultation. PREREQ: PSYC 5512.

**PSYC 7724 Community Practicum 1-2 credits.** Students work in public or private mental health agencies under qualified supervisors. Professional activities include evaluation and therapy. Six hours per week per credit. May be repeated. PREREQ: APPROVAL OF CLINICAL TRAINING COMMITTEE.

**PSYC 7725 Psychology Clinic Practicum 1-2 credits.** Students are supervised in the evaluation and treatment of clients served by the Psychology Department Clinic. Six hours per week per credit. May be repeated. PREREQ: APPROVAL OF CLINICAL TRAINING COMMITTEE.

**PSYC 7726 Supervision Practicum 1-2 credits.** Guided supervisory experiences with junior colleagues in the ISU Psychology Clinic. PREREQ: APPROVAL OF CLINICAL TRAINING COMMITTEE. Graded S/U. May be repeated.

**PSYC 7736 Clinical Proseminar 1-3 credits.** Specific areas of psychopathology, assessment, diagnosis, intervention, and/or associated theoretical models are reviewed in a seminar format with subject matter experts. May be repeated with different content.

**PSYC 7748 Clinical Externship 1 credit.** Clinical practice in regional human service agency. Minimum 10 hours per week; 1 hour supervision by Ph.D. psychologist per 20 contact hours. Repeatable up to 12 credits. PREREQ: APPROVAL OF CLINICAL TRAINING COMMITTEE. Graded S/U.

**PSYC 7749 Clinical Internship 1 credit.** Predoctoral internship, 11-12 months, at a member site of the Association of Psychology Postdoctoral and Internship Centers, or comparable supervised clinical practice approved by the Clinical Training Committee. Repeatable up to 3 credits. PREREQ: APPROVAL OF CLINICAL TRAINING COMMITTEE. Graded S/U.

**PSYC 8850 Dissertation variable credits.** Research, analysis, and writing of a doctoral dissertation. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

## Department of Sociology, Social Work, and Criminal Justice

Chair and Professor: Hearn

Professors: Hunter, Leavitt

Associate Professors: Hearn, Jensen-Hart

Assistant Professors: Casey, Christensen, Kim, Thomas, Williams

Emeritus Faculty: Aho, Bryan, Pierson

### Goal and Mission

The goal and mission of the MA program are to prepare graduates for positions as sociological researchers in charitable non-governmental organizations, business, or government. This is accomplished by providing them with the theories, findings, and methods distinctive to sociology. Some graduates choose to pursue a sociology doctorate with the hope of college teaching, others go on to law school, still others into counseling or private consulting.

### Objectives

1. Graduates will master literature in one substantive area of sociology.
2. Graduates will develop an understanding of sociological theories, related findings, research design and statistics.
3. Graduates will further their professional careers by either continuing education at the doctoral level or finding employment in public service utilizing their advanced degree.

## Master of Arts in Sociology

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the

following departmental requirements: students must score a minimum of the 40th percentile in one of the three sections of the GRE, have a grade point average of 3.0 or higher (on a 4.0) for the last 60± credits taken as an undergraduate, or permission of the Graduate Director. Three letters of recommendation must accompany the application.

For full admission to the graduate program in Sociology, the student must have completed the following courses or their equivalent: Introduction to Sociology, Social Theory, Social Statistics, and Social Science Research Methods. In cases of deficiencies, students may be granted waivers, alternative courses, or Classified with Performance Requirements (w/PR) admission at the discretion of the Sociology Graduate Director.

### General Requirements

SOC 5502 Proseminar	3 cr
SOC 5508 Advanced Sociological Statistics	3 cr
SOC 6600 Comparative Sociological Theories	3 cr
SOC 6603 Seminar: Topics in Methods	3 cr
SOC 6650 Thesis	6 cr
Sociology Electives	15 cr
Minimum Total Credits	33 cr

The Sociology electives may be selected from 5500- and 6600-level courses in Sociology or other graduate courses approved by the Sociology Graduate Director. If SOC 4408 was taken as an undergraduate, 3 credit hours of electives will be substituted for SOC 5508.

Other requirements include the successful completion of a written comprehensive examination, a thesis proposal presentation and an oral defense of the completed thesis.

For more information, please consult the Sociology Graduate Student Handbook and Sociology Graduate Director.

### Sociology Graduate Courses

**SOC 5502 Proseminar in Sociology 3 credits.** An overview of the field of sociology, with emphasis on the teaching of sociology, orientation to graduate education, major sociological theories, issues, research approaches, and ethical problems in the field today. PREREQ: PERMISSION OF INSTRUCTOR.

**SOC 5503 Contemporary Sociological Theory 3 credits.** Survey and appraisal of sociological theories since 1945: structural functionalism, rational choice, conflict, symbolic interactionism, and phenomenology.

**SOC 5508 Statistical Analysis 3 credits.** Emphasizes advanced techniques in research design, data measurement, and multivariate analysis utilizing computer application.

**SOC 5513 Mind, Body and Society 3 credits.** Symbolic interaction and its relation to selfhood, sympathy, illness, sexuality, and addiction; and to groupings like enemies, communities, and associations.

**SOC 5531 Criminology 3 credits.** Analysis of criminal law, law enforcement, judicial roles and processes, correctional approaches, the criminal offender and societal reactions. Theory and research as applicable to behavior and institutional relationships.

**SOC 5559 MA Sociology Internship 1-3 credits.** The MA sociology internship will give eligible graduate students the opportunity to explore the applied work of sociology in public and private agencies and organizations, private firms and foundations. Students will be placed in supervised internship positions commensurate with their skills, abilities and career goals. Only classified students with satisfactory academic progress are eligible for this course. May be repeated for a total of 6 credits. PREREQ: Permission of instructor.

**SOC 5562 Power, Class and Prestige 3 credits.** Theories and methodology of status systems; the relation of class to the social structure; analysis of class in different societies, with emphasis upon the class system and power.

**SOC 5567 Community Networking: Cultivating the Sociological Imagination 3 credits.** Advanced study of the sociology of community through readings, class discussions, lectures, and a community networking internship.

**SOC 5583 Independent Problems in Sociology 1-4 credits.** Readings, observations, applied work, or data analysis in content area not offered in our curriculum. May be repeated for up to 6 credits.

**SOC 5591 Topics in Sociology 3 credits.** Reading, discussion, and preparation of reports on selected topics. May be repeated with different content.

**SOC 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SOC 6600 Comparative Sociological Theories 3 credits.** Comparative analysis of various theoretical perspectives in sociology with special emphasis on structural functionalism, symbolic interactionism, exchange theory, conflict theories, phenomenology, and ethno-

methodology. Primary emphasis will be placed on the major propositions of each perspective and the significant contributions of scholarship in each area. PREREQ: SOC 4403 OR EQUIVALENT.

**SOC 6601 Sociological Theories 3 credits.** A seminar in selected topics in theory which will focus on either historical, comparative or contemporary theories. May be repeated for up to 9 credits.

**SOC 6603 Topics in Methods 3 credits.** In depth focus on methodological topics relevant and timely to students' needs and interests. May be repeated up to 6 credits.

**SOC 6605 Social Organization 3 credits.** A seminar in selected topics of social organization and disorganization which will include such themes as complex organization, industrial sociology, community, and urban studies. May be repeated for up to 6 credits.

**SOC 6607 Topics in Diversity 3 credits.** A seminar in selected topics of social differentiation such as stratification, minorities, etc. May be repeated for up to 6 credits.

**SOC 6613 Social Behavior 3 credits.** A seminar in social interaction which will consider such themes as collective behavior, social psychology, deviance, ethnography, and neopositive approaches to behavioral analysis. May be repeated up to 6 credits.

**SOC 6615 Social Institutions 3 credits.** A seminar in selected aspects of medicine, law and crime, media, corporations, sports, religion, family, education, and political sociology. May be repeated up to 9 credits.

**SOC 6620 Seminar: Philosophy of Social Science 3 credits.** The application of mathematical and scientific methods to the study of social, economic, and political life will be considered through the reading of certain seminal writings. Attention will be given to the fundamental assumptions about the nature of scientific rationality. Required of all D.A. students.

**SOC 6621 Seminar: Interdisciplinary Topics in Social Science 3 credits.** Examination of selected topics in the social sciences from the analytic orientations and perspectives common and peculiar to the disciplines of political science, economics and sociology. Required of all D.A. students.

**SOC 6649 Independent Studies 1-4 credits.** Consultation course consisting of independent student effort under the guidance of the instructor. Students are assigned to, or request assignment to, specific independent problems

on the basis of interest and preparation. This may include preparation and presentation of a major research project, directed readings, or tutorial study.

**SOC 6650 Thesis 1-6 credits.** Research, analysis, and writing of master's thesis. 6 credits of SOC 6650 are required for graduation. Continuous enrollment at a minimum of 1 credit must be maintained until the thesis is defended. May be repeated. Graded S/U.

**SOC 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Social Work Graduate Courses

**SOWK 5517 Interdisciplinary Evaluation Team 1 credit.** Introduction to the principles and techniques associated with interdisciplinary evaluation. Disciplines emphasized: Audiology, Nursing, Physical Therapy, Psychology, Social Work, Special Education, Speech-Language Pathology. Cross-listed as PSYC 5517, NURS 5517, SPA 5517.

**SOWK 5582 Independent Problems Consultation course which may be repeated for maximum of 6 credits.** PREREQ: 12 CREDITS IN SOCIAL WORK.

**SOWK 5591 Seminar 3 credits.** Readings, -discussion, and preparation of reports on selected topics. May be repeated to 9 credits with different topics. PREREQ: PERMISSION OF INSTRUCTOR.

**SOWK 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be graded S/U.

**SOWK 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SOWK 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.





# College of Business

Tom Ottaway, Ph.D., Interim Dean  
 Jeff Street, Ph.D., Associate Dean  
 Joanne Tokle, Ph.D., Interim Associate Dean  
 Corey Schou, Ph.D., Associate Dean for Information Systems

## Department of Accounting

Chair and Professor: Picard  
 Professors: Frischmann, Plewa, Smith  
 Associate Professor: Reis  
 Assistant Professor: Lim

## Department of Computer Information Systems

Chair and Professor: Parker  
 Professors: Beachboard, Ottaway, C. Schou, Trimmer  
 Lecturer: Nelson

## Department of Finance

Chair and Professor: Byers  
 Professors: Brookman, Hackert, Khang  
 Associate Professor: Santhanakrishnan

## Department of Management

Chair and Professor: Jolly  
 Professors: M. Johnson, Krumwiede, Tokle  
 Associate Professors: Murphy, Street, Tocher  
 Assistant Professor: Bollinger  
 Senior Lecturers: Peppers, S. Schou  
 Lecturer: Peterson

## Department of Marketing

Chair and Professor: Speck  
 Assistant Professors: Z. Johnson, McCardle

## Master of Business Administration

The College of Business (COB) at Idaho State University (ISU) offers a program leading to the degree of Master of Business Administration (MBA) to holders of business and non-business bachelor's degrees. The MBA program is accredited by AACSB International, the Association to Advance Collegiate Schools of Business. In addition to the traditional MBA degree, the program offers MBA degrees with emphasis areas in Accounting, Computer Information Systems (CIS), Finance, Health Care Administration (HCA), Project Management, and Marketing. The

MBA program at Idaho State University was the first to be accredited by the AACSB in the State of Idaho and remains committed to the delivery of a high quality, rigorous program.

The traditional MBA provides a broad general degree particularly suited to those pursuing a managerial focus in their careers. The Accounting, Computer Information Systems, Finance, and Health Care Administration, Project Management, and Marketing options provide specialized knowledge relating to their respective fields. The Accounting emphasis meets the needs of students who wish to satisfy requirements for certification as public accountants (CPA) or certification as management accountants (CMA).

In the interest of a more diverse student body, the college encourages and attracts a number of full-time students from other parts of the United States and foreign countries.

## Mission and Goals

The Idaho State University MBA program's mission is to develop and deliver programs that address the diverse needs of stakeholders. Our primary mission is to offer an MBA program that enhances our students' competence in business management, fosters their intellectual curiosity, and develops the personal skills necessary to be an effective manager. The MBA program prepares students for leadership roles in all areas of business requiring skilled and ethical decision making and analytical abilities.

Programs goals are to:

- Develop an integrative and strategic focus for applying business disciplines to solve problems and make business decisions.
- Understand human behavior in business situations and the manager's roles as a leader in influencing behavior.
- Conduct skillful industry and financial analyses.
- Appreciate the economic, political, social, legal, ethical, and global environments in which business operates.
- Demonstrate competency in (1) communications (written and oral), (2) critical thinking, and (3) group processes/interpersonal skills.

## The MBA Program

The MBA program consists of eight graduate core courses (MBA-I) covering basic knowledge skills and concepts, a core of eight broad integrative courses (MBA-II), plus six to twelve hours of additional graduate level

courses depending upon the student's program of study.

The MBA-I core develops a broad competence in the functional fields of business: Accounting, Economics, Management, Marketing, Operations, and Finance. The core also examines behavioral, international, ethical, industry analysis, and strategic issues that cut across the functional boundaries and provide a basic educational background. Students with undergraduate degrees in business may have MBA-I classes waived.

The MBA-II core consists of eight required courses which, although anchored in traditional functional fields, are designed to provide a strong integrative focus building upon the competencies developed in MBA-I courses.

The traditional MBA degree requires six credit hours of graduate course work beyond the MBA-II core courses. The various emphases require nine credit hours of graduate course work beyond the MBA-II core courses. The courses in the Accounting, Computer Information Systems, Finance, Health Care Administration, Project Management, and Marketing areas of emphasis are designed to provide specialized knowledge specific to each of their respective fields.

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School, and all additional College of Business requirements.

Admission to the MBA program is granted only to students showing high promise of success. The College of Business uses various measures of high promise, including the candidate's performance on the Graduate Management Admissions Test (GMAT) and upper-division grade point average (GPA). Such measures, along with other reasonable indications of promise, will be used in combination to arrive at a final judgment.

The minimum requirement for admission is defined by the following:

The sum of 200 times the grade point average in upper-division course work (4.0 system) plus the total score on the Graduate Management Admission Test must equal at least 1150 points.

For applicants from schools with different grading systems a GPA will be inferred as accurately as possible. Also, graduate courses will be included in the upper-division GPA calculation. For applicants with a significant amount of recent upper-division academic course work versus course work that is considerably older, we may choose to consider only the recent GPA.

Individuals holding a current master's degree from a regionally accredited institution may meet minimum requirements and be considered for admission if they meet the Graduate School requirements regarding GRE scores in which case the student is not required to take the GMAT for admission.

Meeting the minimum formula requirement or minimum GRE requirement does not assure admission to the MBA program since other factors may be considered if they are deemed important in the assessment of the applicant's probable success in the MBA program.

All applicants are required to submit a resume outlining work experience and two letters of reference.

Please note that no individual can be admitted to classified status in the MBA program until the College of Business has received the applicant's official transcripts and official GMAT/GRE scores.

Applications are accepted at any time. Complete applications are reviewed the first working day of each month up to the Graduate School deadlines for admission.

## Locations

The MBA program serves Southeast Idaho's need for part-time and full-time graduate education in business. The traditional MBA degree is offered in the evening in Pocatello and Idaho Falls to full-time and part-time students. The Finance, Marketing, and Project Management emphasis areas require that students be able to take at least some emphasis-area daytime courses in Pocatello, and are restricted to individuals who do not have an undergraduate major in the respective fields. The CIS emphasis and Accounting emphasis elective courses are only daytime courses offered in Pocatello. The Health Care Administration emphasis courses are offered primarily in the evening in Pocatello.

## Conduct

Academic integrity is expected by the College of Business. All forms of academic dishonesty, including cheating and plagiarism, are prohibited. The penalties for students engaging in academic dishonesty, plagiarism, unprofessional or unethical conduct within the university community range from a failing grade to dismissal from the MBA program, and/or permanent expulsion from the university with notation on the student's transcript. The Graduate Catalog explains the dismissal policy and the procedures for the appeal of dismissal. If you are unclear as to what constitutes academic dishonesty, you should consult the Graduate

Catalog, then review the College of Business policy on Academic Integrity available from the College of Business Office in BA 202; from the College of Business web site at [www.cob.isu.edu](http://www.cob.isu.edu); or refer to the Idaho State University Faculty/Staff Handbook policy on academic dishonesty. If you are still in doubt about academic dishonesty, you're encouraged to consult with a faculty member, the MBA Director, or the Dean.

# MBA Degree Requirements

## MBA Minimum Prerequisites

### Mathematics Skills

The minimum level of mathematics required for the MBA program is college algebra. If students have not completed this course, they must do so early in their program prior to enrolling in MBA-II courses. College algebra may be waived if the student scores in the 50th percentile or higher on the quantitative section of the GMAT. If all MBA-I courses are waived, the student may enroll in MBA-II courses provided they are concurrently enrolled in courses to meet the math requirement.

### Computer Skills

Computer literacy is an essential skill for success in the MBA program and success in a professional business career. The minimum skills required are the ability to use a word processor, a spreadsheet, the Internet, and Windows. Students are required to maintain e-mail and Internet accounts on the Idaho State University network.

### Communications Skills

Good communication skills are fundamental for students and managers. Students are expected to have a high degree of proficiency in both oral and written communication skills. - Students failing to demonstrate communications proficiency will be required to take remedial work.

## MBA I

The following courses are prerequisite to any MBA II course:

MGT 2216  
MBA 6610 or ECON 2201 and ECON 2202  
MBA 6611 or ACCT 2201 and ACCT 2202  
MBA 6612 or MGT 3312 and MGT 5563  
MBA 6613 or MKT 2225  
MBA 6614 or MGT 3329  
MBA 6615 or FIN 3315

## Waiver of MBA-I Requirements

MBA-I courses may be waived for students with a business degree from an AACSB accredited institution. MBA-I courses may be

waived for students with a business degree not accredited by AACSB subject to a transcript and program evaluation by the MBA Director. For students with non-business degrees or degrees from foreign universities, courses may be waived where equivalency of content with the Idaho State University MBA core can be established and the student has earned at least a grade of C- or equivalent. Individuals with degrees greater than 10 years old may be required to take selected MBA-I courses. Work experience is not a basis for waiving MBA-I course work; however, students with substantial work experience may demonstrate competence in a particular field through examination.

## MBA-II (24 hours)

After all MBA-I requirements are satisfied, students may enroll in the MBA-II core component courses listed below.

MBA 6620 Quantitative Information for Business Decisions  
MBA 6621 Managerial Decision Making  
MBA 6622 Finance in an Integrated Environment  
MBA 6623 Marketing in an Integrated Environment  
MBA 6624 Information Technology in Business  
MBA 6625 Managerial Control Systems  
MBA 6626 Business Policy/Strategy in a Global Environment  
MBA 6628 Business Simulation and Application

Exceptions to the requirement that all MBA-I courses be completed prior to enrolling in MBA-II courses may be made when most MBA-I courses have been taken and enforcement of this requirement would cause undue hardship for a student (i.e., a delay in his/her program). Students may substitute a course for MBA 6620 with permission of the MBA Program Director. Exceptions will be granted only where it is reasonable to conclude that the student has sufficient background to perform satisfactorily in MBA-II courses.

A request for an exception to the MBA-I prerequisite requirement must be made to the MBA Director. This request should state the MBA-I courses remaining to be taken in the student's program, when those courses will be taken, and what hardships will be incurred if the exception is not granted.

## Additional Course Requirements

Students seeking the traditional MBA degree will complete six credit hours of additional graduate course work beyond the MBA-II core.

Students seeking the MBA with an emphasis in Accounting, Computer Information Systems, Finance, Project Management, Marketing or Health Care Administration will complete nine credit hours of graduate work in their selected emphasis area.

Students may select as electives any 5500-level or 6600-level courses offered by the College of Business that meet emphasis area requirements with the exception of courses numbered between MBA 6600 and MBA 6615 inclusive, and MBA-II courses. Students wishing to take elective courses outside the College of Business must have those courses approved by the MBA Director. The electives may include MBA 6650 Thesis (6 credit hours), or MBA 6639 Paper (3 credit hours). Students may not take a 5500-level course for elective credit if a similar course has been taken at the undergraduate level.

### **The Traditional MBA degree (6 hours of electives)**

Students pursuing the traditional MBA degree are required to meet the following requirements:

- Electives (6 credit hours). The traditional MBA degree requires six credit hours of College of Business electives at the 5500/6600 level approved by the MBA Director.

### **Accounting Emphasis (9 hours)**

The MBA with an Emphasis in Accounting program produces graduates with the knowledge and skills for successful professional accounting careers. The goal of the accounting emphasis is to provide graduates with the following characteristics:

- Business and accounting knowledge.
- Capability and motivation for continued learning.
- Competence in learning skills (including research of data bases).
- Ability to analyze, critique, and communicate.
- Ability to work effectively with others.
- Rigorous ethical standards.

The Accounting Emphasis program enhances knowledge and skills for rapid advancement in either managerial or public accounting. MBA graduates should be prepared to pass certification examinations for both the Certified Public Accountant (CPA) and Certified Management Accountant (CMA).

Students choosing an emphasis in Accounting must select 9 hours of 5500/6600 level accounting courses. Appropriate undergraduate prerequisite courses are required. Courses at the 5500-level cannot be selected if a comparable undergraduate course has already been taken.

### **Computer Information Systems Emphasis (9 hours)**

The MBA with an Emphasis in Computer

Information Systems program is focused on providing managerial-level knowledge of information technology for MBA students. The CIS emphasis provides general business managers with a curriculum focused on building their knowledge of information systems and the opportunity to develop technical skills in this field.

Electives (9 credit hours). The MBA with an emphasis in Computer Information Systems requires 9 credit hours of 5500/6600-level elective course work in the field of computer information systems.

### **Finance Emphasis (9 hours)**

The MBA with an Emphasis in Finance is not open to students who have a previous undergraduate major in Finance. The Finance emphasis requires that students must be able to take at least some daytime courses in Pocatello.

The MBA with an emphasis in Finance requires FIN 5578 (3 credits) plus 6 more credits of 5500/6600-level elective course work in the field of finance.

### **Project Management Emphasis (9 hours)**

Students pursuing the MBA with an Emphasis in Project Management are required to take the following courses:

MGT 5582 Project Management  
MGT 5591 Seminar in Management and Organization  
And 1 of the following 2 classes:  
MGT 5534 Productivity and Quality Management  
MGT 5530 Advanced Operations and Production Management

Students who have taken these courses as undergraduates are not eligible to repeat them as graduate students. Students who have already taken one or more of these classes must have an appropriate alternative course approved by the MBA Director or Management Department Chair.

### **Marketing Emphasis (9 hours)**

The MBA with an Emphasis in Marketing is not open to students who have a previous undergraduate major in Marketing. The Marketing emphasis requires that students must be able to take at least some daytime courses in Pocatello.

The MBA with an emphasis in marketing requires 9 credit hours of 5500/6600-level elective course work in the field of marketing. Marketing courses are labeled MKTG.

### **Health Care Administration Emphasis (9 hours)**

Students who select the MBA with an Empha-

sis in Health Care Administration program select 9\* credits from the following HCA courses:

HCA 5573 Marketing for Health Care Organizations  
HCA 5553 Health Care Finance  
HCA 5555 Health Organization Management and Strategy  
HCA 5595 Administrative Internship  
HCA 5575 Healthcare Law and Bioethics  
HCA 6665 Health Insurance and Reimbursement  
HCA 6680 Applied Topics in Health Care

\*10 credits are earned if the student takes the Internship.

### **Program of Study**

All MBA students are required to meet with the MBA Director prior to or during their initial term in the program in order to develop an approved program of study. Students will be blocked from registering for the next term until this program of study is approved.

### **Examination Requirements**

The MBA program requires the satisfactory completion of an oral examination in the final term of the student's program.

### **Academic Requirements**

Any student who, after admission to the College of Business graduate program, falls below a 3.0 GPA or receives two C (C+, C, or C-) grades or a grade of D+ or lower in the MBA program (MBA-I, MBA-II, and elective courses) is deemed to be doing unsatisfactory work and is subject to review by the College of Business MBA Administrative Committee and to dismissal from the program. A student dismissed for academic reasons may apply for readmission to the MBA program no earlier than four months following his/her dismissal. Requests for readmission will be denied unless the student can demonstrate that the reasons for the previous unsatisfactory work have been rectified and can show evidence of ability to perform satisfactorily in the MBA program.

Courses in which a grade of D+, D, D- or F has been earned will not be counted toward fulfillment of MBA-I or MBA-II program requirements. Students may not use more than two courses with a grade of C+, C, or C- to satisfy graduation requirements. Students must achieve a 3.0 or better GPA in order to graduate.

### **MBA and PharmD Joint Degree Program**

Students enrolled in the PharmD Program at Idaho State University may combine that degree program with an MBA degree with approximately one year of additional effort. The program is essentially the traditional MBA degree program with the use of some PharmD courses to meet MBA requirements. Program requirements include:

- During the two years of prepharmacy

course work, the student should take ECON 2201, ECON 2202, ACCT 2201 and ACCT 2202.

- During the third year professional year in the Pharm.D. program and the summer preceding that year, the student should take MBA 6613, MBA 6614, MBA 6615, and MBA 6616. These courses will satisfy four hours of electives required in the spring semester of the third professional year of the Pharm.D. curriculum. In addition, the completion of MBA 6612 (Human Behavior in Organizations) will substitute for PPRA 9945 (Pharmacy Management) required in the third professional year of Pharm.D. curriculum.
- Six hours of specified experiential courses (PHAR 9981) taken in the fourth professional year of the Pharm.D. program will satisfy six elective hours required in the MBA curriculum.
- Throughout and following the professional Pharm.D. program, the student must complete the second year of MBA curriculum, which includes MBA 6620, MBA 6621, MBA 6622, MBA 6623, MBA 6624, MBA 6625, MBA 6626, and MBA 6628.

Upon completion of all required MBA classes, the student may take the MBA final oral exam. Award of the MBA degree requires successful completion of the Pharm.D. degree or a bachelor's degree at Idaho State University.

### Admission Requirements

Admission to the MBA program will normally take place at the end of the second professional year. PharmD students must meet the regular admission requirements of the MBA program except they are required to have completed only the equivalent of an undergraduate degree at the time of admission. Applicants must request the College of Pharmacy to certify to the Graduate School that the student has completed 120 hours and that those 120 hours are equivalent to an undergraduate degree.

### Graduate Certificate in Business Administration Program (18 credits)

The College of Business offers a Graduate Certificate in Business Administration for individuals with non-business degrees who wish to enhance their business knowledge and skills. The program is designed as an evening, part-time program for the working professional, providing a broad base of knowledge and skills needed for today's high technology business environment. Individuals who may subsequently apply for admission to the MBA program would have all MBA-I requirements completed.

### Admission Requirements

Admission to the program and maintenance of good standing will be in accord with the requirements of the Graduate School of Idaho State University and the additional College of Business requirements.

Admission to the Graduate Certificate in Business Administration program is open to students with nonbusiness degrees. Admission to the program requires that applicants meet one of the following two requirements.

1. A minimum GPA of 3.0 in the last 60 hours of undergraduate coursework.
2. A score at the 40th percentile or higher on at least one section of the GMAT.

Students who complete the Graduate Certificate in the Business Administration program are required to meet the regular MBA admission requirements if they wish to complete the MBA degree. The COB will consider the student's GPA in MBA-I classes in instances wherein the individual has extremely old undergraduate GPA.

The following actions are required to be considered for admission to the Graduate Certificate in Business Administration program.

1. Submit a Graduate School application form and application fee to the Graduate School.
2. Provide official transcripts to the Graduate School.
3. Provide GMAT scores to the Graduate School in cases where GPA in the last 60 hours of undergraduate coursework is below a 3.0.
4. Provide a resume of work experience and two letters of recommendation to the College of Business.

#### Locations

The Graduate Certificate in Business Administration program is offered in both Pocatello and Idaho Falls. In some instances, students may have to travel to Pocatello or Idaho Falls to obtain a specific class.

#### Requirements (18 hours)

- Certificate Minimum Prerequisites  
Students entering the Graduate Certificate in Business Administration program are expected to have completed formal courses in statistics, college algebra, and micro and macro economics. If students have not completed this work, they must do so early in their program.
- Required courses for the Graduate Certificate in Business Administration (18 hours as specified below):

MBA 6611 Financial Reporting and Managerial Accounting  
MBA 6612 Human Behavior in Organizations  
MBA 6613 Marketing  
MBA 6614 Operations Management

MBA 6615 Finance  
MBA 6616 Business Policy

### Waiver of Requirements

Course requirements will be waived for students who can demonstrate that they have taken equivalent courses within the last 5 years. If a course is waived, the student is required to substitute an alternative course in the field of study that was waived. Waiver of courses and substitutions must be approved by the MBA Director.

### Academic Requirements

Any student who, after admission to the College of Business certificate program, falls below a 3.0 GPA or receives two C+ grades or a grade of D or F in any course is deemed to be doing unsatisfactory work and is subject to dismissal from the program. A student dismissed for academic reasons may apply for readmission to the certificate program no earlier than four months following his/her dismissal. Requests for readmission will be denied unless the student can demonstrate that the reasons for the previous unsatisfactory work have been rectified and he/she shows evidence of ability to perform satisfactorily in the certificate program. Courses in which a grade of D or F has been earned will not be counted toward fulfillment of program requirements. Students may not use more than two courses with a grade of C+ to satisfy certificate completion requirements.

## Master of Accountancy

The Master of Accountancy (MAcc) provides students with advanced analytical and technical skills and tools required for success in the complex world of accounting today. The program develops skills and competencies well beyond that of an undergraduate accounting degree and will prepare students to enter the public accounting profession and provide a solid foundation for passing the rigorous CPA professional examination.

### Admissions Requirements

The student must apply to, and meet all the criteria for, admission to the Graduate School, and all additional College of Business requirements.

Admission to the MAcc program is granted only to students showing high promise of success. The College of Business uses various measures of high promise, including the candidate's performance on the Graduate Management Admissions Test (GMAT) and upper-division grade point average (GPA). Such measures, along with other reasonable indications of promise, will be used in combination

to arrive at a final judgment.

Applicants must hold a bachelor's degree in accounting or equivalent coursework if the degree is not in accounting.

The minimum requirement for admissions is defined by the following:

The sum of 200 times the grade point average in the last 60 credits of course work (4.0 system) plus the total score on the Graduate Management Admissions Test must equal at least 1150 points.

For applicants from schools with different grading systems a GPA will be inferred as accurately as possible. Also, graduate courses will be included in the last sixty hours GPA calculation. For applicants with a significant amount of recent upper-division academic course work versus course work that is considerably older, we may choose to consider only the recent GPA.

Individuals holding a current master's degree from a regionally accredited institution may meet minimum requirements and be considered for admission if they meet the Graduate School requirements regarding GRE scores, in which case the student is not required to take the GMAT for admission.

Meeting the minimum formula requirement or minimum GRE requirement does not assure admission to the MAcc program since other factors may be considered if they are deemed important in the assessment of the applicant's probable success in the MAcc program.

All applicants are required to submit a resume outlining work experience and two letters of reference.

Please note that no individual can be admitted to classified status in the MAcc program until the College of Business has received the applicant's official transcripts and official GMAT/GRE scores.

Applications are accepted at any time. Complete applications are reviewed the first working day of each month up to the Graduate School deadlines for admission.

## Course Requirements

ACCT 5531 Advanced Tax Concepts	3 cr
ACCT 5533 Legal Environment of Accounting	3 cr
OR	
MGT 5561 Business Law	3 cr
ACCT 5557 Advanced Auditing	3 cr
ACCT 5561 Advanced Accounting	3 cr
ACCT 5571 Accounting Capstone 1	1 cr
ACCT 5572 Accounting Capstone 2	1 cr
ACCT 5573 Accounting Capstone 3	1 cr

ACCT 5574 Accounting Capstone 4	1 cr
ACCT 6625 Managerial Control Systems and Corporate Social Responsibility	3 cr
OR	
MBA 6625 Managerial Control Systems	3 cr
ACCT 6631 Accounting Theory	3 cr
ACCT 6634 Seminar in Accounting	3 cr
MBA 6622 Finance in an Integrated Environment	3 cr
ACCT 6660 Governmental and Global Accounting	3 cr
Total Credits	31 cr

## Program of Study

All MAcc students are required to meet with the MBA Director or accounting advisor prior to or during their initial term in the program in order to develop an approved program of study. Students will be blocked from registering for the next term until this program of study is approved.

## Examination Requirement

The MAcc degree requires the satisfactory completion of an oral examination in the final term of the student's program.

## Academic Requirements

Any student who, after admission to the College of Business graduate program, falls below a 3.0 GPA or receives two C (C+, C, or C-) grades or a grade of D+ or lower in the MAcc program is deemed to be doing unsatisfactory work and is subject to review by the College of Business Graduate Administrative Committee and dismissal from the program. A student dismissed for academic reasons may apply for readmission to the graduate program no earlier than four months following his/her dismissal. Requests for readmission will be denied unless the student can demonstrate that the reasons for the previous unsatisfactory work have been rectified and can show evidence of ability to perform satisfactorily in the MAcc program.

Courses in which a grade of D+, D, D- or F has been earned will not be counted towards fulfillment of MAcc program requirements. Students may not use more than two courses with a grade of C+, C or C- to satisfy graduation requirements. Students must achieve a 3.0 or better GPA in order to graduate.

## Time Limit

Any course used to meet graduation requirements must be completed within five years prior to the date of graduation.

## Accounting Graduate Courses

**ACCT 5500 Managerial Tax Planning 3 credits.** For prospective business managers, owners, or investors interested in important tax consequences of alternative financial transactions.

**ACCT 5503 Accounting Information Sys-**

**tems 3 credits.** A strategic approach to the use of accounting information in an organization. Tools for documentation of business processes and database design are introduced. Focuses on primary business cycles, interrelationship among them, and impact on accounting information. Includes assessment of risks involved in information processing and reporting. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ACCT 3323.

**ACCT 5531 Advanced Tax Concepts 3 credits.** Specialized federal tax concepts and tax research principles for individuals, businesses, estates, and trusts. Elaborates on basic principles discussed in Principles of Taxation. Specific, evaluated graduate-level activities are identified in the course syllabus.

**ACCT 5533 Legal Environment of Accounting 3 credits.** Study of legal issues facing accountants, including business law, forms of organizations, and regulatory requirements.

**ACCT 5541 Management Control Systems 3 credits.** Focuses on strategic and managerial evaluation and control systems using financial and nonfinancial accounting information.

**ACCT 5556 Auditing 3 credits.** Concepts and practices of independent and internal auditing. Professional responsibilities, risk assessment, audit planning and reporting.

**ACCT 5557 Advanced Auditing 3 credits.** Integration of financial statement auditing concepts in case discussions. Research into contemporary auditing literature.

**ACCT 5560 Governmental and Not-For-Profit Accounting 3 credits.** Accounting and reporting principles, standards and procedures applicable to governmental units and not-for-profit institutions, i.e. universities, hospitals. Special consideration to financial management problems peculiar to the not-for-profit sector.

**ACCT 5561 Advanced Accounting 3 credits.** Study of accounting problems arising in connection with partnerships, corporate affiliation; institutional, social, and fiduciary accounting; consignments; installment sales; and foreign exchange.

**ACCT 5570 Contemporary Issues in Managerial Accounting 3 credits.** Contemporary topics and emerging issues in managerial accounting. This field is rapidly evolving to meet the needs of enterprises competing in a dynamic global environment.

**ACCT 5571 Accounting Capstone 1 1 credit.** Capstone course integrating accounting regulation topics. Emphasis on analytical,

problem-solving and communication skills.

**ACCT 5572 Accounting Capstone 2 1 credit.** Capstone course integrating financial accounting and reporting topics. Emphasis on analytical, problem-solving and communication skills.

**ACCT 5573 Accounting Capstone 3 1 credit.** Capstone course integrating auditing and attestation topics. Emphasis on analytical, problem-solving and communication skills.

**ACCT 5574 Accounting Capstone 4 1 credit.** Capstone course integrating business environment and concept topics. Emphasis on analytical, problem-solving and communication skills.

**ACCT 5580 Comparative International - Accounting 3 credits.** Study of systems that have proven to be problems in an international accounting context, particularly for corporate financial reporting. Also, the progress toward international harmonization of financial reporting and taxation.

**ACCT 5590 Financial Reporting and Statement Analysis 3 credits.** A financial accounting capstone course focusing on statement analysis from the point of view of the many users of financial statements: investors, creditors, managers, auditors, analysts, regulators, and employees through the case analysis of actual companies' financial statements.

**ACCT 5591 Seminar in Accounting 3 credits.** Reading, discussion, and preparation of reports on selected topics. Restricted to senior and graduate students in business who have the consent of the instructor. Specialized evaluated graduate level activities and performances are identified in the course syllabus. May be repeated for up to 6 credits with permission of instructor.

**ACCT 5592 Special Problems in Accounting 1-3 credits.** Research and reports on selected problems or topics in accounting. Restricted to senior and graduate students in business who have the consent of the Dean. May be repeated under a different title for a maximum of 9 credits with the permission of the major advisor and the Dean.

**ACCT 5593 Accounting Internship 1-3 credits.** A program of significant business experience coordinated by the faculty to provide a broad exposure to issues. May be repeated up to a total of 3 credits.

**ACCT 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the schedul-

ing department. Experimental courses may be offered no more than three times. May be repeated.

**ACCT 6625 Managerial Control Systems and Corporate Social Responsibility 3 credits.** The managerial and strategic use of control systems. Current practices in corporate social responsibility management and reporting practices. The interrelationship between management control systems and corporate social responsibility.

**ACCT 6660 Accounting for Governmental and Not-For-Profit Entities 3 credits.** In-depth study of accounting and reporting principles, standards and procedures applicable to government and nonprofit entities with an emphasis on topics unique to these institutions. A case study of the financial reporting by a particular governmental entity will be included.

**ACCT 6631 Accounting Theory 3 credits.** Study of accounting conceptual framework and accounting principles. Case discussions and research into contemporary accounting literature.

**ACCT 6632 Advanced Auditing 3 credits.** Integration of auditing concepts in case discussions. Research into contemporary auditing literature and data bases. PREREQ: ACCT 5556.

**ACCT 6634 Seminar in Accounting 3 credits.** Capstone course integrating special problems of financial, managerial, and tax accounting. Emphasis on analytical and communication skills.

**ACCT 6635 Strategic Cost Management 3 credits.** Critical examination of various cost management issues and techniques with emphasis on strategic, behavioral, and cultural issues.

**ACCT 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Computer Information Systems Graduate Courses

**CIS 5503 Systems Analysis and Logical Design 3 credits.** Develops systems analysis skills, using modern CASE techniques, prototyping with a relational database, structured analysis and design phases of the systems development life cycle.

**CIS 5507 Database Design and Implementation 3 credits.** Design and implementation of multi-user relational DBMS. Use of stored procedures, advanced SQL, query optimization, transaction processing, DBMS information assurance and administration. Secure object-oriented design, programming and UML.

**CIS 5511 Intermediate Information Assurance 3 credits.** Focuses on homeland security, information assurance, integrity, control and privacy. Covers CNSA-4011, NIST-800-16 standards, national policy, and international treaties.

**CIS 5512 Systems Security for Senior Management 1-3 credits.** System architecture, security measures, operations, operations policy, management plan, and provisions for system operator and end user training.

**CIS 5513 Systems Security Administration 1-3 credits.** Course covers basic principles of systems security administration. Introduces students to the methods and technologies associated with running a system to maintain privacy and security.

**CIS 5514 Systems Security Management 1-3 credits.** Covers managing systems and systems administrators operating in secure and private computing environments. Deals with facilities management, contingency plans, laws, standards of contract and operations management.

**CIS 5515 System Certification 1-3 credits.** Describes techniques and methods for certifying a system is in compliance with national and governmental information assurance standards. Evaluates various certification methodologies.

**CIS 5516 Risk Analysis 1-3 credits.** Develops techniques to identify the character and likelihood of adverse events. Explains methods to characterize consequences and costs associated with adverse events. Provides insight into consequence combinations.

**CIS 5519 Advanced Informatics Practicum 1-3 credits.** Significant Informatics experience including research coordinated by the faculty designed to provide broad exposure to issues in Information Assurance. Does not fulfill major/minor requirements. May be repeated for a maximum of 6 credits. Graded S/U.

**CIS 5524 Decision Support Systems 3 credits.** Study of the design and implementation of decisions support tools and techniques used in programming languages and skills.

**CIS 5530 Ebusiness and Web Development 3 credits.** Technical and business topics related to conducting business over the Internet and other networks, including implementation technologies, electronic money and funds transfer, legal and regulatory considerations, security and privacy issues.

**CIS 5540 Object-Oriented Development 3 credits.** The organization of software as a collection of discrete objects incorporating both data and operations performed on that data. Concepts of object-oriented development, including classes, inheritance, and encapsulation in a modern object-oriented language.

**CIS 5582 Advanced Systems Analysis and Design 3 credits.** Provides the knowledge and tools necessary to develop a physical design and an operational computerized system in a secure environment.

**CIS 5585 Network and Communication Systems 3 credits.** Study of the implementation and development of network information systems. Protocols and techniques will be compared.

**CIS 5586 Business System Simulation 3 credits.** Study, construction, and operation of computer simulations as aids for management and administrative decisions.

**CIS 5587 Software Systems Study of the Software Implementation Process 3 credits.** System optimization techniques and management strategies will be discussed.

**CIS 5590 Management of Information Systems and Information Security 3 credits.** Study of the problems associated with the organization, management and security of information technology services.

**CIS 5591 Seminar in Computer Information Systems 3 credits.** Reading, discussion, and reporting on selected topics. Restricted to senior/graduate students in business with consent of the instructor. May be repeated with the instructor's permission for up to 6 credits.

**CIS 5592 Special Problems in Computer Information Systems 1-3 credits.** Research and reports on topics in computer science. Restricted to senior/graduate students in business with consent of the Dean. May be repeated under a different title for maximum of 9 credits.

**CIS 5593 Computer Information Systems Internship 1-3 credits.** Significant business experience coordinated by the faculty to provide broad exposure to issues. May be repeat-

ed up to a total of 9 credits. Does not fulfill major or minor requirements.

**CIS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CIS 6610 Computer Information Systems Security 3 credits.** Network and IS security issues, risk assessment, technological, and procedural security measures; computer fraud and privacy issues; hacker attacks, phone fraud, denial of service, and virus and worm attacks; laboratory and professional practice.

**CIS 6630 Implementing E-Commerce 3 credits.** Discussion of technical and business topics related to implementing business electronically, over the Internet and other networks, electronic funds transfer; online marketing alternatives; legal and regulatory considerations; security and privacy issues.

**CIS 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Finance Graduate Courses

**FIN 5505 Advanced Corporate Financial Management I 3 credits.** Asset valuation models, required returns, risk analysis and capital budgeting models, cost of capital determination, and factors affecting the firm's capital structure and dividend policy.

**FIN 5531 Financial Modeling 3 credits.** Survey of integrative modeling with special applications of computer models. Includes topics from cash flow forecasting, mergers and acquisition, financial structure, and capital budgeting.

**FIN 5545 Real Estate Finance 3 credits.** Principles and methods of valuing business and residential land and improvements; analysis of sources and methods used in the financing of construction and development.

**FIN 5548 Financial Management of Depository Institutions 3 credits.** An analysis of the managerial issues which affect the financial performance of depository institutions such as capital adequacy, liquidity and asset/liability management techniques, profitability analysis, funding and investment decisions.

**FIN 5550 Advanced Corporate Financial Management II 3 credits.** Advanced develop-

ment of financial statement analysis, financial planning, working capital management, and special topics emphasizing analysis and application to financial management decisions.

**FIN 5551 Student -Managed Investment Fund I 3 credits.** Management of the D.A. Davidson Student-Managed Investment Fund. Students act as financial analysts. Provides students with real-world knowledge and judgment crucial to sound investing. Students may apply either FIN 5551 or FIN 5552, but not both, toward their electives.

**FIN 5552 Student-Managed Investment Fund II 3 credits.** Management of the D.A. Davidson Student-Managed Investment Fund. Students act as financial analysts. Emphasis on security selection, portfolio management, and creation of an annual report. Student can apply either FIN 5551 or FIN 5552, but not both, toward their electives.

**FIN 5564 Entrepreneurial Finance 3 credits.** This course develops financial and managerial skills important to students who are interested in pursuing careers in an entrepreneurial setting. Topics include: financial issues unique to entrepreneurial firms, development of skills with wide application in entrepreneurial situations, and financing sources available to entrepreneurial companies.

**FIN 5575 International Corporate Finance 3 credits.** Study of financing investment projects abroad including the tapping of overseas capital markets, financing export transactions, hedging foreign exchange risks, and the control alternatives of international business.

**FIN 5578 Investments 3 credits.** Fundamental principles in the risk-return valuation of financial instruments. Topics include the institutional framework in which securities are traded, modern portfolio theory, asset pricing, derivatives, and portfolio management.

**FIN 5584 Options and Futures 3 credits.** Examination of the pricing and use of options, financial futures, swaps, and other derivative securities.

**FIN 5591 Seminar in Finance 3 credits.** Reading, discussion and preparation of reports on selected topics. Restricted to senior and graduate students in business who have the consent of the instructor. May be repeated with instructor's permission for up to 6 credits.

**FIN 5592 Special Problems in Finance 2-3 credits.** Research and reports on selected problems or topics in finance. Restricted to senior and graduate students in business who have the consent of the Dean. May be repeated under different title for a maximum of 9 cred-



its with the permission of the major advisor and the Dean.

**FIN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**FIN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Health Care Administration Graduate Courses

(See pages 116-117 for HCA courses)

## Management Graduate Courses

**MGT 5510 Entrepreneurship 3 credits.** Developing new business ideas, initiating a new enterprise, bringing new technology to the market; applying sound business practices involving management, marketing, accounting, finance and CIS to accommodate changing market opportunities.

**MGT 5520 Native American Organizational Systems 3 credits.** Analysis of factors and dimensions to be considered in the structure and design of contemporary Native American organizations. Comparison of contemporary Native organizational systems with traditional Native organizational approaches and contemporary non-Native organizations. Specific graduate level activities and/or performances will be identified in the course syllabus.

**MGT 5522 Native American Enterprise 3 credits.** Approaches, strategies, and models utilized in developing tribally-owned and privately-owned Native American businesses across the U.S. and Canada. Analysis of social, economic, and environmental contingency factors that contribute to successful establishment of Native American businesses. Specific graduate level activities and/or performances will be identified in the course syllabus.

**MGT 5530 Advanced Operations/Production Management 3 credits.** Study of problems on line management in organizations. Major sections include strategy, process analysis, person power planning, inventories, scheduling, and control of operations. Emphasizes both behavioral and technical aspects of problem solving in the area of operations management.

**MGT 5534 Productivity and Quality 3 credits.** Study of the factors involved in an organization's productivity and quality of product or service.

**MGT 5541 Organizational Behavior 3 credits.** Case study approach designed to encourage independent thought in the application of behavioral theories and concepts of organizational problems. Emphasis on integrating theoretical concepts with patterns of organizational direction, control, communications and decision-making.

**MGT 5550 Manufacturing Strategy 3 credits.** Study of the various production alternatives as critical factors in a company's competitive strategies.

**MGT 5561 Business Law 3 credits.** Traditional business law. Topics include the law of contracts, sales, agencies, business organizations, and personal property and bailments. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**MGT 5562 Issues in Business and Society 3 credits.** Seminar course designed to focus thinking on critical issues facing managers in making decision choices regarding employees and other stakeholder groups, the community, and the environment.

**MGT 5563 Business Law Concepts 1 credit.** Legal and regulatory environment of business. Topics include: tort law, product liability, contracts, sales of goods, employment law, securities regulation, and bankruptcy.

**MGT 5565 International Business 3 credits.** Special emphasis on managerial functions and critical elements of the management process in a firm operating under foreign economic, technological, political, social and cultural environments.

**MGT 5573 Human Resource Management 3 credits.** Introduction to the methodology of employee selection, employment and development; personnel supervision and management; financial compensation; job analysis; behavioral tools and techniques employed to deal with personnel problems and contemporary problems of person power management.

**MGT 5574 Advanced Human Resource Management 3 credits.** In-depth study of selected personnel/human resources management topics, including employee selection, performance evaluation, and compensation administration.

**MGT 5580 Labor and Employment Law 3 credits.** Study of state and federal laws, do-

mestic and foreign, governing employment relationships, including labor-management relations, discrimination and employee rights, work place safety, compensation and benefits, and related topics.

**MGT 5582 Project Management 3 credits.** Philosophy and tools of project management focusing on applied methodologies. Addresses project scope, breakdown structure, schedules, and closure following professionally accepted industry standards.

**MGT 5583 Industrial Relations 3 credits.** Integrated study of principles and practices of collective bargaining and industrial relations. Discussion of methods and techniques in dealing with labor-management problems arising out of contract negotiations and administrations.

**MGT 5591 Seminar in Management and Organization 3 credits.** Reading, discussion, and preparation of reports on selected topics. Restricted to senior and graduate students in business who have the consent of the instructor. May be repeated with instructor's permission for up to 6 credits. May be graded S/U.

**MGT 5592 Special Problems in Management and Organization 2-3 credits.** Research and reports on selected problems or topics in management and organization. Restricted to senior and graduate students in business who have the consent of the Dean. May be repeated under a different title for a maximum of 9 credits with the permission of the major advisor and the Dean.

**MGT 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MGT 6675 Environmental Management 3 credits.** The study of environmental issues in managerial decision making. Total cost/benefit analysis, political ramifications, publicity, ethical considerations, global issues. Analysis of various business functions and their impact on short- and long-term concerns.

**MGT 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Marketing Graduate Courses

**MKTG 5505 Sales Force Management 3 credits.** Determination of the amount and allocation of personal sales effort to be applied to the market and methods of organization, evaluating, and controlling this effort.

**MKTG 5510 Entrepreneurship 3 credits.** Developing new business ideas, initiating a new enterprise, bringing new technology to the marketing; applying sound business practices involving management, marketing, accounting, finance and CIS to accommodate changing market opportunities. Specific, evaluate graduate-level activities and/or performances are identified in the course syllabus.

**MKTG 5521 Services Marketing 3 credits.** Examines the development, promotion, and management of services. Topics covered include strategic planning, delivery channels and promotional challenges inherent to services.

**MKTG 5526 Marketing Research 3 credits.** Evaluation and study of providing relevant marketing information to management. Emphasizes problem formulation, consideration of data sources, means of acquiring information, sampling, interpretation of results.

**MKTG 5528 Marketing Communications 3 credits.** Introduction to the promotion process of business enterprises and other types or organizations. Emphasizes the management and implementation of advertising and sales promotion. Includes organizing and operating a sales force.

**MKTG 5532 New Product Management 3 credits.** Analysis of new product ideas: screening, business analysis, prototype development, market testing, and commercialization of goods and services. Includes diffusion of innovation issues in consumer and industrial markets.

**MKTG 5540 Seminar in International Marketing 3 credits.** Assessment of export potential using secondary research regarding the export feasibility of products offered by select firms in Southeast Idaho.

**MKTG 5565 International Marketing 3 credits.** Comparative marketing arrangements are examined. Covers factors which need to be recognized by international marketing managers in analyzing markets, covering foreign operations, and in assessing economic, cultural, and political aspects of international markets.

**MKTG 5575 Competitive Intelligence 3 credits.** How to use competitive intelligence to gain strategic advantage. Includes understand-

ing of information gathering techniques, the conversion of information into intelligence, various analysis methodologies, and intelligence dissemination processes.

**MKTG 5580 Marketing on the Internet 3 credits.** Understanding and using the Internet for marketing communications. Includes evaluating current sites, developing skills for authoring HTML pages, and developing an Internet marketing strategy and site for an organization.

**MKTG 5591 Seminar in Marketing 3 credits.** Reading discussion, and preparation of reports on selected topics. Restricted to senior and graduate students in business who have the consent of the instructor. May be repeated with instructor's permission for up to 6 credits.

**MKTG 5592 Special Problems in Marketing 2-3 credits.** Research and reports on selected problems or topics in marketing. Restricted to senior and graduate students in business who have the consent of the Dean. May be repeated under a different title for a maximum of 9 credits with the permission of the major advisor and the Dean.

**MKTG 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MKTG 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## MBA Graduate Courses

**MBA 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MBA 6610 Applied Economics 3 credits.** Applied principles and techniques of analysis in micro and macro economics. Cross-listed with ECON 6610. Include GC, MBA.

**MBA 6611 Financial Reporting and Managerial Accounting 3 credits.** Integrates study of accounting concepts with understanding of financial reports. Use of accounting information in managerial decision making and

control. Include GC, MBA.

**MBA 6612 Human Behavior in Organizations 3 credits.** Study of human behavior in organizations. Decision making and problem solving, interpersonal relations and communications, and negotiations. Include GC, MBA.

**MBA 6613 Marketing 3 credits.** Analysis of forces producing changes in general business conditions. Principles of market driven decision making. Application to marketing management decisions and marketing strategy. Include GC, MBA.

**MBA 6614 Operations Management 3 credits.** Decision making techniques for analysis of operational systems. Topics include operations/production planning, process analysis, project planning and control, and quality control. Include GC, MBA.

**MBA 6615 Finance 3 credits.** Study of the allocation of scarce resources, domestic and international financial management. Include GC, MBA.

**MBA 6616 Business Policy 3 credits.** Study of strategic decision making in a firm and its relation to the functional area of a business. Techniques of industry analysis. Study of ethics/social responsibility in the business organization. Include GC, MBA.

**MBA 6620 Quantitative Information for Business Decisions 3 credits.** Development and use of financial and non-financial information to support business analysis and decision making. Develops and applies analytical tools and framework through readings and case analysis. Include MBA.

**MBA 6621 Managerial Decision Making 3 credits.** Study of the environment in which managerial decisions are made. Includes issues of organizational change, leadership, values, regulation, corporate culture and process, and organizational diversity. Include MBA.

**MBA 6622 Finance in an Integrated Environment 3 credits.** Integrated analysis of a firm's decisions with emphasis on the financial aspects of these decisions. Include MBA.

**MBA 6623 Marketing in an Integrated Environment 3 credits.** Integrated analysis of a firm's decisions with emphasis on the marketing and distribution aspects of these decisions over time. Analysis of decisions involving product development and market strategy. Include MBA.

**MBA 6624 Information Technology in Business 3 credits.** The use and assessment of information technology in organizations. Focus is on strategic and integrative issues. Include MBA.

**MBA 6625 Managerial Control Systems 3 credits.** The managerial and strategic use of control systems. The impact of control systems on organizational behavior and decision making. Include MBA.

**MBA 6626 Business Policy/Strategy in a Global Environment 3 credits.** Strategic management of the firm, with emphasis on industry analysis, strategy formulation, implementation, cultural diversity in a global environment. Include MBA.

**MBA 6628 Business Applications 3 credits.** Student teams participate in applied business projects or manage a simulated company's operations. Focus is on enhancing broad-based, integrated understanding of complex business operations and applying discipline-based skills developed in other MBA courses. This course must be taken in the last semester in which a student is enrolled. If a student's last semester is summer, this course should be taken the preceding spring. PREREQ: MBA 6623; PREREQ or COREQ: MBA 6626

**MBA 6639 MBA Paper 3 credits.** May be repeated. Include MBA.

**MBA 6650 Thesis 1-6 credits.** Graded S/U. May be repeated. Include MBA.

**MBA 6692 Special Problems in Business - Administration 2-3 credits.** Research readings or reports on selected problems and topics. May be repeated under a different title for a maximum of 6 hours credit. Requires the consent of the instructor. Include MBA.

**MBA 6693 Graduate Internship 1-3 credits.** A program of significant business experience coordinated by the faculty to provide broad exposure to issues. May be repeated for up to 3 credits. Graded S/U. Include MBA.

**MBA 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.



# College of Education

Deborah L. Hedeem, Ph.D., Dean  
Associate Dean  
Peter R. Denner, Ph.D., Associate Dean  
Susan Jenkins, Ph.D., Assistant Dean

## Conceptual Framework

The College of Education conceptual framework guides the curriculum, instruction, and assessment for all initial and advanced professional education programs in the College of Education. This framework comprises a standards-driven, learner-centered, assessment-informed, collaborative approach through which teachers, administrators and other school personnel develop the knowledge, dispositions, and skills deemed essential for effective professionals.

**Standards for Advanced Professionals:** The College of Education Standards for Advanced Professionals address the knowledge, dispositions, and skills required for school personnel completing initial and advanced/administrative preparation. These standards present the advanced professional as reflective, inquiry-oriented, cognizant of cultural diversity and individual differences, able to communicate effectively, aware of the research in his/her field, and able to assume leadership responsibilities.

**Professional Studies and Research:** The professional accesses, reads, and interprets the literature in his/her field and applies information from the research to professional practice.

**Theoretical Foundations:** The professional understands the theoretical foundations of the profession and applies knowledge of theoretical foundations to professional practice.

**Professional Practice:** The professional recognizes and addresses current issues in the profession, solves problems encountered in professional practice, and reflects on his/her professional practice and its effects.

**Exceptionality and Diversity:** The professional addresses issues of exceptionality and cultural diversity in his/her professional practice.

**Technology:** The professional uses technology in his/her professional practice.

**Assessment:** The professional uses a variety of formal and informal assessments to evaluate

his/her performance and the performance of others.

**Management of the Work Environment:** The professional creates and maintains a safe and productive work environment.

**Leadership:** The professional assumes leadership roles in the profession and shares knowledge and expertise with others in the profession and community.

**Interpersonal Skills:** The professional fosters and maintains positive work relationships and models effective oral and written communication.

**Personal Characteristics:** The professional displays the beliefs, values, and behaviors that guide the ethical dimensions of professional practice.

## Organization of the College of Education

To facilitate student access to advising and other academic support services, the College of Education is organized into four departments: the Graduate Department of Educational Leadership and Instructional Design, the Department of Educational Foundations, the Department of School Psychology, Literacy, and Special Education, and the Department of Sport Science and Physical Education. Program descriptions, admission requirements, and program standards for each department are described in the following sections. However, the following are common elements to all master's programs within the College of Education. Requirements for doctoral programs and educational specialists are listed with those programs.

## Admission to College of Education Master's Programs

At the time of application, the applicant must specify a single Master of Education program area to which admission is requested (i.e., Educational Administration, Elementary Education, Secondary Education, Literacy, Instructional Technology, K-12 Education/Music Education Emphasis, Child and Family Studies, School Psychology, Special Education, Human Exceptionality, or Physical Education/Athletic Administration). Should a student wish to change his/her program area, he/

she must reapply to the Graduate School and to the new program area for admission.

The following are required for admission by all Master of Education program areas:

- The student must apply to, and meet all criteria for, admission to the Graduate School.
- Bachelor's degree from a college or university accredited in the United States or its equivalent from a school in another country.
- Grade point average of 3.0 or higher for all upper division credits taken at the undergraduate level.
- Fulfill any additional requirements of the proposed Master's program area (e.g., successful completion of an admission interview with the Master's program faculty).

### Program Requirements:

No more than 9 credits of unclassified graduate coursework may be applied to the student's program. The student is responsible for meeting the requirements of, and being admitted to, the program as a classified student before taking additional coursework.

Master of Education students are strongly encouraged to sequence the Master's core courses as follows:

EDUC 6601 within the first 9 credit hours  
EDUC 6602 within the first 18 credit hours  
EDUC 6610 within the first 24 credit hours

Additional program requirements specific to the Master's of Education and the Master's of Physical Education are listed below with each program description.

### Retention in College of Education Graduate Programs:

Students must meet university, college, and department standards for grades, residency, time limits, and continuing registration (refer to the General Information section at the front of the Graduate Catalog, and program descriptions that follow.

# Graduate Department of Educational Leadership and Instructional Design

Chair: Sammons

Professors: Frantz

Associate Professors: Coffland, Neill, Sammons, Strickland

Assistant Professor: Storie, Xie

Senior Lecturer: Thomas

## Doctor of Education in Educational Leadership

The Doctor of Education in Educational Leadership is the College of Education's highest degree. Knowing that students enter the program with substantial knowledge, skills, abilities, and experience, the Doctorate in Educational Leadership seeks to support the development of education professionals as scholars, researchers, and practitioners. This three-part whole provides the grounding from which all benchmarks of the student's educational journey, from admissions, to advancement to candidacy, and ultimately program completion, are assessed. The doctorate in Educational Leadership does not lead to certification as a superintendent (see Educational Specialist in Educational Leadership below).

As scholars, Doctors of Educational Leadership demonstrate content mastery. As researchers, Doctors of Educational Leadership demonstrate the application of content mastery through scholarly contributions reflecting the necessary dispositions and skills to successfully conduct meaningful education research. Finally, through guided practicum experiences, Doctors of Educational Leadership demonstrate their ability to use acquired knowledge, dispositions and skills as scholars and researchers in applied educational leadership settings.

### EdD Educational Leadership Standards

The Ed.D. in Educational Leadership is aligned with two sets of standards: The Idaho State University College of Education Standards for Advanced Professionals (described in the previous section), and the Doctor of Education in Educational Leadership Standards.

**Doctor of Education in Educational Leadership Standards:** The Doctor of Education in Educational Leadership Standards address the knowledge, dispositions, skills and strategies that frame successful educational leadership. They include: Organizational Development, Consultation, Diversity, Supervision, Managing Change, Applied Foundations, Technology, Research, Teaching and Learning Theory, and Leadership, Ethics and Communication.

### Admission Requirements

Admission to the Educational Leadership doctoral program is based on a rolling-cohort model. Cohorts cycle through approximately every three years. Screening of applications for cohort admission begins April 15th of the year in which a cohort is scheduled to begin the program. Outside the cohort, applications are invited on an ongoing basis. Non-cohort applications are reviewed fall, spring and summer. Every effort is made to support the doctoral program of study of non-cohort students.

At the time of application, the applicant must specify a single area of concentration (i.e., Educational Administration, Higher Education Administration). Should a student wish to change his or her area of concentration, he or she must reapply to the Graduate School for readmission to the doctoral program in Educational Leadership.

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, individuals applying for admission to the doctoral program in Educational Leadership will be reviewed using the following criteria for admission. Preference will be given to applicants who have:

1. A master's degree in education or a related field.
2. An academic record of at least 3.0 grade point average in the last two years of undergraduate course work and 3.5 grade point average at the graduate level.
3. For applicants submitting the MAT, as well as those with a Verbal GRE below 145, an on-site writing sample may be required.
4. A current curriculum vitae.
5. The Ed.D. Admission Checklist indicating competency in computer skills.
6. Successful completion of an interview with faculty in the area of proposed concentration (which may include an on-site writing experience).

International students whose native language is not English must comply with Graduate School admissions requirements. Additional language-based course work may be required of international students whose native language is not English.

### General Requirements

The Doctor of Education in Educational Leadership requires a minimum of 65/66 semester credits of course work: For Educational Administration 25 credits in the doctoral core, and a minimum of 30 credits in the area of concentration. For Higher Education Administration 17 credits in the doctoral core and 39 credits in the area of concentration, including 6 credits of electives. Both emphases include 9 credits of graduate-level cognate study, and at least 10 credits of dissertation. The Educational Leadership program defines cognate study as a planned set of courses, 5500-level and above, outside the student's concentration area, taken within the College of Education or outside it. Cognate study is to be determined prior to cognate course enrollment, in consultation with the student's advisor.

Of the 65/66 semester credits required for the Ed.D. in Educational Leadership, at least 30 semester credits of course work must be taken at Idaho State University. Dissertation credits may not be transferred from another institution.

Students are required to maintain continuous enrollment in at least one semester credit of work each semester (including summers) from matriculation to completion of the program including completion of the dissertation and oral defense. Failure to maintain continuous enrollment can result in dismissal from the program.

Students must maintain a 3.2 grade point average to qualify for the Doctor of Education. Two grades of C+ or below during the entire program will result in admissions status review, with the possibility of dismissal.

### Final Program of Study

Tentative programs of study may be drafted upon program entry with the help of the student's advisor. The final program of study must be submitted with the Comprehensive Examination Notice of Intent and routed through the student's advisor, the Department, and the Dean of the College of Education. Upon submission of the final program of study to the Dean of the Graduate School, the Dissertation Committee, including the Graduate Faculty Representative, is established and the student is advanced to candidacy.

### Comprehensive Examination

The comprehensive examination is a significant aspect of the student's total doctoral program. The written examination is normally administered during or immediately following the last semester in which the student is engaged in formal course work.

The comprehensive examination has, as its overall objective, the assessment of the student's knowledge, understanding, and skills as they relate to the field of educational leadership. Examination guidelines are provided in the Ed.D. Handbook.

### Dissertation and Oral Defense

Upon successful completion of the comprehensive examination and approval of the dissertation proposal by his or her Dissertation Committee, the student is authorized to complete the dissertation in preparation for the final oral defense.

### Required Courses

The Doctor of Education in Educational Leadership requires a minimum of 61/66 semester credits of course work. Both the Education Administration and Higher Education Administration doctoral degrees require 18 credits in the doctoral core. A minimum of 24 credits in the area of concentration are required for the Ed.D. in Education Administration. The Doctor of Education in Higher Education Administration requires 24 credits in the area of concentration and 3 elective credits of electives. Both emphases require 9 credits of cognate study (determined in consultation with the student's advisor and concentration area) at the graduate level (5500 or above), and at least 10 dissertation credits. The student may select from the following areas of emphasis: Education Administration or Higher Education Administration.

#### Doctoral Core (18 credits)

EDLP 7700 Change Strategies (A&B)	3 cr
EDLP 7701 Advanced Statistics in Or approved equivalent or Alternative	3 cr
EDLP 7703 Leadership & Organizational Development	3 cr
EDLP 7705 Advanced Research Design (qualitative)	3 cr
EDLP 7706 Advanced Research Design (quantitative)	3 cr
EDLP 8800 Seminar (A&B)	1 cr
EDLP 8801 Capstone Seminar (A)	1 cr
EDLP 8830 Comprehensive Examination#	1 cr
#Requires completion of all core, concentration, and cog- nate courses	

#### Area of Concentration: (Students select one of the following emphasis areas)

##### Educational Administration (24 credits)

EDLA 6643 School Personnel Administration	3 cr
EDLA 6662 Superintendency	3 cr
EDLA 6664 Public School Monetary and Business Policy	3 cr
EDLA 7720 Legal and Ethical issues in Education Organizations	3 cr
EDLA 7721 Educational Policy and Governance	3 cr
EDLA 7723 Educational Planning and Evaluation	3 cr
EDLA 7724 Data-Informed Instructional Leadership	3 cr
EDLA 7737 Practicum	6 cr

##### Higher Education Administration Concentration Courses (24 credits)

EDLH 7730 History and Philosophy of Higher Education	3 cr
EDLH 7731 Law in Higher Education	3 cr
EDLH 7732 College and University Curriculum	3 cr
EDLH 7733 Finance in Higher Education	3 cr
EDLH 7734 Issues/Trends in Higher Education	3 cr
EDLH 7736 Instructional Leadership and Faculty Affairs in Higher Education	3 cr
EDLH 7737 Practicum	3 cr
EDLH 7738 Assessment and Accountability in Higher Education	3 cr

##### Higher Education Administration Electives (3 credits)

COUN 6680 Foundations of Student Affairs	3 cr
EDLA 6630 Education Equity and Ethics	3 cr
EDLC 7730 The Modern Community College	3 cr
EDLH 7735 Government and External Relations	3 cr
EDLH 7739 Higher Education Leadership: Strategies and Enrollment Planning, Governance, and Institutional Research	3 cr

All Doctor of Education students must complete the following cognate and dissertation requirements.

#### Cognate Study (9 credits)

Must be graduate level credits (5500 or above) determined prior to cognate study enrollment in consultation with the student's advisor and confirmed by concentration area review.

#### Dissertation (10 credits)

EDLP 8850 Dissertation*	10 cr
*Requires successful completion of EDLP 8830	

## Doctor of Philosophy in Instructional Design

The Doctor of Philosophy (Ph.D.) in Instructional Design degree prepares students to assume positions of leadership in instructional design, research, measurement, or evaluation. Graduates direct instructional design, research, measurement or evaluation projects as faculty at colleges and universities, in private or public institutions, or work as individual consultants.

While research is an integral component of the Instructional Design Ph.D. program, candidates are provided primarily with courses and experiences preparing them to function more effectively as leaders in guiding instruction to meet specific educational outcomes.

### Admission Requirements

Admission to the Instructional Design Ph.D. program is based on a cohort model. Cohort cycles depend on the start date of the particular cohort (contact department chair for specific

ic details). However, there is a specific sequencing of curriculum, and this may strongly influence the start date of a particular cohort. Applications for cohort admission are accepted at any time, in accordance with the deadlines set by the Graduate School. Every effort is made to accommodate the doctoral program of study for non-cohort students who enroll in full-time doctoral studies. In addition to the Graduate School general requirements, individuals applying for admission to the Instructional Design Ph.D. program will be reviewed using the following criteria for admission. Preference will be given to applicants who have:

1. A master's degree in instructional technology, instructional design, or a related field.
2. An academic record of at least 3.0 Grade Point Average (GPA) in the last two years of undergraduate course work and 3.5 GPA at the graduate level.
3. A minimum of 40th percentile on both the Verbal and Quantitative Reasoning portions of the GRE. One of these scores must be at or above the 50th percentile. Alternatively, an MAT score at the 45th percentile or higher may be substituted for the GRE.
4. Submitted a current curriculum vitae.
5. Submitted a letter of application that makes clear the candidate's interest in, and suitability for, this program.
6. Successfully interviewed with faculty from the Graduate Department of Educational Leadership and Instructional Design.
7. Successfully completed a proctored writing sample.
8. In addition to the above, international students must meet Graduate School requirements for admission, including evidence of English language capabilities at the graduate studies level.

### General Requirements

The Doctor of Philosophy in Instructional Design requires a minimum of 67 semester credits, 12 credits in Instructional Design Core Studies, 30 credits in the Instructional Design Specialty area, 15 credits in Research and Statistics, and at least 10 credits of dissertation. Of the 67 semester credits required for the Ph.D. in Instructional Design, at least 30 semester credits of course work must be taken at Idaho State University. Dissertation credits may not be transferred from another institution.

Upon initial enrollment, all Instructional Design Ph.D. students will be required to maintain continuous enrollment, with at least one semester credit of work each semester (including summers) from matriculation to completion of the program, including comple-

tion of the dissertation and oral defense. Failure to maintain continuous enrollment can result in dismissal from the program.

A GPA less than 3.5 in the program or two grades of C+, or below, will result in the Graduate Department of Educational Leadership and Instructional Design reviewing the student's performance within the program. The result of this review may lead to dismissal. Any additional grading policies are set by the Graduate School.

### Program of Study

A Program of Study will be drafted during the first semester of course work. This plan of study will be filed with the Graduate School. Programs of Study will be updated each semester. A current Program of Study must be submitted with the Comprehensive Examination Notice of Intent and routed through the student's advisor, the Department, and the Dean of the College of Education. Upon successful completion of the comprehensive examination, the Dissertation Committee, including the Graduate Faculty Representative (GFR), is established and the student is advanced to candidacy.

All doctoral requirements must be completed within five years of passing the Comprehensive Examination. Doctoral students must also meet appropriate residency requirements.

### Doctor of Instructional Design Program Course Work

All course work is subject to the approval of the student's academic advisor, Instructional Design Ph.D. program leader, and program faculty. Courses that meet the program requirements are listed on the Instructional Design PhD web site and in the program handbook.

#### Instructional Design Core Studies (12 credits)

The intent of the core area is to promote essential competencies of Instructional Design, including communication, learning theory, implementation, assessment, and management. A prerequisite for the core curriculum includes EDUC 6602 or demonstration of equivalent knowledge.

#### Advanced Research and Statistics for Instructional Design (15 credits)

The intent of this area is to provide depth of knowledge of quantitative and qualitative research designs and the statistical procedures that support them. Candidates will complete courses in advanced quantitative research design, qualitative research design, intermediate statistics, and advanced statistics, as well as one additional course that provides depth of

knowledge in a particular area of research design or statistics. Prerequisites for the research curriculum include EDUC 6601, EDUC 6610, or demonstration of equivalent knowledge.

#### Instructional Design Specialty Area (30 credits)

The intent of the Instructional Design Specialty Area is to provide depth of knowledge and skills applicable to a wide array of professional contexts. Practical application and research in current and emerging learning technologies are emphasized. Instructional Design Specialty Area courses meet advanced standards in planning and analysis; design and development; and implementation, assessment, and management.

#### Dissertation (10 credits)

A minimum of 10 semester credits for dissertation work is required. Please note that some students may require more than 10 semester credits in order to successfully complete the dissertation investigation.

#### Points of Assessment

Candidates in the Ph.D. in Instructional Design complete two examinations during the program of study, the Qualifying Examination and the Comprehensive Examination. The Qualifying Examination assesses the candidate's capability to analyze and synthesize Instructional Design Specialty, Core, and Research content. A passing score on the Qualifying Examination is required in order to continue in the program. The Comprehensive Examination is taken after the completion of all coursework and the Instructional Design practicum. It is a significant aspect of the student's total doctoral program and provides evidence that the candidate meets advanced Instructional Design standards. A passing score on the Comprehensive Examination is required in order to continue in the program.

#### Dissertation and Oral Defense

Upon successful completion of the Comprehensive Examination and approval of the dissertation proposal by his or her Dissertation Committee, the student is authorized to complete the dissertation in preparation for the final oral defense.

## Educational Specialist in Educational Administration

A program for advanced work in educational administration leading to an educational - specialist certificate.

Applicants will enter the program after completion of the master's degree in Educational Administration. Completion of the educational specialist program will require a minimum of 30 semester credit hours beyond the master's degree with an accumulated GPA of 3.5 during the specialist program. Students with a master's degree in areas other than administration may be required to take additional work equivalent to that required in the administration degree and must meet initial administrative certification.

### EdS Educational Leadership Standards

The Education Specialist in Educational Administration curriculum is aligned with three separate but related sets of standards: The Idaho State University College of Education Standards for Advanced Professionals (described previously), the Interstate School Leaders Licensure Consortium (Standards for School Leaders), and the Idaho State Department of Education's requirements for an Administrator Certificate with the Superintendent endorsement. All sets of standards align and overlap with each other.

**Interstate School Leaders Licensure Consortium:** Codified in 1996, these standards were drafted by personnel from 24 state education agencies and professional associations. These standards represent best practice model standards for school leaders. They represent a common core of knowledge, dispositions and performance skills developed to link leadership more forcefully to productive schools and enhance educational outcomes. The standards include: Facilitating a Vision, School Culture & Instructional Program, Management, Collaboration with Families & Communities, Integrity, Ethics & Fairness, and Political, Social, Economic, Legal and Cultural Context.

#### Idaho State Department of Education Administrator Certificate with the Superintendent Endorsement

These standards address competencies determined by the State of Idaho to be necessary for effective school (district level) leadership (i.e., the superintendency). These standards include: Advanced School Finance, Grant Writing & Revenue Generation, Policy Development & School Board Relations, District Wide Support Services, Employment Practices & Negotiations, Educational Product Marketing & Community Relations, and Special Services & Federal Programs. Superintendent level certification endorsement can be a student outcome through this curricular/standards alignment.

### Admission Requirements

For admission to the Educational Specialist



program the student must apply to, and meet all criteria for, admission to the Graduate School. The student must also provide a letter of reference verifying five years of successful teaching and/or administration experience AND a letter from his/her supervisor attesting to the student's school administration potential. (Administration experience must comprise at least one year).

A student who does not meet these requirements upon application may be admitted as Classified w/PR, and must complete all requirements for admission during the first semester of enrollment. Exceptions may be petitioned to a committee of educational administration faculty and the Department Chair.

## General Requirements

The Education Specialist program requires a minimum of 31 credits, distributed as listed below to complete. Students must complete the minimum semester hours identified in each area. The courses used to meet the minimum requirements may be taken during the master's degree or educational specialist program. In general, the program of study for the Education Specialist in Education Administration is as follows:

### Pre-Requisite

EDUC 6610 Applied Educational Statistics 3 cr  
The student must have successfully completed a master's level education statistics course within five (5) years prior being accepted into the program or during the first semester of coursework in the Ed.S. program for which credit will NOT be counted toward degree.

### Education Administrative Concentration Courses (21 credits)

EDLA 6643 School Personnel Administration	3 cr
EDLA 6662 Superintendency	3 cr
EDLA 6664 Public School Monetary and Business Policy	3 cr
EDLA 7720 Legal and Ethical issues in Education Organizations	3 cr
EDLA 7721 Educational Policy and Governance	3 cr
EDLA 7723 Educational Planning and Evaluation	3 cr
EDLA 7724 Data-Informed Instructional Leadership	3 cr

### Electives (6 credits)

Students may select from courses offered in the doctoral program or as determined in consultation with their academic advisor.

### Field Experience (4 credits)

EDLA 6637 Practicum	3 cr
EDLA 7751 Case Study	1 cr

# Master of Education with Educational Administration Emphasis

The curriculum in the Masters of Education

with Educational Leadership Emphasis is designed to strengthen the student's understanding, knowledge, and skills in Core Professional Studies and Educational Leadership as they relate to building level leadership.

## Master of Education Educational Leadership Standards

The Masters of Education with Educational Leadership Emphasis curriculum is aligned with three separate but related sets of standards: The Idaho State University College of Education Standards for Advanced Professionals (described previously), the Interstate School Leaders Licensure Consortium (Standards for School Leaders described previously), and the Idaho State Department of Education's Principalship Certification Standards. All three sets of standards align and overlap with each other.

### Idaho State Principalship Certification Standards:

These standards address competencies determined by the State of Idaho to be necessary for effective school (building) level leadership (i.e., the principalship). Standards must be met through graduate level course work in school administration for the preparation of school principals at an accredited college or university. The standards include: Vision & Strategic Leadership, Instructional Leadership, Management & Organizational Leadership, Family & Community Partnerships, Professional & Ethical Leadership, and Governance & Legal Leadership. Principal level certification endorsement can be a student outcome through this curricular/standard alignment.

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, individuals applying for admission to the Master of Education with Educational Leadership Emphasis will be reviewed using the following criteria. Preference will be given to applicants who meet or exceed these criteria:

1. Bachelor's degree from a college or university accredited in the United States or its equivalent from a school in another country.
2. Grade point average of 3.0 or higher for all upper division credits taken at the undergraduate level.
3. Submission of GRE or MAT scores.
4. One year of pre-K-12 teaching experience or documentation of equivalent experience.
5. Submission of admission forms and application fee to the Graduate School.

Students must complete a minimum of 31 semester credit hours for the Master of Education with Educational Leadership Emphasis. Students will complete a 540-hour internship; hours are specified at the elementary, middle school, and high school levels. At least 3 internship credits are required. Candidates enroll in 3 credits during their first semester of internship work and thereafter maintain continuous enrollment of at least 1 credit/semester until internship hours are completed. Candidates completing a thesis will orally defend the thesis. Candidates not completing a thesis will be required to complete a case analysis and pass an oral examination.

Students seeking Idaho certification in the area of their training must meet requirements of the State Board of Education for certification. It is recommended that students pursuing the Master of Education with Educational Leadership Emphasis have professional experience in an educational context.

### Required Core Professional Studies

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr

### Leadership Foundation Studies

EDLA 6608 Organizational Leadership and Education Administration	3 cr
EDLA 6612 School Law, Governance and Ethics	3 cr
EDLA 6615 Supervision and Instructional Leadership	3 cr

### Leadership Specialty Studies (School Principal)

EDLA 6609 Principalship	3 cr
EDLA 6614 Curriculum, Instruction, and Assessment	3 cr
EDLA 6642 School Culture and Community	3 cr

### Integrative Field Research Studies (Either 6650 or 6651 and 6657)

EDLA 6650 Thesis	1-6 cr
EDLA 6657 Internship *#	1-3 cr
OR	
EDLA 6651 Case Study/Field Project	1 cr
EDLA 6657 Internship *#	1-3 cr

\*Minimum of 3 credits required. Three (3) credit enrollment first semester, thereafter at least one (1) credit per semester continuous enrollment until completed.  
#Students must complete two (2) of the following three (3) courses as a prerequisite to admission to EDLA 6657 (Internship): EDLA 6608; EDLA 6612; and/or EDLA 6615.

# Master of Education in Instructional Technology

The M.Ed. in Instructional Technology prepares educators to greater depth technology integration and in this way influences directions in online and classroom-based instruction. The program is designed to strengthen the student's understanding, knowledge, and

skills in three major areas—Pedagogy, Educational Core, and Technology Content — as they relate to teaching in K-20 contents .

Applicants enter the program after completion of the bachelor's degree and will complete a minimum of 36 semester credit hours for the Master's degree. Students seeking Idaho certification in the area of their training must meet any requirements of the State Board of Education for certification. It is recommended that students pursuing the Master of Education degree in Instructional Technology have professional experience in an educational context.

1. The advanced technology education professional, through the core curriculum, is expected to be aware of: theories of learning in education, research in education, the integration of technology in the elementary/secondary curriculum, and statistics that permit analyzing and interpreting student data.
2. The advanced technology education professional is expected to extend his/her technology subject matter knowledge and expertise.
3. The advanced technology education professional is expected to be aware of testing, measurement, and assessment as it relates to the integration of technology in the K-16 curriculum.
4. The advanced technology education professional is expected to utilize the knowledge of technology in specific applications and assessments within the educational methods curriculum.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Education in Instructional Technology must meet all college requirements for admission and retention. A letter of application must also be sent directly to the department.

### General Requirements

#### Core Professional Studies (12 credits)

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr
EDLT 6616 Integration of Technology into School Curriculum	3 cr

#### Educational Pedagogy (12 credits)

EDLT 6621 Issues and Trends in Instructional Technology	3 cr
EDUC 6622 Educational Assessment and Evaluation	3 cr
EDLT 6626 Instructional Technology and Staff Development	3 cr
EDLT 6655 Fundamentals of Instructional Design	3 cr

#### Technology Content (12 credits)

EDLT 6639 Delivering Instruction in Electronic Formats	3 cr
EDLT 6656 Fundamentals of Multimedia Development in Education Electives	3 cr 6 cr

## Department of Educational Foundations

Interim Chair & Associate Professor: Mercaldo

Professors: Denner, Jenkins, Ray, Sanger

Associate Professors: Mercaldo

Assistant Professors: Bennett, Ntuli

Lecturers: Lin

## Master of Education in Elementary Education

The 30-credit minimum non-thesis Master's degree in Elementary Education is a combination of pedagogy and content; designed for the elementary school teacher. This degree will permit the practicing teacher to acquire greater depth in STEM (or single subject mathematics, geology, physical science, or biology), ESL/ TESOL, foreign language, English/language arts, history/social science, or another Idaho SBOE approved elementary certification or endorsement area.

1. The advanced elementary education professional, through the core curriculum and other course work, is expected to meet the core standards for advanced professionals.
2. The advanced elementary education professional is expected to meet Idaho Core Teacher Standards and National Board for Professional Teaching Standards Core Propositions.
3. The advanced elementary education professional is expected to extend their subject matter depth in STEM, (or single subject mathematics, geology, physical science, or biology), ESL/ TESOL, foreign language, English/language arts, history/social science, or another Idaho SBOE approved elementary subject matter content certification or endorsement area.
4. The advanced elementary education professional is expected to utilize the knowledge of subject area concentration in specific applications and assessments within the educational methods curriculum.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Education in Elementary Education must meet all college requirements for admission and retention.

Those include previous teaching experience or current certification to teach in Idaho or another state.

### General Requirements

#### Educational Core (A minimum of 9 credits)

EDUC6601 Research and Writing	3 cr
EDUC6602 Theories of Learning	3 cr
EDUC6610 Applied Educational Statistics	3 cr

#### Educational Pedagogy (A minimum of 6 credits)

Select a minimum of 6 credits from the list below:

EDLT6616 Integration of Technology into School Curriculum	3 cr
EDUC6622 Educational Assessment And Evaluation	3 cr
EDUC6630 Advanced Elementary Methods	3 cr
EDUC6641 Advanced Studies in K-12 Curriculum	3 cr

Or another advisor approved EDUC elective

#### Capstone Course (3 credits)

EDUC6670 Seminar in Elementary Education	3 cr
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#### Content Area (12 credits)

Applicants are instructed to see their education advisor for an outline of the 12 hours of approved electives from among graduate-level courses in STEM (or single subject mathematics, geology, physical science, or biology), ESL/ TESOL, foreign language, English/ language arts, history/social science, or another subject matter content certification or endorsement area. NOTE: For the STEM content designation to be earned additional content hours across the STEM disciplines is required. Check with your academic advisor to obtain a current list of approved STEM courses.

NOTE: At least 15 credits of 6600-level course work must be completed for this degree program.

## Master of Education in Secondary Education

The 30-credit minimum non-thesis Master's degree in Secondary Education is a combination of pedagogy and content; designed for the secondary school teacher. This degree will permit the practicing teacher to acquire greater depth in STEM, (or single subject mathematics, geology, physical science, or biology), ESL/ TESOL, foreign language, English/ language arts, history/social science, or another Idaho SBOE approved secondary subject matter content certification or endorsement area.

1. The advanced secondary education professional, through the core curriculum and other course work, is expected to meet the core standards for advanced professionals.

- The advanced secondary education professional is expected to meet Idaho Core Teacher Standards and National Board for Professional Teaching Standards Core Propositions.
- The advanced secondary education professional is expected to extend their subject matter depth in STEM, (or single subject mathematics, geology, physical science, or biology), ESL/TESOL, foreign language, English/language arts, history/social science, or another Idaho SBOE approved elementary subject matter content certification or endorsement area.
- The advanced secondary education professional is expected to utilize the knowledge of subject area concentration in specific applications and assessments within the educational methods curriculum.

**Admission Requirements**

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Education in Secondary Education must meet all college requirements for admission and retention. Those include previous teaching experience and/or current certification to teach in Idaho or another US state.

**General Requirements**

**Educational Core (A minimum of 9 credits)**

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr

**Educational Pedagogy (A minimum of 6 credits) Select a minimum of 6 credits from the list below:**

EDLT 6616 Integration of Technology into School Curriculum	3 cr
EDUC 6622 Educational Assessment and Evaluation	3 cr
EDUC 6631 Advanced Secondary Methods	3 cr
EDUC 6641 Advanced Studies in K-12 Curriculum	3 cr
Or another advisor approved EDUC elective	

**Capstone Course (3 credits)**

EDUC 6671 Seminar in Secondary Education	3 cr
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**Content Area (12 credits)**

Applicants are instructed to see their education advisor for an outline of the 12 hours of approved electives from among graduate-level courses in STEM, (or single subject mathematics, geology, physical science, or biology), ESL/TESOL, foreign language, English/language arts, history/social science, or another Idaho SBOE approved secondary subject matter content certification or endorsement area. NOTE: For the STEM content designation to be earned additional content hours across the STEM disciplines is required. Check with your academic advisor to obtain a

current list of approved STEM courses.

NOTE: At least 15 credits of 6600-level course work must be completed for this degree program

**Master of Education in K-12 Education Music Education 36 Credits (Music content listed below)**

The M Ed in Music Education is a degree program housed in the College of Education and presented in collaboration with the Department of Music. For admission into this program, apply first to the College of Education Department of Educational Foundations. The Master of Education in Music Education is designed to strength the student’s understanding, knowledge, and skills in three major areas—Core professional Studies, Specialty Studies, and Integrative Field Research Studies—as they relate to music education. The program is designed to meet the needs of music education specialists who work in the public school system (grades K-12), or who aspire to further graduate study and teaching in music education.

**Admission Requirements**

The student must apply to and meet all criteria for admission to the Graduate School. In addition, applicants for the Master of Education in K-12 Education must meet all college requirements for admission and retention.

Individuals applying for admission to the Master of Education in Music Education, must meet the following admission requirements:

- Bachelor’s degree in music from a regionally accredited college or university.
- It is expected that students will meet basic requirements for public school certification.
- Completion of entrance examinations in music history and music theory. Students whose examination indicate deficiencies will be granted Classified (w/PR) Status. Any course used to remove deficiencies does not count toward the degree. When deficiencies have been removed, the student may seek Classified Status.

**General Requirements**

Students complete a minimum of 36 semester credit hours for the Master’s degree. Students seeking Idaho Certification in the area of their training must meet any requirements of the State Board of Education for certification. It is recommended that students have professional experience in an education context.

**Educational Core (12 credits)**

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr

EDUC 6610 Applied Educational Statistics	3 cr
EDLT 6616 Integration of Technology into School Curriculum	3 cr

**Pedagogy and Content (24 credits)**

MUSC 5515 Seminar in Band Music	2 cr
OR	
MUSC 5516 Seminar in Choral Music	2 cr
MUSC 5517 Advanced Conducting	2 cr
MUSC 6601 Foundations in Music Education	3 cr
MUSC 6610 Practicum in Rehearsal Techniques	2 cr
MUSC 6671 Music Education Seminar	3 cr
Graduate Performance Ensemble (2 semesters)	2 cr
Music History/Theory Elective	2 cr
Music history Theory Elective	2 cr
Other Music Electives	6 cr
Total	36 cr

**Master of Education with Child and Family Studies Emphasis**

**Family Studies**

The goal of the Early Childhood Education and Intervention Program is to prepare professionals who have the necessary knowledge, dispositions, and abilities to:

1. Enhance learning and development of young children, with and without disabilities, between the ages of birth and third grade.
2. Establish collaborative relationships with families, and other professionals in ways that produce positive outcomes for young children.
3. View their own professional development as a lifelong endeavor.
4. Advocate for children, families, and the early childhood profession.

**Admission Requirements**

The candidate must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Education with Child and Family Studies Emphasis must meet all college requirements for admission and retention.

**General Requirements**

The Master of Education with Child and Family Studies Emphasis is designed to strengthen the student’s understanding, knowledge, and skills in three major areas—Core Professional Studies, Integrative Field Research Studies, and Specialty Studies—as they relate to Child and Family Studies. The student must select one of the following option areas for the Master of Education with Child and Family Studies Emphasis:

**Option areas:**

- Family Studies
- Early Childhood Education and Intervention

tion

Candidates enter the program after completion of the Bachelor's degree. All candidates completing a Master of Education with Child and Family Studies Emphasis must complete a written comprehensive examination and an oral examination; a case study/project OR a case study/project/internship combination, OR a thesis.

#### Required Core Professional Studies

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr

#### Integrative Field Research Studies

(must total 6 credits)

Either these two courses:

CFS 6647 Internship in Child and Family Studies	3 cr
CFS 6669 Case Study/Project in Child and Family Studies	3 cr
OR	
CFS 6669 Case Study/Project in Child and Family Studies	6 cr
OR	
EDUC 6650 Thesis	6 cr

#### Additional Requirements for Family Studies Option

CFS 5531 Family Resource Management	3 cr
CFS 5535 Relationships Within Families	3 cr
CFS 6600 Issues and Trends in Child and Family Studies	3 cr
CFS 6632 Theoretical Frameworks for Understanding Families	3 cr
CFS 6659 Seminar in Child and Family Studies	3 cr

Additional elective credits to total a minimum of 36 credit hours must be approved in advance by the student's major advisor.

#### Additional Requirements for Early Childhood Education and Intervention Option

CFS 5501 Foundations of Early Childhood Education	3 cr
CFS 6621 Learning and Development in Early Childhood Education	3 cr
CFS 6622 Curriculum in Early Childhood Education	3 cr
CFS 6642 Assessment in Early Childhood Education and Intervention	3 cr
CFS 6643 Curricular Adaptations and Intervention in Early Childhood	3 cr
CFS 6644 Working with Families in Early Childhood Education and Intervention	3 cr

Additional elective credits to total a minimum of 36 credits must be approved in advance by the student's major advisor.

## Department of School Psychology, Literacy, and Special Education

Chair and Associate Professor: Mercaldo

Associate Professor: Klug

Assistant Professor: Fan

Professor: Squires

The Department of Educational Learning and Development offers the following graduate degrees: Educational Specialist in School Psychology or Special Education, M.Ed. with Child and Family Studies Emphasis, M.Ed. with Literacy Emphasis, and M.Ed. in Human Exceptionality (Special Education or School Psychological Examiner).

## Educational Specialist in School Psychology or Special Education

The Ed.S. program is designed for persons who have completed a master's degree and wish to increase their skills for advanced certification requirements or other professional objectives. The Ed.S. level is the minimum preparation for school psychologists and directors of special education in most states. Further, the Ed.S. has become the intermediate degree for many professionals who supervise master's degree level personnel.

### Goals

The School Psychologist is a professional operating within the school system, collaborating with professional educators, students, parents, and the community-at-large to improve psychosocial and academic success of all students. Primary goals of the program are grounded in research-based best practices promulgated by the National Association of School Psychologists Standards for Training and Field Placement programs (NASP, July, 2000). These standards represent an integrated and comprehensive model by which program content and experiences provided to school psychologists in training may be effectively organized and provided. These goals are:

1. **Diagnostic Goal.** The school psychologist will select, administer and interpret the results of various psychological instruments designed to evaluate a broad spectrum of human traits and characteris-

tics, and make specific recommendations to provide insight and direction in dealing with the problem situation.

2. **Intervention Goal.** The school psychologist will provide direct service to students in such areas as academic skills and performance, life and social skills, social-emotional and behavioral disorders and conditions.
3. **Consultation Goal.** The school psychologist will consult with administrators, teachers, other professionals, and parents, regarding a wide variety of psychosocial, behavioral, academic and social-emotional problems affecting educational performance and life success.
4. **Research Goal.** The school psychologist will gather and analyze data in a systematic way utilizing experimental, developmental psychology, and statistical skills and competencies for contributing to existing knowledge in his or her field.
5. **Problem Solving Goal.** The school psychologist will act as a problem-solver, trained in using systematic methodologies of identifying and defining problems/concerns, determining best practice interventions and applying them, and using data-based decision-making to ascertain the impact upon presenting problems and concerns of the student.

### Admission Requirements

Candidates for the Educational Specialist in School Psychology or Special Education degree must meet all college and university requirements for admission and retention. The student must hold a master's degree in the area of the chosen Ed.S. major. Master's degree majors in a closely related field may be approved upon recommendation of the selection committee.

### General Requirements

The student must complete 64 credits in Special Education or 66 credits in School Psychology, including the master's degree and a specialist paper. All post-master's degree course work must be taken from members of the Idaho State University graduate faculty or be approved in advance by the graduate faculty. A minimum grade point average of 3.0 (B) is required over all course work taken in the Ed.S. program. An oral examination covering the specialist paper, portfolio, and/or relevant topics is required.

### Time Requirement

All requirements for the Ed.S. must be completed within a period of five years from the date of completion of the first post-master's degree course to be applied toward the degree.

**Specific Requirements:****School Psychology Major**

The Ed.S. in School Psychology is designed to be consistent with the minimal entry-level requirements in the field of school psychology as presented by the National Association of School Psychologists. A master's degree as a school psychological examiner or its equivalent is required. The Ed.S. is viewed as a practitioner's degree and will focus on applied activities.

**Course Requirements**

SCPY 6615 Advanced Child Psychology	3 cr
SCPY 6616 Psychological Assessment	3 cr
SCPY 6652 Specialist Paper	1-3 cr
SCPY 6662 Consultation in the Schools	3 cr
SCPY 6663 Clinical and Diagnostic Interviewing In Schools	3 cr
SCPY 6664 Neurocognition and Learning	3 cr
SCPY 6665 Clinical School Psychology	3 cr
SCPY 6669 Advanced Practicum in School Psychology	6 cr
SCPY 7759 Ed.S. Internship	6 cr

**Additional Requirements**

Students will also prepare a School Psychology Portfolio. The Portfolio will be presented and defended in the Oral Examination.

**Special Education Major**

The following course work is required:

- A minimum of 21 credits in special education course work at or above the 6600 level (including administration of special education), of which 6 credits are in the supervision of clinical practicum in special education and 3 credits are in internship in special education.
- Behavioral sciences and/or education/school psychology, 9 credits.
- Educational Specialist Paper in Special Education, SPED 6652, 1-3 credits. The number of credits will be determined by the advisor and student.

**Master of Education with Literacy Emphasis**

- The Literacy specialist understands the related nature of reading, writing, listening, speaking, and viewing and that literacy is a process of constructing meanings. These meanings begin with personal knowledge.
- The literacy specialist understands the importance of building on strengths of individual learners rather than emphasizing needs.
- The literacy specialist is able to support and expand student expression in speaking, writing, and creative art forms across subject matter areas.
- The literacy specialist is able to conduct

assessment that involves multiple indicators of student progress and develop an instructional plan based on these indicators.

The Master of Education with Literacy Emphasis is designed to strengthen the student's understanding, knowledge, and skills in three major areas—Core Professional Studies, Specialty Studies, and Integrative Field Research Studies—as they relate to literacy education.

**Admission Requirements**

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, students for the Master of Education with Literacy Emphasis must meet all college requirements for admission and retention.

Individuals applying for admission to the Master of Education with Literacy Emphasis must meet the following admission requirements:

- Bachelor's degree from a college or university accredited in the United States or its equivalent from a school in another country.
- Grade point average of 3.0 or higher for all upper division credits taken at the undergraduate level.

**General Requirements**

Candidates must complete a minimum of 33 semester credit hours for the Master of Education with Literacy Emphasis. They must complete EDUC 4419 Developmental Literacy or the Idaho Comprehensive Literacy Assessment. All candidates completing a thesis will orally defend the thesis, but will not complete written comprehensive examinations. All candidates not completing a thesis will be required to pass both a written comprehensive examination and an oral examination.

Candidates seeking Idaho certification in the area of their training must meet any requirements of the State Board of Education for certification. It is recommended that students pursuing the Master of Education with Literacy Emphasis have professional experience in an educational context.

**Required Core Professional Studies**

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr

**Specialty Studies**

EDUC 5519 Developmental Literacy	3 cr
EDUC 5524 Assessing Literacy	3 cr
EDUC 5526 Remediation of Literacy Problems	3 cr
EDUC 6632 Psychology of Literacy	3 cr
EDUC 6633 Language, Literacy, and Neurology	3 cr
EDUC 6634 Literacy: Multicultural Views	3 cr
EDUC 6635 Clinical Methods in Literacy	3 cr

**Integrative Field Research Studies**

EDUC 6650 Thesis	6 cr
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OR

EDUC 6651 Field Project/Case Study in Education	3 cr
EDUC 6652 Field Practicum in Education	3 cr

**Master of Education in Human Exceptionality**

The Master of Education in Human Exceptionality is designed to strengthen the student's understandings, knowledge, and skills in three major areas—Professional Studies, Specialty Studies, and Integrative Field Research Studies—as they relate to human exceptionalities. The student may select one of two options for the Master's degree in Human Exceptionality:

- Special Education**
- School Psychological Examiner**

- The special educator will understand the field as an evolving and changing discipline.
- The special educator will know and demonstrate respect for his/her students first as unique human beings and contributing members of the community.
- The special educator will understand the appropriate use of various types of assessments.
- The special educator will adapt general curriculum by using a variety of instructional strategies and positive behavior supports.
- The special educator will collaborate with colleagues, families, and agencies to develop inclusive communities.

**Admission Requirements**

Applicants for the Master of Education in Human Exceptionality must apply to, and meet all criteria for, admission to the Graduate School and all college requirements for admission and retention.

Individuals applying for admission to the Master of Education program in Human Exceptionality must meet the following admission requirements:

- Bachelor's degree from a regionally accredited college or university in the United States, or its equivalent from a school in another country.
- Grade point average of 3.0 or higher for all upper division credits taken at the undergraduate level.

**General Requirements**

Students completing a Master of Education in Human Exceptionality must complete both a written comprehensive examination and an oral examination.

**Professional Studies Core**

EDUC 6601 Research and Writing	3 cr
EDUC 6602 Theories of Learning	3 cr
EDUC 6610 Applied Educational Statistics	3 cr

**Additional Requirements for the Special Education Option**

The student must either have an undergraduate special education major or a 14-credit undergraduate core of special education course work including SPED 3330, SPED 3334, SPED 5523, SPED 5524, and SPED 5527. These courses will not be counted as part of the master's degree program. Persons seeking initial certification must also complete SPED 5529, SPED 5532, SPED 5538, SPED 546, and complete the Idaho Technology Portfolio assessment.

SCPY 6614 Diagnostic Evaluation of Learning Difficulties	3 cr
SPED 6630 Professional Development in Special Education	2 cr
SPED 6638 Practicum in Special Education	6 cr
SPED 6662 Consultation in the Schools	2 cr

In addition, elective credits to total a minimum of 33 semester credit hours for the Master's degree must be taken from relevant graduate-level courses. Elective credits must be approved in advance by the student's major advisor.

**Additional Requirements for the School Psychological Examiner Option****Specialty Studies in Psychological Examiner**

SCPY 6619 Individual Intelligence Testing	3 cr
SCPY 6657 Legal and Ethical Issues in School Psychology	2 cr
SCPY 6659 Multicultural Issues in School Psychology	2 cr
SCPY 6660 Seminar in School Psychology Elective credits approved by the School Psychology Program Chair	3 cr
SCPY 6672 Problem Solving Interventions in Schools	3 cr
SCPY 6673 Response to Intervention in Schools	3 cr
SCPY 6682 Cognitive Behavioral Interventions in Schools	3 cr

**Integrative Field Research Studies**

SCPY 6668 Practicum in School Psychology, LD, & Special Education	3 cr
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The deadline for submission of applications is July 1. Applications will be reviewed and degree-seeking students will continue to be admitted until program capacity is reached.

## Master of Education in Deaf Education

The Deaf Education program has an outstanding history of identifying, educating, and placing highly qualified individuals in educational programs for Deaf and hard of hearing children and youth in Idaho and neighboring states. These educators have been instrumental in helping intermountain states expand the

delivery of quality educational services to this school-age population in all educational settings. The Master of Education in Deaf Education is designed to strengthen the student's understanding, knowledge, and skills in four areas – Core Professional Studies, Specialty Studies, Integrated Field Research Studies, and Electives – as they relate to the education of children and youth who are Deaf and hard of hearing. This program is in alignment with the College of Education's other graduate programs in that it includes research components (i.e., Core Professional Studies and Integrated Field Research Studies), a teacher certification component (i.e., Specialty Studies), and a supporting area (i.e., Electives) that augments a student's undergraduate training.

**Admission Requirements**

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Education/in Deaf Education degree must meet all college requirements for admission and retention.

Admission requirements for individuals applying to the Master of Education in Deaf Education:

- Bachelor's degree from a regionally accredited college or university in the United States or its equivalent from a school in another country.
- Submit three letters of recommendation.

In that the mission of the Deaf Education program is to prepare individuals to become certified teachers of the Deaf, preference is given to individuals who have an undergraduate elementary, secondary, or special education major and who have American Sign Language skills. However, individuals without this background should consider applying after consulting their respective state department of education for details regarding teacher of the Deaf certification/licensure.

**General Requirements**

Students completing a Master of Education in Deaf Education must complete a minimum of 33 semester credit hours. Students seeking Idaho certification in the area of their training must meet the State Board of Education requirements for certification/licensure. Students seeking certification in their area of training from another state must meet the requirements of that state.

**Required Core Professional Studies**

EDUC 6601 Research and Writing	3 cr
EDUC6610 Applied Educational Statistics	3 cr

**Specialty Deaf Education Studies**

EDHH 5556 Psychosocial Aspects of Deafness	3 cr
EDHH 6609 Teaching Internship in Deaf Education	3 cr
EDHH 6627 Literacy Curriculum in Deaf Education	3 cr

EDHH 6628 Curriculum Organization in Deaf Education	3 cr
EDHH 6637 Philosophical/Theoretical Foundations of Deaf Education	3 cr
EDHH 6658 Teaching Language to the Deaf	3 cr
EDHH 6659 Teaching Academic Subjects to the Deaf	3 cr

**Integrative Field Research Studies**

EDHH 6651 Field Project/ Case Study in Deaf Education	3 cr
Electives	3 cr
Total	33 cr

Elective credits to total a minimum of 33 credits hours for the Master's must be taken from relevant graduate-level courses. Elective credits must be approved in advance by the student's major advisor. In certain situations a student's program of study might exceed 33 credits. The three most common situations are:

1. Applicants will be evaluated as to their teaching experience with Deaf/hard of hearing children: (a) those with three or more years of such teaching experience will be able to waive EDHH 6609 (3 credits) but will need to take added electives; (b) those who do not meet the three years teaching experience will need to take EDHH 6609 (3 credits).
2. Applicants who do not meet American Sign Language proficiency will need to complete appropriate coursework; verification can be established through various sign language quality assurance examinations (e.g, RID, NAD, or EIPA [3.5 or above] certification), or transcript verification.
3. Applicants who do not have appropriate coursework in communication sciences/disorders and audiology will be advised to take appropriate courses in order to meet teacher of the Deaf and hard of hearing standards as identified in state certification/licensing documents. A thorough examination of each applicant's transcript will be completed to determine what coursework the student has completed and what coursework is needed to complete the Master of Education in Deaf Education, as well as state certification/licensure requirements to become a teacher of the Deaf/hard of hearing.

# Department of Sport Science and Physical Education

Chair and Associate Professor: Appleby  
Professor: Lyons, Lester  
Associate Professor: Fitzpatrick  
Assistant Professors: Faure, Gauthier

The Department of Sport Science and Physical Education offers the Master of Physical Education/Athletic Administration degree at Idaho State University and through the Idaho State University-Boise State Cooperative Program. Master of Physical Education/Athletic Administration.

## The Master of Physical Education/ Athletic Administration

Administration is aligned with 2 sets of standards: The Idaho State University College of Education Standards for Advanced Professionals (described previously), and the National Association for Sport and Physical Education (NASPE) and the North American Society for Sport Management (NASSM) Standards.

**NASPE-NASSM Content Standards:** The NASPE-NASSM standards for Master's Degree Programs in Sport Management address eight specific areas that include the following: Management, Leadership and Organization in Sport; Research in Sport; Legal Aspects of Sport; Marketing in Sport; Sport Business in the Social Context; Financial Management in Sport; Ethics in Sport Management; and Field Experience in Sport Management.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Physical Education/Athletic Administration degree must meet all college requirements for admission and retention. Individuals applying for admission to the Master of Physical Education/Athletic Administration program will be reviewed using the following criteria. Preference will be given to applicants who meet or exceed these criteria.

- Bachelor's degree from a regionally accredited college or university in the United States or its equivalent from a school in another country.
- Grade point average of 3.0 or higher for all upper division credits taken at the

undergraduate level.

In addition, the Department of Sport Science and Physical Education requires that the applicant shall have had the necessary background in tests and measurements, and a knowledge of statistical procedures. Both a thesis and non-thesis option are available.

### General Requirements

Students must complete a minimum of 33 semester credit hours for the Master of Physical Education/Athletic Administration degree. Students completing a thesis will orally defend the thesis, but will not complete written examinations. Students not completing a thesis will be required to pass both a written examination and an oral examination.

All students must document professional experience in an athletic setting either by prior athletic administrative experience (minimum of one year) or by completing an approved internship for credit while completing the MPE/AA program.

### Course Requirements

PE 6605 Leadership and Administration	3 cr
PE 6615 Philosophy and Principles of Athletics in Education	3 cr
PE 6631 Athletics and The Law	3 cr
PE 6635 Management Aspects of Athletics	3 cr
PE 6640 Research and Writing	3 cr
PE 6649 Issues in PED and Athletic Administration	3 cr

### Thesis Option

PE 6650 Thesis	6 cr
IN ADDITION: Approved Electives	9 cr

### Non-Thesis Option

PE 6610 Advanced Sport Psychology	3 cr
PE 6645 Sports Medicine	3 cr
IN ADDITION: Approved Electives	9 cr

## The Master of Science in Athletic Training

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, applicants for the Master of Science in Athletic Training degree must meet all college requirements for admission and retention. This is a limited enrollment program. Individuals applying for admission to the Master of Science in Athletic Training program will be reviewed using the following criteria:

1. Application and acceptance by ISU Graduate School
2. Cumulative G.P.A. (minimum of 2.75)
3. GRE/MAT score guidelines posted in the SSPE Graduate handbook
4. Successful completion of the following required prerequisite courses with a grade of

“C” or better in each course:

- a. Anatomy and Physiology (1 year equivalent)
  - b. Care and Prevention of Athletic Injuries (or equivalent)
  - c. Neuroscience (Recommended)
  - d. General Nutrition or Sports Nutrition
  - e. Exercise Physiology
  - f. Biomechanics
  - g. Sport Psychology (or other approved upper division Psychology course)
5. Evidence of current First Aid/CPR/AED for Health Care Provider certifications
  6. An essay describing applicants interest in and goals related to Athletic Training
  7. Two letters of Recommendation (one must be from a faculty member)
  8. Personal Interview

Preference will be given to applicants who meet or exceed these criteria. Applicants must undergo a criminal background check and have current immunizations, listed in handbook. Criminal background checks must be done through ISU Public Safety at the applicant's expense. Conviction of a felony or other serious offense will likely result in denial of placement for the clinical assignments, and consequently affect the student's standing in the program.

Additional program information is available at [www.isu.edu/sspe](http://www.isu.edu/sspe) website.

### General Requirements

Students must complete a minimum of 48 semester credit hours for the Master of Science in Athletic Training degree. Students completing the degree will be required to complete a two-year sequence of courses which will include a 5-course sequence of clinical education and culminate in a 3 credit capstone project that will challenge the student to summarize their learning experiences through the presentation and defense of a case study before an examining committee.

Upon Graduating, ISU's MSAT students will be eligible for national board examination (administered nationally by the Board of Certification-BOC). Only those students graduating from a CAATE accredited program are eligible to take the BOC exam.

### Course Requirements

AT 6600 Foundations of Athletic Training	3 cr
AT 6602 General Medical Assessment	3 cr
AT 6604 Physical Assessment of the Lower Extremities	3 cr
AT 6606 Traumatic Brain Injury and Neurological Assessment	3 cr
AT 6608 Physical Assessment of the Upper Extremities	3 cr
AT 6610 Pathophysiology and Therapeutic Modalities	3 cr
AT 6612 Conditioning & Therapeutic Exercise	3 cr

AT 6614 Professional Issues in Athletic Training	3 cr
AT 6640 Research Methods in Athletic Training	3 cr
AT 6645 Org. and Admin. of Athletic Training	3 cr
AT 6651 Masters Project	3 cr
AT 6661 Clinical Experience in Athletic Training I	3 cr
AT 6662 Clinical Experience in Athletic Training II	3 cr
AT 6663 Clinical Experience in Athletic Training III	3 cr
AT 6664 Clinical Experience in Athletic Training IV	3 cr
AT 6665 Clinical Experience in Athletic Training V	3 cr

## Department of Organizational Learning and Performance (Department of Human Resource Training and Development)

Chair and Professor: Scott

Assistant Professors: Lindbeck, Lion, Nix

### Master of Organizational Learning and Performance

The Master of Organizational Learning and Performance, aligned with State educational standards, provides the adult learner with opportunities to engage in the processes of inquiring, learning, and applying known competencies within the fields of Human Resource Development and Professional Technical Education.

The Master of Organizational Learning and Performance is designed to strengthen the student's understanding, knowledge, and skills in three major areas—Professional Core Requirements, HRD Studies, and Integrative Field Research Studies—as they relate to Human Resource Development.

*(See page 197 for more information about the Master of Organizational Learning and Performance program.)*

#### Admission Requirements

Individuals applying for admission to the Master of Organizational Learning and Performance program must meet the following admission requirements:

- The student must apply to, and meet all criteria for, admission to the Graduate School.
- Bachelor's degree from a college or uni-

versity accredited in the United States or its equivalent from a school in another country.

- Grade point average of 3.0 or higher for all upper division credits taken at the undergraduate level.
- The student must write a proctored Statement of Intent for the Master of Organizational Learning and Performance.

#### General Requirements

Students must complete a minimum of 36 semester credit hours for the Master of Organizational Learning and Performance and will complete a thesis or field research project. Students will orally defend the findings of their research.

Students seeking Idaho PTE certification must meet the Idaho Division of Professional-Technical Education for certification. (See <http://www.pte.idaho.gov/>).

*(see page 196 for courses in Master of Organizational Learning and Performance)*

### Graduate Courses in the College of Education

#### Athletic Training Graduate Courses

**AT 6600 Foundations of Athletic Training 3 credits.** Survey of the profession of Athletic Training. Injury prevention, assessment, treatment, taping and rehabilitation of common athletic injuries will be presented. Lab included.

**AT 6602: General Medical Assessment 3 credits.** This course addresses current medical issues that pertain to athletic training and the physically active. Content included sports pharmacology, physiological considerations, common illnesses and special concerns. Lab included.

**AT 6604 Physical Assessment of the Lower Extremities 3 credits.** Intense, in-depth study of the lower extremities including physical examination, injury recognition, treatment, taping, bracing, and foundations of rehabilitation. Lab included.

**AT 6606 Traumatic Brain Injury and Neurological Assessment 3 credits.** Comprehensive examination of sport-related traumatic brain injury. Includes neurological assessment, spinal assessment and rehabilitation methods. Lab included.

**AT 6608 Physical Assessment of the Upper Extremities 3 credits.** Intense, in-depth study

of the trunk, head, face, and upper extremities including physical examinations, injury recognition, emergency treatment, taping, bracing, and foundations of rehabilitation. Lab included.

**AT 6610 Pathophysiology and Therapeutic Modalities 3 credits.** Analysis of the physiological response to injury and the effects of therapeutic modalities on athletic injuries. Lab included.

**AT 6612 Conditioning & Therapeutic Exercise 3 credits.** Development of proficiency in the theory, design and implementation of conditioning programs and instruction on the effective application of therapeutic exercise in order to achieve symptom free movement and function. Content includes basic principles of exercise, therapeutic effects of exercise, functional evaluation of performance, goniometric measurements, and manual muscle testing. Lab included.

**AT 6614 Professional Issues in Athletic Training 3 credits.** This course is designed to expose students to various professional issues involved with athletic training in a topical format in order to develop a holistic understanding of the profession. Content includes topics such as psychosocial issues, cultural competence in healthcare delivery, performance enhancement, job seeking, exam preparation, and continuing professional development.

**AT 6640 Research Methods in Athletic Training 3 credits.** Interpretation of statistical procedures and research designs commonly used in athletic training research. Prepares students to conduct research projects related to the field of athletic training. Prerequisite: statistics course.

**AT 6645 Organization and Administration of Athletic Training 3 credits.** This course is designed to expose students to the organization and administration concepts of athletic training. Content includes management, leadership, legalities, historical perspectives, motivation and technology.

**AT 6651 Master's Project 3 credits.** Capstone project to culminate learning experiences consisting of a presentation (written and oral) and defense of a case study before an examining committee.

**AT 6661 Clinical Experiences in Athletic Training I 3 credits.** Clinical experiences in athletic training.

**AT 6662 Clinical Exp in Ath Trng II 3 credits.** Clinical experiences in athletic training.



**AT 6663 Clinical Experiences in Ath Trng III 3 credits.** Clinical experiences in athletic training.

**AT 6664 Clinical Experiences in Ath Trng IV 3 credits.** Clinical experiences in athletic training.

**AT 6665 Clinical Experience in Ath Trng V 3 credits.** Clinical experience in athletic training.

## Child and Family Studies Graduate Courses

**CFS 5501 Foundations of Early Childhood Education Intervention 3 credits.** Examination of social, historical, and philosophical foundations of early childhood education and intervention and their respective influences on currently accepted concepts and practices in programs serving young children from birth through age eight.

**CFS 5531 Family Resource Management 3 credits.** Management theory for resource utilization and goal achievement. Issues include stress, communication, and family types. Emphasis on decision-making related to the dynamics of balancing work and family. PREREQ: CFS 5570 OR PERMISSION OF INSTRUCTOR.

**CFS 5532 CU(PDO) 132 Behavioral Growth and Development 1 credit.** General body growth and development of the normal child. Major theories of psychological growth and maturation of the normal child with common aberrations. Dental management of children in regard to psychological growth and development (IDEP course).

**CFS 5535 Relationships Within Families 3 credits.** Building and maintaining positive relationships within families. Critical issues facing individuals and families including communication, cultural diversity, balancing multiple roles, time management, and financial planning.

**CFS 5539 Sports Nutrition 2 credits.** Review nutrition recommendations for both competitive and recreational athletic performance. Background into metabolism of nutrients related to strength and endurance given as rationale for nutrition practices. Controversies and misinformation addressed. PREREQ: CFS 2239 SUGGESTED.

**CFS 5561 Advanced Nutrition 3 credits.** Advanced study of nutrition science, including protein, carbohydrate, lipid, vitamin, and mineral metabolism. Introduction to research methodology and professional literature. PRE-

REQ: CFS 2239, CHEM 1102.

**CFS 5570 Consumer Economics 3 credits.** Financial management content with a focus on developing effective decision-making processes for managing resources. Topics: the changing American family; consumer protection and recourse; purchasing decisions; consumer credit; fundamentals of savings/investment; and insurance.

**CFS 5571 Advanced Consumer Economics 3 credits.** Advanced study of social and economic problems affecting individuals and families. Topics: financial security; credit and loans; tax planning; major consumer purchases; risk management; investments; retirement and estate planning. PREREQ: CFS 5570 OR PERMISSION OF INSTRUCTOR.

**CFS 5572 Teaching Consumer Economics 1-3 credits.** Designed to provide educators with current content and resources for developing consumer and economic education curriculum. Teaching techniques discussed and practiced. PREREQ: CFS 4471 OR PERMISSION OF INSTRUCTOR.

**CFS 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/ U.

**CFS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CFS 6600 Issues and Trends in Child and Family Studies 3 credits.** Exploration and discussion of current issues and trends impacting children and families and programs designed to serve them.

**CFS 6621 Learning and Development in Early Childhood Education 3 credits.** Investigation of the development characteristics and processes of the young child from birth to age 8 related to the process of knowledge construction.

**CFS 6622 Curriculum in Early Childhood Education 3 credits.** Examination and implementation of developmentally appropriate curricular practices that simultaneously strengthen all domains of development and contribute to the construction of knowledge in content areas.

**CFS 6631 Family Diversity 3 credits.** Exploration and analysis of the role of diversity in

defining family structure, functioning, and development. Includes focus on educational implications and opportunities for observation in a variety of settings.

**CFS 6632 Theoretical Frameworks for Understanding Families 3 credits.** Analysis of theories of family interaction and family functioning. Emphasis on family development theory, family systems theory, social models, and other relevant models of family functioning.

**CFS 6634 Public Policy for Children and Families 3 credits.** Analysis of selected state and federal legislation affecting the status of children and families. Focus includes legal definitions related to children and families and advocacy networks.

**CFS 6642 Assessment in Early Childhood Education and Intervention 3 credits.** Selection, administration, and interpretation of assessment tools employed in early childhood inclusive practice. Emphasizes screening, educational assessment, and monitoring of child progress. PREREQ: CFS 5501 OR PERMISSION OF INSTRUCTOR.

**CFS 6643 Curricular Adaptations and Intervention in Early Childhood 3 credits.** Overview of theoretical bases for early intervention and selected service delivery models. Focus on program planning, curriculum, materials, procedures, and program evaluation. PREREQ: CFS 5501 OR PERMISSION OF INSTRUCTOR.

**CFS 6644 Working with Families in Early Childhood Education and Intervention 3 credits.** Theoretical and applied perspectives in providing family-focused early childhood services. Emphasis on models for service delivery and service coordination for all families with young children including those from diverse backgrounds.

**CFS 6647 Internship in Child and Family Studies 1-6 credits.** Supervised practice in demonstration of competencies for children and families in a variety of educational settings. Fifty hours of experience and supervision equals one hour of academic credit. May be repeated.

**CFS 6659 Seminar in Child and Family Studies 1-3 credits.** Critical analysis of the literature in one or more areas related to children and families. May be repeated up to 6 credits.

**CFS 6669 Case Study/Project in Child and Family 1-6 credits.** Under faculty supervision, student is responsible for development and oral presentation of a comprehensive case

study or a comprehensive graduate field project. May be repeated up to 6 credits.

**CFS 6676 Supervision of Family and Consumer Sciences Education 2 credits.** Explores roles and responsibilities of cooperating teachers and college supervisor in providing desirable experiences of family and consumer sciences student teachers in the public schools. Supervision styles will be reviewed and evaluated.

**CSF 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Deaf Education Courses

**EDHH 5556 Psychosocial Aspects of Deafness 3 credits.** Psychological, educational and social influences of the hearing community on deaf persons and the structure of the deaf community as a socio-cultural entity.

**EDHH 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDHH 6607 Directed Observation in Education of the Deaf 1 credit.** Directed observations at multiple levels and reporting of casual interactions and diagnostic/intervention approaches by instructor with Deaf or hard of hearing individuals (minimal 150 clock hours). May be repeated up to 3 credits.

**EDHH 6608 Communication Practicum 2 credits.** Supervised experiences applying research and theory to language intervention practices for Deaf or hard of hearing individuals. May be repeated up to 6 credits.

**EDHH 6609 Teaching Internship in Deaf Education 1 - 3 credits.** Directed classroom and clinical teaching experience with Deaf or hard of hearing students under supervision. Minimum 250 clock hours at the level specialization. May be repeated up to 6 credits. PREREQ: Approved application.

**EDHH 6627 Literacy Curriculum in Deaf Education 3 credits.** Theory, research and practices for teaching and assessing written language for Deaf and hard of hearing students. Applications of principles of language acquisition to reading and writing.

**EDHH 6628 Curriculum Organization in**

**Deaf Education 3 credits.** Organizing, adapting and implementing curriculum across all areas to meet the special needs of Deaf or hard of hearing students. Includes assessment, behavior management, instructional technology, and individualized planning.

**EDHH 6637 Foundations of Deaf Education 3 credits.** A comprehensive study of the philosophies and theories that influence current practice and research in the education of Deaf or hard of hearing students.

**EDHH 6651 Field Project/Case Study in Deaf Education 1 - 3 credits.** A field project or case study is completed in conjunction with the field internship and/or education scenario. Written report and oral explication required. May be repeated up to 6 credits. Graded S/U.

**EDHH 6658 Teaching Language to the Deaf 3 credits.** Students gain theoretical and practical knowledge in the evaluation and habilitation of language/communication problems in Deaf and hard of hearing children and adolescents.

**EDHH 6659 Teaching Academic Subjects to the Deaf 3 credits.** Students gain theoretical and practical knowledge of how to teach academic subjects to the Deaf and hard of hearing children and individuals.

**EDHH 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Educational Administration Graduate Courses

**EDLA 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLA 6608 Organizational Leadership and Education Administration 3 credits.** Overview of leadership theories, principles of organizational development, personal leadership development, and systems theory with applications to education leadership.

**EDLA 6609 Principalship 3 credits.** Exploration of the role of school principal as leader and manager. Topics include data and records management, personnel management, school finance, technology, special services, school

safety, and other building-level topics.

**EDLA 6612 School Law, Governance, and Ethics 3 credits.** Study of the legal principles of school administration; overview of the case law, federal and state statutes, school governance policies, and ethics that provide the foundation for application of the law to schools.

**EDLA 6613 Using Data to Improve School Leadership 3 credits.** Emphasis on the use and understanding of data analysis to improve teaching and learning in the classroom. Statistical analysis relating to educational leadership decision-making applications.

**EDLA 6614 Curriculum, Instruction, and Assessment 3 credits.** Study of curriculum principles and practices of high achieving schools; overview of alignment of a standards-based curriculum with effective instructional practices and assessment.

**EDLA 6615 Supervision and Instructional Leadership 3 credits.** Examines the role of the principal as instructional leader in the supervision and evaluation of instruction, learning, and student achievement.

**EDLA 6630 Education Equity and Ethics 3 credits.** Designed to raise awareness among school leaders of equity issues and empower them to advocate equal opportunity for ALL students.

**EDLA 6637 Practicum 3 credits.** Students observe, participate in, and perform activities in a school setting over 2 semesters. Focus is on Idaho superintendent certification competencies. 300 hours required (includes 20 hours of practicum credit for each 6600 or 7700 level Ed.S. course. Students must enroll for 3 credits in their first semester and at least 1 credit/semester of continuous enrollment. PREREQ: PERMISSION OF INSTRUCTOR Graded S/U.

**EDLA 6642 School Culture and Community Relations 3 credits.** Overview of school culture and climate in relationship to school communications and public relations. Explores diversity and equity issues related to students, staff, and community.

**EDLA 6643 School Personnel Administration 3 credits.** Student of effective human resources management, including legal and ethical issues related to recruitment, selection, induction, staff development, employee assistance, evaluation, contract negotiations and personnel management.

**EDLA 6648 Independent Problems in Education 1-3 credits.** Individual work under staff guidance. Field and/or library research on

specific educational problems of interest to graduate students in education. Experience in research composition. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**EDLA 6649 Issues in Education Administration 3 credits.** Critical analysis of issues, trends and current topics in education administration.

**EDLA 6650 Thesis 1-6 credits.** PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U. May be repeated.

**EDLA 6651 Field Project/Case Analysis in Education 1-6 credits.** A Field Project or Case Analysis is completed in conjunction with the field practicum/internship and/or an educational setting scenario. Written report and oral explication required. May be repeated. Graded S/U.

**EDLA 6657 Internship 1-3 credits.** A partnership between the University and preK-12 schools providing students experience in school leadership and administration. Students complete 540 hours of internship including 400 hours of on-site work at all levels (elementary, middle, and high school) with accompanying portfolio. Student must enroll for 3 credits in their first semester, and at least 1 credit/semester of continuous enrollment. By application only. PREREQ: Two of EDLA 6608, EDLA 6612, and/or EDLA 6615. Graded S/U.

**EDLA 6662 The Superintendency 3 credits.** Study of school district leadership including organizational systems, ethics, change processes, school board operations, community relations, the role of education in a democratic society, and the needs of diverse constituencies.

**EDLA 6664 Public School Monetary Policy 3 credits.** Advanced study of the financial structure of public schools, including equity issues, taxation, revenue generation (grants) and budget development. Special emphasis on Idaho public education.

**EDLA 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLA 7748 Independent Problems in Education Administration 1-3 credits.** Individual field work and/or library research under staff guidance on specific education administration problems of interest to doctoral students in the

Education Administration program. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**EDLA 7751 Case Analysis in Educational Administration 1 credit.** A capstone experience completed at the conclusion of all coursework in the Education Specialist program. A written report and oral explication are required. Graded S/U.

## Educational Administration Doctoral Courses

**EDLA 7720 Legal and Ethical Issues in Educational Organizations 3 credits.** Advanced study of legal and ethical issues in educational organization and school systems, including major court cases, use of legal counsel and monitoring of legal compliance.

**EDLA 7721 Educational Policy and Governance 3 credits.** Study of the relationship between politics, policy and governance of schools, including political systems, inter-governmental relations, power and conflict, and policy development regarding equity, quality and efficiency.

**EDLA 7723 Educational Planning and Evaluation 3 credits.** Study of planning and evaluation in schools and school districts including strategic planning, effectiveness and curriculum audits, facility planning, and program planning and evaluation.

**EDLA 7724 Data Informed Instructional Leadership 3 credits.** The study of the use of data to support district-wide planning, implementation, and monitoring of curriculum, assessment, and instruction.

**EDLA 7737 Practicum 1-3 credits.** Students observe, participate in and perform activities in a school setting. Designed to facilitate school/district leadership knowledge, skills and dispositions. Focus on certification standards. May be repeated for a maximum of 12 credits. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

## Community College Doctoral Courses

**EDLC 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLC 6699 1-6 credits.** This is an experimental course. The course title and number of

credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLC 7730 The Modern Community College 3 credits.** Course content addresses the history and philosophy of community college education, including Tribal colleges. Examines the mission, objectives, educational functions, populations served, student and faculty characteristics, and current issues facing community colleges in a global environment.

## Higher Education Administration Doctoral Courses

**EDLH 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLH 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLH 7730 History and Philosophy of Higher Education 3 credits.** Comprehensive analysis of the origin of institutions of higher learning, their philosophical foundations and historical contexts from the classical periods of Greece and Rome to the 20th century.

**EDLH 7731 Law in Higher Education 3 credits.** In-depth study of legal issues affecting public and private higher education institutions and systems. Emphasis on statutory provisions, court decisions, common law principles, and constitutional requirements.

**EDLH 7732 College and University Curriculum 3 credits.** In-depth study of current higher education curriculum practices and issues in the context of historical, philosophical, and political influences. Includes focus on processes of curriculum development.

**EDLH 7733 Finance in Higher Education 3 credits.** Critical analysis of issues in public and private higher education finance. Includes examination of alternative financing sources and methods, resource allocation, and fiscal management.

**EDLH 7734 Issues/Trends in Higher Edu-**

**ation 3 credits.** Critical analysis of current topics in higher education. Consideration of roles and responsibilities of chief academic officers, boards of regents, faculties, and student services.

**EDLH 7735 Government and External Relations 3 credits.** Course explores leadership strategies for effective advocacy with state and federal policy makers, governing boards, development boards, foundations, business and industry, and the general public.

**EDLH 7736 Instructional Leadership and Faculty Affairs in Higher Education 3 credits.** Practical study of leadership values and practices unique to higher education and necessary for successful administration in the context of shared governance: focus on faculty leadership in processes of curriculum and program design for college learners; evaluation, remediation, and rewards; and the development of academic policy.

**EDLH 7737 Practicum 1-3 credits.** A partnership between the Higher Education Concentration and various educational entities where students can experience higher education leadership and administration and there leadership can be assessed. Students engage in practical experience in leadership and administration. Students the requirements of a Practicum plan. Students must enroll for 3 credits in their first semester and at least 1 credit/semester of continuous enrollment until the Practicum is completed. May be repeated for a maximum of 12 credits. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

**EDLH 7738 Assessment and Accountability in Higher Education 3 credits.** Key issues, strategies and challenges in developing assessment programs at the institutional, departmental and program levels that address national, state and accreditation mandates for accountability in higher education.

**EDLH 7739 Higher Education Leadership: Strategic and Enrollment Planning, Governance, Institutional Research 3 credits.** Study of leadership strategies for strategic and enrollment planning, application of institutional research, and negotiation of complex on- and off-campus governance systems required for successful higher education leadership.

**EDLH 7748 Independent Problems in Higher Education Administration 1-3 credits.** Individual field work and/or library research under staff guidance on specific higher education administration problems of interest to doctoral students in the Higher Education Administration program May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

## Educational Leadership CORE Doctoral Courses

**EDLP 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLP 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLP 7700 Change Strategies 3 credits.** Investigation and application of individual and organizational change strategies and tactics.

**EDLP 7703 Leadership and Organizational Development 3 credits.** Students will identify and critique several leadership and organizational theories and their application to work environments, and demonstrate a professional code of ethics and values.

**EDLP 7705 Advanced Research Design I (qualitative) 3 credits.** Process-based examination of qualitative research designs and methodologies commonly used in education and related fields. PREREQ: EDUC 6601 AND EDUC 6610 OR EQUIVALENT, OR PERMISSION OF INSTRUCTOR.

**EDLP 7706 Advanced Research Design II (quantitative) 3 credits.** Process-based examination of quantitative research designs and methodologies commonly used in education and related fields. PREREQ: EDUC 6601 AND EDUC 6610 OR EQUIVALENT, OR PERMISSION OF INSTRUCTOR.

**EDLP 7721 Intermediate Statistics in Education 3 credits.** Applications of intermediate statistical methods used in the analysis of quantitative measurement data in education and related fields. Introduces time-series and multi-factor experiments. PREREQ: EDUC 6610 OR EQUIVALENT.

**EDLP 7722 Advanced Statistics in Education 3 credits.** Applications of advanced statistical methods most frequently used in the analysis of quantitative measurement data in education and related fields. PREREQ: EDUC 6610 AND EDLP 7705 OR EDLP 7706, OR PERMISSION OF INSTRUCTOR.

**EDLP 7748 Independent Problems in Educational Leadership 1-3 credits.** Individual

field work and/or library research under staff guidance on specific education leadership problems of interest to doctoral students in the Educational Leadership program. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**EDLP 7799 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLP 8800 Doctoral Seminar 1 credit.** Serves as an initiation/orientation to doctoral study. Exploration of educational leadership through readings, reflections, and dialogue. Taken during the first year of doctoral work. May be repeated. Graded S/U

**EDLP 8801 Capstone Seminar 1 credit.** Provides doctoral students with a capstone experience designed to support and facilitate the comprehensive examination preparation and dissertation processes. Taken during the final year of course work. May be repeated. Graded S/U.

**EDLP 8830 Comprehensive Examination 1 credit.** A capstone requirement of all doctoral students in the Doctor of Education program. Students enroll in EDLP 8830 when they have successfully completed all other core, concentration are, and cognate courses. Is a prerequisite for EDLP 8850. Instructor Permission Required. Graded S/U.

**EDLP 8850 Dissertation variable credits.** PREREQ: EDLP 8830. May be repeated. Instructor Permission Required. Graded S/U.

## Instructional Technology and Design Courses

**EDLT 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**EDLT 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLT 6616 Integration of Technology into School Curriculum 3 credits.** Examination of appropriate and effective uses of technology in

K-12 environments; focus on research-based methods and integration strategies for online and hybrid teaching/learning environments that incorporate current and emerging digital tools.

**EDLT 6621 Issues and Trends in Instructional Technology 3 credits.** Examination and discussion of current issues and innovations in instructional technology. Includes analysis of relevant historical and current national trends and issues. PREREQ: EDLT 6616.

**EDLT 6626 Instructional Technology and Staff Development 3 credits.** Examination of in-service models for integration of technology into the K-12 curriculum, emphasizing integration of online and hybrid training environments that use current and emerging digital tools for professional development. PREREQ: EDLT 6616, EDLT 6655.

**EDLT 6639 Delivering Instruction in Electronic Formats 3 credits.** In-depth study of distance education; emphasis on various models of online delivery, content organization and presentation, graphic design principles, and incorporation of current and emerging technology tools for online environments. Students will conduct a field-test of an online instructional module and present a report of the instructional design process. PREREQ: EDLT 6656.

**EDLT 6646 Information Systems 3 credits.** Investigation and application of computer software programs that reinforce administrative practices. Application of programs that promote effectiveness and efficiency through the appropriate development and use of data.

**EDLT 6648 Independent Problems in Education 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems of interest to graduate students in education. Experience in research composition. May be repeated up to 4 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**EDLT 6649 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas of education. Enrollment limited. PREREQ: PERMISSION OF INSTRUCTOR.

**EDLT 6650 Thesis 1-6 credits.** Graded S/U.

**EDLT 6651 Field Project/Case Study in Education 1-6 credits.** A field project or case study is completed in conjunction with a field practicum/internship in an educational setting. Written report and oral explication of the project or case study required. Graded S/U.

**EDLT 6652 Field Practicum in Education 1**

**-6 credits.** Individually designed practicum in an educational setting. The length, placement, and learning experiences will be determined in consultation with the major advisor. Graded S/U.

**EDLT 6655 Fundamentals of Instructional Design 3 credits.** Introduction to recognized, standard instructional design models in the field as well as design principles that guide the development of instructional materials. Students will create an instructional unit for online delivery incorporating appropriate multimedia materials. Principles related to ADA Section 508, Assistive Technology, and Universal Design for Learning will be emphasized in designing for the teaching/learning environment. PREREQ or COREQ: EDLT 6616.

**EDLT 6656 Fundamentals of Multimedia Development in Education 3 credits.** Exploration of the use of multimedia technology for designing digital learning content; emphasis is on online design, delivery, and evaluation. Students will conduct a field-test of a multimedia instructional module and present a report of the instructional design process. PREREQ: EDLT 6655.

**EDLT 6659 Online Teaching Internship 6 credits.** Candidates assume instructional and management responsibilities in supervised online elementary/secondary settings. Includes weekly professional development consultations. All coursework as indicated in the Online Teaching Endorsement program of study must be completed prior to enrollment in the Online Teaching Internship course. PREREQ: EDLT 6616, EDLT 6626, EDLT 6639, EDLT 6655, EDLT 6656. Grades S/U, F, S.

**EDLT 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDLT 7737 Practicum 3 credits.** This is an individually designed field experience in an area of technology, supporting and extending course work within this area of concentration. The length, placement, and prescribed learning experiences will be determined in consultation with the Educational Technology advisor. May be repeated for maximum of 12 credits.

**EDLT 7740 Instructional Systems Design I 3 credits.** Examination of the instructional design process; applications of current research related to development of instructional multimedia materials. PREREQ: EDLP 7706.

**EDLT 7742 Multimedia Authoring I 3 cred-**

**its.** Use of Macromedia Director as the main authoring system for designing instruction. PREREQ: STUDENT MUST BE EXPERIENCED USER OF HYPERMEDIA PROGRAMS; EDLT 7740.

**EDLT 7743 Multimedia Authoring II 3 credits.** Advanced use of Macromedia Director as an authoring system. Includes creation of digital sound graphics, animation, and movies. Student will produce a multimedia project. PREREQ: EDLT 7742.

**EDLT 7744 Instructional Systems Design II 3 credits.** Advanced study of instructional design process. Includes consideration of current research related to formative and summative evaluation techniques for multimedia design. PREREQ: EDLT 7740.

**EDLT 7745 Instructional Design for Distance Learning Delivery 3 credits.** Exploration of effective uses of multimedia materials in the distance learning environment. Includes investigation of skills needed for creating instructional media for distance learning. PREREQ: EDLT 7742 AND EDLT 7744.

**EDLT 7748 Independent Problems in Instructional Design 1-3 credits.** Individual field work and/or library research under staff guidance on specific instructional design problems of interest to doctoral students in the Instructional Design program. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**EDLT 7749 Instructional Design Seminar 1 credit.** Critical analysis of research, issues, and trends in Instructional Design. May be repeated up to 7 credits. PREREQ: Membership in Ph.D. Doctoral Cohort. Graded S/U.

**EDLT 8850 Dissertation variable credits.** Graded S/U.

## Education Graduate Courses

**EDUC 5519 Developmental Literacy 3 credits.** Instructional strategies for reading, emphasizing early literacy and language development, phonemic awareness, phonics, word recognition strategies, comprehension and meta-linguistic awareness. PREREQ: EDUC 3321 OR PERMISSION OF INSTRUCTOR.

**EDUC 5520 Advanced and Compensatory Reading Strategies 3 credits.** Advanced training for developmental/remedial reading, emphasizing study skills, critical/creative reading, and meta-cognition. Content area application. PREREQ: EDUC 3333 AND TEACHING EXPERIENCE OR PERMISSION OF INSTRUCTOR.

**EDUC 5524 Assessing Literacy Abilities 3 credits.** Methods of assessment in literacy. Introduction to case study, formal and authentic measures of comprehension, vocabulary, study strategies, and writing. PREREQ: EDUC 5519 or the Idaho Comprehensive Literacy Assessment, OR PERMISSION OF INSTRUCTOR.

**EDUC 5526 Remediation of Literacy Problems 3 credits.** Teaching strategies for remediating problems in literacy. Emphasis on planning, implementing, and evaluating approaches and materials. PREREQ: EDUC 5524.

**EDUC 5560 Foundations of ESL 3 credits.** Study of ESL learner characteristics, historical, philosophical, cultural and linguistic foundations of ESL. Theories of language acquisition and those of leaders in the field will be included.

**EDUC 5563 ESL Methods 3 credits.** Language assessment, planning, and delivery for teaching limited English proficient K-12 students. Appropriate methods for students at various developmental stages of language acquisition will be studied. PREREQ: EDUC 5560 OR PERMISSION OF INSTRUCTOR.

**EDUC 5564 ESL Practicum 1 credit.** Field experience in settings with English-as-a-Second-Language learners. COREQ: EDUC 5563 OR PERMISSION OF INSTRUCTOR.

**EDUC 5570 Manipulative Mathematics 3 credits.** Study of methods for teaching mathematics through the modern math approach stressing manipulations. Consideration is given to diagnostic and remedial procedures for exceptional children.

**EDUC 5571 Interpersonal Communications 2 credits.** Examination of basic concepts, principles, models, and theories of interpersonal communications and their application to educational settings.

**EDUC 5581-5582 Contemporary Issues in Education 1-3 credits.** Examination and analysis of contemporary issues and trends in theories and practices in education.

**EDUC 5583 Instructional Improvement for Teachers 1-3 credits.** Study of ways by which teachers can improve instruction in their own classrooms with emphasis on the findings of research and experiences.

**EDUC 5585 Independent Problems in Education 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems of interest to majors in education. Experience in research composition. May be repeated. PREREQ:

PERMISSION OF INSTRUCTOR.

**EDUC 5591 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas of education. Limited enrollment. PREREQ: PERMISSION OF INSTRUCTOR.

**EDUC 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**EDUC 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EDUC 6601 Research and Writing 3 credits.** Examination of methods for designing/conducting research in education and related fields and of procedures for formal report writing using APA style and format.

**EDUC 6602 Theories of Learning 3 credits.** Advanced study of the psychology of human learning and instruction. Emphasis will be given to the application of contemporary theories of learning to instructional practice and the design of effective learning environments.

**EDUC 6610 Applied Educational Statistics 3 credits.** Application of parametric and non-parametric statistical procedures for summarizing and analyzing qualitative and quantitative measurement data in conducting research and for report writing in education and related fields. Covers descriptive statistics to single-factor experiments.

**EDUC 6612 Learners and the Content 3 credits.** Examination of curriculum scope and sequence within the context of varying learner needs. The course will focus on curriculum alignment with state and national standards and the connecting of content to learner characteristics and developmentally appropriate teaching practices. PREREQ: COHORT ADMISSION. COREQ: EDUC 6602.

**EDUC 6614 Pedagogy and Content Knowledge 3 credits.** Investigation of the structure of subject matter knowledge and how it determines pedagogical content. The course will examine philosophical perspectives, models of teaching, and develop contemporary applications. PREREQ: COHORT ADMISSION AND EDUC 6602.

**EDUC 6618 Learning Communities 3 credits.** Exploration of learning communities and

examination regarding models for how they are created and sustained through curriculum leadership. The course includes such topics as parental involvement, curriculum for diverse learners, and collaborative teaching practices. PREREQ: EDUC 6612 AND EDUC 6614.

**EDUC 6620 Motivation for Learning 3 credits.** Advanced study of theories and research on student motivation including strategies for linking motivation to classroom management and curriculum. Topics include individual differences, interpersonal motivation, self-motivation, and lifelong learning. PREREQ: EDUC 6612.

**EDUC 6622 Educational Assessment and Evaluation 3 credits.** Construction, administration and interpretation of educational assessments for the systematic analysis of student learning and teaching practice. Emphasis is placed on the use of assessment results in planning and valuation of curriculum leadership. PREREQ: EDUC 6610.

**EDUC 6627 NBPTS Certification Part I 3 credits.** Provides a framework for completion of the requirements for National Board for Professional Teaching Standards Certification. Examination of the standards and portfolio guidelines; provision of support and consultation in gathering and presenting documentation.

**EDUC 6628 NBPTS Certification Part II 3 credits.** Mentors and supports teachers through advanced National Board for Professional Teaching Standards. Development of classroom-based portfolio entries and preparation for assessment center exercises. PREREQ: EDUC 6627.

**EDUC 6630 Advanced Elementary Methods 3 credits.** Advanced study of the subject content and teaching methods in grade K-8 programs. The course includes emphasis on development of materials, lesson planning, instructional strategies, assessment, and application of technology for information acquisition, analysis, and presentation by students and teacher.

**EDUC 6631 Advanced Secondary Methods 3 credits.** Advanced study of the subject content and teaching methods in grade 6-12 programs. The course includes emphasis on development of materials, lesson planning, instructional strategies, assessment and application of technology for information acquisition, analysis, and presentation by students and teacher.

**EDUC 6632 Psychology of Literacy 3 credits.** Examination of the nature of symbolic systems within the literacy field from the per-

spective of contemporary psychological science. Topics include decoding, lexical access, referential representation, and meta-cognition.

**EDUC 6633 Language, Literacy, and Neurology 3 credits.** Theories and principles based on research in psycholinguistics and neurophysiology as related to literacy.

**EDUC 6634 Literacy: Multicultural Views 3 credits.** Theories and research in language acquisition and development across cultures including emphases on second language acquisition, dialects, and regionalisms affecting both oral and written codes.

**EDUC 6635 Clinical Methods in Literacy 3-6 credits.** Consulting, supervising, evaluating, writing case reports, and relating research and theories in literacy to clinical methods. May be repeated up to 6 credits. PREREQ: EDUC 5524, EDUC 5526, AND EDUC 6633.

**EDUC 6637 Leadership in Curriculum Development 3 credits.** Development of the knowledge, skills, and disposition essential to effective curriculum leadership. While drawing on philosophy, the course focuses on the practical applications of leadership, including curriculum vision, development, management, and evaluation. PREREQ: EDUC 6618, EDUC 6660, AND EDUC 6622.

**EDUC 6638 Supervision of Interns and Student Teachers 2 credits.** Role and responsibilities of supervisory personnel in the intern and student teaching programs including student orientation readiness, planning and techniques of instruction, and evaluation. PREREQ: PERMISSION OF INSTRUCTOR.

**EDUC 6640 Workshop 1-2 credits.** Special projects concerned with public school education. Meets for a minimum of 36 clock hours with appropriate outside assignments, lessons, or papers. May be repeated up to 6 credits.

**EDUC 6641 Advanced Studies in K-12 Curriculum 3 credits.** Advanced study of research and development of subject-specific curriculum in K-12 environments. PREREQ: EDUC 6601; EDUC 6630 or EDUC 6631.

**EDUC 6648 Independent Problems in Education 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems of interest to graduate students in education. Experience in research composition. May be repeated up to 4 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**EDUC 6649 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas of education. Enrollment limited. PREREQ: -

PERMISSION OF INSTRUCTOR.

**EDUC 6650 Thesis 1-6 credits.** Graded S/U.

**EDUC 6651 Field Project/Case Study in Education 1-6 credits.** A field project or case study is completed in conjunction with a field practicum/internship in an educational setting. Written report and oral explication of the project or case study required. Graded S/U.

**EDUC 6652 Field Practicum in Education 1-6 credits.** Individually designed practicum in an educational setting. The length, placement, and learning experiences will be determined in consultation with the major advisor. Graded S/U.

**EDUC 6670 Seminar in Elementary Education 3 credits.** Examination of research and current issues in Elementary Education. Seminar format requires active participation in readings, discussion, written assignments, and presentations.

**EDUC 6671 Seminar in Secondary Education 3 credits.** Examination of research and current issues in Secondary Education. Seminar format requires active participation in readings, discussion, written assignments, and presentations.

**EDUC 6675 Curriculum Project 3 credits.** Completion of a curriculum project within the context of a supportive learning community, or, for those teachers who have achieved National Board Certification, submission of the portfolio. PREREQ; PERMISSION OF CURRICULUM LEADERSHIP PROGRAM MAJOR ADVISOR AND EDUC 6601.

**EDUC 6676 Evaluation Research Practicum 3 credits.** Supervised on-going assessment of curriculum projects and the systematic evaluation of their implementation in educational settings or, for those teachers who have achieved National Board Certification, content analysis of the portfolio. Each student will complete an independent curriculum evaluation project. PREREQ: PERMISSION OF CURRICULUM LEADERSHIP PROGRAM MAJOR ADVISOR.

**EDUC 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Physical Education Graduate Courses

**P E 5513 Sport in Cinema 3 credits.** Investigate sport, and the treatment of sport, through the medium of modern cinema. Sport will be analyzed from the sociological, psychological, moral and ethical perspective of the filmmakers. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**P E 5527 Personal Trainer Certification 3 credits.** Theoretical knowledge and practical skills in preparation for national certification exam in personal training. Guidelines for instructing safe, effective and purposeful exercise; essentials for the client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

**P E 5565 Organization and Administration of Intramural Sports 3 credits.** Study of various methods of organizing and administering intramural sports programs on the junior high school, high school, and college levels.

**P E 5573 Facility Planning and Design 3 credits.** An investigation of the various components, principles, and fundamental practices involved in facility planning and design for physical education, athletics, and recreation. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**P E 5580 Coaching Problems 1-3 credits.** Athletic control, eligibility, new coaching techniques, finances, safety measures, public relations, duties of coaches, managers, and officials. May be repeated for up to 4 credits. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**P E 5581 Coaching Clinic 1 credit.** ISU is a sponsor of the annual Idaho Coaches Association Clinic held during the first week of August. Instruction offered in football, basketball, and other sports by coaches of national reputation. May not be applied to degree programs. May be repeated. Graded S/U.

**P E 5585 Independent Problems in Physical Education 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific physical education problems. May be repeated up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**P E 5591 Physical Education Workshop 1-3 credits.** A critical analysis of one or more areas of physical education. Limited enroll-

ment. May be repeated up to six credits. **PREREQ:** PERMISSION OF INSTRUCTOR.

**P E 5594 Adapted Physical Activity 3 credits.** History, philosophy, and the teaching/learning process in providing adapted physical activity in schools and community-based settings. Includes clinical experiences. **PREREQ:** BIOL 301 OR EQUIVALENT, OR PE 243, PE 300 AND PE 362.

**P E 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**P E 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**P E 6605 Leadership and Administration 3 credits.** Development of leadership skills and the dynamics of group process relative to effective interpersonal relationship with special emphasis on Physical Education and Athletic programs and personnel needs.

**P E 6610 Advanced Sport Psychology 3 credits.** Designed to define, critique, and apply critical perspectives of sport and exercise psychology, including aggression theories, violence, cohesion, and social facilitation. Aspects of coaching theory and its application are included.

**P E 6612 Advanced Sociology of Sport 3 credits.** Social aspects of sport and society, with emphasis on the relationship between sport, culture, and ideology.

**P E 6615 Philosophy and Principles of Athletics in Education 3 credits.** The role of athletics in education, the function and organization of leagues and conferences of coaches, certification of coaches, ethics, and public relations.

**P E 6620 Curriculum and Supervision 3 credits.** Consideration of the physical education curriculum in public schools and in colleges and universities. Recent developments and current trends that influence the curriculum and supervision policies. Observation techniques, standards in judging instruction, the supervisory conference, cooperative supervision, basic foundation of curriculum construction, and lesson planning.

**P E 6622 Survey of Professional Literature 3 credits.** Identification and investigation of

professional literature and its application to current and future directions of the field. Extensive reading and formal writing required. May be repeated.

**P E 6631 Athletics and the Law 3 credits.** A study of the administrative role relating to the regulation of athletic competition and athletic programs. A review of significant court cases dealing with sports law, with application to the school setting.

**P E 6635 Management Aspects of Athletics 3 credits.** Factors involved in the conduct of athletic events such as contracts, scheduling, travel, game management, crowd control, and the legal implications of athletics.

**P E 6640 Research and Writing 3 credits.** Analysis and interpretation of the basic principles of research and writing as they relate to physical education, athletics and allied fields of endeavor. Integration of research and writing procedures likely to have the greatest influence on programs and practices relating to the administration of P.E.D. programs.

**P E 6648 Problems 1-3 credits.** Individual and group study of problems in the areas of physical education and recreation. May be repeated to 6 hours credit.

**P E 6649 Issues in PED and Athletic Administration 3 credits.** A study of the current issues applicable to the administration of PED and athletics. Opportunities may be afforded for study within specialized areas. May be repeated up to 6 hours with departmental permission.

**P E 6650 Thesis 1-6 credits.** Graded S/U.

**P E 6651 Master's Project in P.E.D. & Athletics 1-3 credits.** May be repeated. May be graded S/U.

**P E 6655 Internship 1-3 credits.** Administration, supervision and operation of a P.E.D. or Athletic Program. Students work under the direction of a graduate faculty member and practicing administrator. May be repeated up to 6 credit. May be graded S/U. **PREREQ:** APPROVAL OF ADVISOR AND/OR CHAIR.

**P E 6658 Athletics in the West 3 credits.** Field-based review of programs and topics related to physical education and athletic administration, including: tours of facilities in schools, colleges, and professional athletics; lessons and seminars with practitioners and scholars.

**P E 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Special Education Graduate Courses

**SPED 5523 Designing Instruction 3 credits.** Introduction to instructional design principles and strategies for engaging students in higher order thinking and problem-solving. Emphasis on teaching complex concepts in reading comprehension, writing, mathematics and other academic subjects. **PREREQ:** PERMISSION OF INSTRUCTOR.

**SPED 5524 Assessment Procedures in Special Education 3 credits.** Introductory study of diagnostic assessment techniques and the writing of individual educational, behavioral prescriptions, and instructional objectives which are required to provide interventions suitable for remediating the learning programs in basic school curricula. **PREREQ OR COREQ:** SPED 330 AND SPED 334 OR PERMISSION OF INSTRUCTOR.

**SPED 5526 Assessment: Severe Disabilities 3 credits.** Selection, administration, and interpretation of criterion-referenced tools employed with severely disabled students. Emphasizes functional approach to assessment and evaluation of behavioral and instructional domains. **PREREQ:** PERMISSION OF INSTRUCTOR.

**SPED 5527 Precision Teaching 1 credit.** Techniques of data collection, charting, and decision making in the educational programs of children with disabilities. **PREREQ:** PERMISSION OF INSTRUCTOR.

**SPED 5529 Strategies: Severe Disabilities 3 credits.** Consideration and evaluation of curriculum materials from behavioral, developmental, and ecological perspectives. Emphasizes functional approach to development and implementation of individualized intervention plans. **PREREQ:** PERMISSION OF INSTRUCTOR.

**SPED 5532 Direct Instruction Systems 3 credits.** This course provides mastery level skills training in direct instruction systems for reading, math, and written language. Includes field work, adaptation of curricula to direct instruction model and evaluation. **PREREQ:** PERMISSION OF INSTRUCTOR.

**SPED 5533 The Emotionally Disturbed Child 3 credits.** Survey of the causes of emo-



tional disturbance in children and the effects upon the child's school performance and achievement. School programs and treatment considerations will be reviewed.

**SPED 5538 Policies and Procedures in Special Education 3 credits.** Consideration of - legal background, current court ruling, professional responsibilities, and models for consultation and collaboration in a variety of educational settings. Includes the IEP process. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5540 Biomedical Aspects of Physical Disability 2 credits.** Study of the causes, treatments, and educational implications of physical and neurological disorders of genetically and orthopedically disabled children. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5543 Autism 2 credits.** An overview of autism and implications for educational planning. Teaching strategies that are successful in working with individuals who have autism will be reviewed.

**SPED 5546 Secondary Special Education 3 credits.** Teaching methodology focusing on needs of secondary and adult special education students. Topics include functional academics, transition, independent living, social skills, vocational training, employment options, and accessing community resources. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5548 Pre-practicum, Moderately Handicapped 1-3 credits.** Supervised practical work with moderately handicapped children in a clinical setting. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5550 Creating Inclusive Classes 3 credits.** Curricula and methods for educating students with disabilities in general education classrooms. Emphasizes inclusive lesson design, curricular adaptations, and collaborative teaching.

**SPED 5562 Advanced Issues in Behavior Disorders 2 credits.** Study of educational organization, collaboration and consultation skills necessary to provide integrated service for this exceptionality. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5580 Seminar in Special Education 1 credit.** Current topics in the field of special education by departmental faculty and guest lecturers. May be repeated for a total of 2 credits. GRADED S/U.

**SPED 5581 Seminar: Behavior Disorders 1 credit.** Covers topical issues related to the education of children with behavior disorders in a variety of educational and therapeutic

settings. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5585 Independent Problems 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems of interest to majors in education. Experience in research composition. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR. May be graded S/U.

**SPED 5591 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas of education. Limited enrollment. PREREQ: PERMISSION OF INSTRUCTOR. May be graded S/U or on a letter-grade basis in separate sections.

**SPED 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**SPED 5598 Advanced Fieldwork 1-3 credits.** Orientation, observation, planning and implementation of special education instruction in a special education setting in the public schools. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SPED 6630 Professional Development in Special Education 2 credits.** Issues related to the professional role of the master's-degree-level special educator, including professional societies, history, philosophical and humanistic foundations.

**SPED 6632 Administration of Special Education 2 credits.** Supervision of special education, including the organization, financing, equipping, housing, and staffing of educational facilities for exceptional children. Also includes legal provisions relevant to special education.

**SPED 6633 The Behaviorally Maladjusted Child 3 credits.** Comprehensive study of the characteristics, learning problems, educational organizations, and teaching competencies for this exceptionality. PREREQ: SPED 334 OR PERMISSION OF INSTRUCTOR.

**SPED 6634 The Mentally Gifted Child 3 credits.** Physical, mental, emotional, and social characteristics of the mentally gifted;

teaching procedures, types of organization, analysis of educational need, and curricula material used in their education.

**SPED 6636 Medical and Health Issues in Special Education 2 credits.** Consideration of medical and health issues, problems, and practices as they pertain to children with disabilities in hospital-, home-, and school-based programs.

**SPED 6638 Practicum in Special Education 2-8 credits.** Individual observation, program development, and supervised practice in the development of teaching competencies for the education of exceptional children. A combination of fifty hours of experience and supervision equals one hour of academic credit. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

**SPED 6639 Internship in Special Education 3-12 credits.** A combination of fifty hours of experience and supervision equals one hour of academic credit. PREREQ: SPED 6638 AND PERMISSION OF INSTRUCTOR. Graded S/U.

**SPED 6650 Thesis 1-6 credits.** May be repeated. Graded S/U.

**SPED 6651 Master's Paper 1-3 credits.** A paper involving extensive familiarity with research findings written under the supervision of a faculty member in the department. May be repeated. Graded S/ U

**SPED 6652 Specialist Paper 1-3 credits.** A paper involving extensive familiarity with research finding under the supervision of a faculty member of the program, consisting of applied research activity in the field of special education, written in format appropriate for publication consideration by a peer-reviewed journal.

**SPED 6658 Independent Problems 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems. Experience in research composition. May be repeated up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 6659 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas of education. Enrollment limited. May be repeated up to 8 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 6662 Consultation in Schools 2 credits.** Provides theoretical and practical experience in the development, implementation, and evaluation of a variety of consulting strategies suitable for working with

teachers, administrators, community agencies, and parents. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SPED 7758 Independent Problems 2-4 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems. Experience in research composition. May be repeated up to 8 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**SPED 7759 Ed.S. Internship 1-9 credits.** - Placement in a post-master's degree counseling, school psychology, or special education setting. A combination of fifty hours of experience and supervision equals one hour of academic credit. May be repeated. PREREQ: COMPLETION OF ALL PROGRAM COURSE WORK, AND PERMISSION OF INSTRUCTOR. Graded S/U.

## School Psychology Graduate Courses

**SCPY 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**SCPY 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SCPY 6614 Diagnostic Evaluation of Learning Difficulties 3 credits.** Investigation of theoretical and applied assessment of intervention measures suitable for remediating learning problems.

**SCPY 6615 Advanced Child Psychology 3 credits.** In-depth study of the principles of educational psychology and child development. Emphasis will be placed on applying research-based practices from the science of educational psychology to solve problems found in schools and other social settings. PREREQ: EDUC 6602.

**SCPY 6616 Psychological Assessment 3 credits.** Psychometric assessment to determine

eligibility of students and provide diagnostic information to develop interventions and assess their effects. Includes writing of integrated reports that address various exceptionalities. PREREQ: SCPY 6614 AND SCPY 6619.

**SCPY 6619 Individual Intelligence Testing 3 credits.** Supervised practice in administering, scoring, and interpreting the results of individual intelligence tests. Each section limited to 6 students. PREREQ: PERMISSION OF - INSTRUCTOR.

**SCPY 6652 Specialist Paper 1-3 credit.** An applied research paper in school psychology, written in format appropriate for publication consideration by a peer-reviewed journal. A candidate is allowed to take 1 to 3 credits each semester but has to take at least 1 credit each semester until his or her paper is completed as approved by the instructor. May be repeated. PREREQ: EDUC 6601

**SCPY 6657 Legal and Ethical Issues in School Psychology 2 credit.** This course is intended to address a variety of professional issues, including legal and ethical principles, professional standards of practice, and ethical decision making within the context of the unique professional practice of school psychology. Students will become familiar with the ethical principles of the American Psychological Association and the Nation Association of School Psychologists and learn to apply these principles to specific areas of school psychology practice such as assessment, intervention, and research.

**SCPY 6658 Independent Problems 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems. Experience in research composition. May be repeated up to 6 credits. PREREQ: - PERMISSION OF INSTRUCTOR.

**SCPY 6659 Multicultural Issues in School Psychology 2 credits.** This course is designed to examine cultural, socioeconomic, and ethnic variables unique to the practice of school psychology in the public school setting. The content of this course will include applying knowledge of cultural socio-economic, and ethnic differences to school psychology assessment, intervention, counseling, and English language acquisition issues.

**SCPY 6660 Seminar in School Psychology 3 credits.** Introduce students to the field of school psychology through guest speakers, literature, and discussion. Focus on assessment, diagnosis, professional ethics, historical development, and school law. PREREQ: PERMISSION OF INSTRUCTOR.

**SCPY 6662 Consultation in the Schools 3 - credits.** Provides theoretical and practical experience in the development, implementation, and evaluation of a variety of consulting strategies suitable for working with teachers, administrators, community agencies, and parents. PREREQ: SCPY 6665 AND PERMISSION OF INSTRUCTOR.

**SCPY 6663 Clinical and Diagnostic Interviewing in Schools 3 credits.** This is an advanced clinical interview skills course in which knowledge and training are obtained in how to conduct clinical interviews with children and families in educational settings. Special consideration is given to conducting Mental Health Intake Interviews, Mental Status Examinations, Suicide Assessments, Targeted Violence Assessment, and Interviewing Special Populations. PREREQ: SCPY 6615, 6616, 6665, OR PERMISSION OF INSTRUCTOR.

**SCPY 6664 Neurocognition and Learning 3 credits.** This course will increase skills of school psychologists and educators in applying neurocognitive research to psychoeducational adjustment in schools. Content will emphasize intervention, assessment, instruction, consultation, individual differences in emotionality, attention, memory, and problem solving. PREREQ: EDUC 6602.

**SCPY 6665 Clinical School Psychology 3 credits.** This course explores the clinical elements of school-based mental health services provided by school psychologists in public school settings. The educational manifestations of childhood and adolescent psychopathology are examined within the context of the DSM-IV-TR. special emphasis is given to understanding the complexities of childhood mental illness and its unique educational impact on children and adolescents. COREQ: SPCY 6667

**SCPY 6668 Practicum: Introduction to School Psychology, Learning Disabilities, and Special Education 3 credits.** Supervised experience in educational, intelligence, and personality testing as well as diagnostic evaluation of learning difficulties and report writing. Special emphasis on the interpretation of test results to teachers, counselors, and administrative personnel. A combination of fifty hours of experience and supervision equals one hour of academic credit. May be repeated. PREREQ: SCPY 6619 AND PERMISSION OF INSTRUCTOR. COREQ: SCPY 6614.

**SCPY 6669 Advanced Practicum in School Psychology 1-12 credits.** A combination of fifty hours of experience and supervision equals one hour of academic credit.

The weekly supervision seminars provides the candidate with supplementary guidance, support, and educational information regarding professional issues of school psychology such as techniques of providing in-service training and integration of technology into student learning through case discussion, supplemental readings, direct instruction, and guest speakers. PREREQ: SCPY 6668 AND PERMISSION OF INSTRUCTOR.

#### COURSE WORK, AND PERMISSION OF INSTRUCTOR

**SCPY 6670 Practicum in School Psychology Clinic 1-2 credits.** Second-year students will process school and community-based referrals. Fifty (50) hours contact time per credit. This involves a collaborative problem-solving approach with school-based teams to gain experience with pre-referral activities, evaluation, and intervention plans. May be repeated. COREQ: SCPY 6665.

**SCPY 6672 Problem Solving Intervention in Schools 3 credits.** This course will provide a foundation in skills, knowledge and practice that reflects a “Problem-solving Intervention” (PSI) approach to assessment and intervention implementation in schools.

**SCPY 6673 Response to Intervention in Schools 3 credits.** This course integrates both the theory and practical application of Response to Intervention (RTI) used for development and implementation of effective interventions pertaining to academic and behavioral “problems” in school settings.

**SCPY 6682 Cognitive-Behavioral Intervention (CBI) in Schools 3 credits.** This course provides theoretical and practical experience in the development, implementation, and evaluation of a variety of cognitive-behavioral interventions when working with teachers, administrators, community agencies, and parents. This course examines both “intervention” and “consultation” principles and strategies. The primary focus is the scientific research and applications of cognitive-behavioral interventions to achieve improved performance and success of students in schools.

**SCPY 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**SCPY 7759 Ed.S. Internship 1-9 credits.** Placement in a post-master’s degree counseling, school psychology, or special education setting. A combination of fifty hours of experience and supervision equals one hour of academic credit. May be repeated. PREREQ: COMPLETION OF ALL PROGRAM



# Division of Health Sciences

Linda C. Hatzenbuehler, Ph.D., Associate Vice President and Executive Dean

Paul S. Cady, Ph.D., Dean, College of Pharmacy

Brian R. Crarford, D.D.S., Coordinator, Office of Medical and Oral Health

Nancy Devine, DPT, Associate Dean, School of Rehabilitation and Communication Sciences

Tracy Farnsworth, M.H.S.A., M.B.A, Interim Associate Dean, Kasiska School of Health Professions

Rex W. Force, Pharm.D., Associate Dean for Clinical Research

Neill F. Piland, Director, Institute of Rural Health

Linda L. Rankin, Ph.D., Assistant Dean

Nancy Renn, Ph.D., RN, Interim Director, School of Nursing

The Division of Health Sciences is organized into five academic units:

- College of Pharmacy
- Kasiska School of Health Professions
- Office of Medical and Oral Health
- School of Nursing
- School of Rehabilitation and Communication Sciences

Idaho State University's Division of Health Sciences provides continued leadership in the delivery of health care by educating caring and competent professionals across all dimensions of health and promotes collaborative research and practice in the health sciences.

Idaho State University is Idaho's leading health care institution, as designated by the Idaho State Board of Education. It offers 75 percent of the state's health profession degree programs. One third of Idaho State University's graduates receive degrees in the health professions.

The Division of Health Sciences is dedicated to enhancing the quality of life for our constituencies by applying the values of excellence in research, partnerships in community service, and professional education into practice.

A combination of classroom and clinical experiences ensures that graduates are prepared for licensing exams and positions in a wide range of health care fields. Programs partner with hospitals, clinics and specialized medical facilities throughout the nation to provide state-of-the-art training opportunities for students. On-campus and statewide clinics provide students with hands-on experience. Fourteen in-house clinics include medicine, dentistry, dental hygiene, audiology, speech pathology, coun-

seling, occupational therapy, physical therapy, vestibular (balance), and wellness. Beyond the basic skill sets associated with clinical practice, we train our students to become leaders in their professions and communities. Doing this requires hiring and retaining nationally recognized faculty, using the most current teaching technologies, and giving students access to the hands-on learning opportunities they need for success as caring and competent professionals.

Beyond the basic skill sets associated with clinical practice, we train students to become leaders in their professions and communities. We are dedicated to hiring and retaining nationally recognized faculty, using the most current teaching technologies, and giving students access to the hands-on learning opportunities they need for success.

## Division of Health Sciences Graduate Courses

**DHS 5501 Mindfulness in Health Science 1-2 credits.** Student will learn basic mindfulness practice to increase stress tolerance, compassion and immune system functioning. Students will learn mediation, mindful movement and other practices for their own benefit, and will learn to teach them to others. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**DHS 5502 Survey of Aging Issues 3 credits.** Introduction to the broad spectrum of issues involved in the study of aging. Theories of aging, health promotion, demography, and multicultural aging are some topics presented in survey fashion. No prerequisites or co-requisites; Restricted to graduate students; eISU (\$35/credit). Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**DHS 5503 Interprof Sys Geri Manage 3 credits.** Application of principles and concepts necessary to integrate theory into the practice of care coordination and management of the older adult. The scope and competencies of healthcare professionals in caring for the older adult are explored. Restricted to graduate students; B- or better in DHS 5502; eISU (\$35/credit). Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**DHS 5504 Geri Interprof Intership 2 credits.** Practical experience in health care arenas focusing on the older adult. This includes a project related to the application of principles

and concepts of interprofessional collaborative practice. Restricted to graduate students; B- or better in DHS 5502; eISU (\$35/credit); COREQ: DHS 5503 or completion of DHS 5503; Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

## College of Pharmacy

Paul S. Cady, Ph.D., Professor, Dean

### Degree Programs

The College of Pharmacy offers two graduate degrees: the Master of Science (M.S.) in Pharmaceutical Sciences and the Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences. The College also offers a professional doctorate degree, Doctor of Pharmacy (Pharm.D.). The Pharm.D. is described in the College of Pharmacy section of the Idaho State University Undergraduate Catalog.

## Department of Pharmacy Practice and Administrative Sciences

Chair and Associate Professor: Owens

Assistant Chair and

Associate Professor: Oliphant

Professors: Adamcik, Culbertson, Erramouspe,

Force, Lott, Madaras-Kelly, Mason, Rhodes

Associate Professors: Cashmore, Cleveland,

Gould, Hunt, Liday

Clinical Associate Professor: Hefflinger, Pettinger, Pugmire

Clinical Assistant Professors: Borzadek, Carr,

Casperson, Davis, Eroschenko, Hachey, Jantz, Steed, Wadsworth

Emeritus: Galizia, Hurley, Sharp, Jue

## Department of Biomedical and Pharmaceutical Sciences

Interim Chair and Professor: Diedrich

Professors: Bhushan, Daniels, Dodson, Lai

Associate Professors: Bigelow, Wilson

Assistant Professors: Downing, Yan

## Goals

To train and prepare students to succeed in their chosen career path in the variety of areas in pharmaceutical sciences.

## Objectives

- To rigorously train students in the department focus areas;
- To train students to be effective communicators of their knowledge and scientific findings;
- To expose students to multidisciplinary approaches to problem-solving so that they can use them to solve scientific problems,
- To educate students to be competent practitioners of the scientific method;
- To expose students to a variety of professional strategies so that, upon finishing their training, they become adaptable and successful in achieving their long-range goals.

## Doctor of Philosophy

Programs of study leading to the Doctor of Philosophy (Ph.D.) degree are offered through the Department of Biomedical and Pharmaceutical Sciences (emphasis areas of Biopharmaceutical Analysis, Drug Delivery, Medicinal Chemistry, or Pharmacology) and through the Department of Pharmacy Practice and Administrative Sciences (emphasis in Pharmacy Administration). The Ph.D. degree is a research degree and will be conferred upon the completion and report of a substantial body of original work.

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following:

1. Baccalaureate degree in biology, chemistry, psychology, other scientific field, or a professional degree in pharmacy.
2. GPA of not less than 3.0 for all upper division courses.
3. Achieve at least the 50th percentile in one of the Graduate Record Examination aptitude section scores (Verbal, Quantitative, or Analytical).
4. Three letters of recommendation from individuals familiar with the applicant's academic ability and potential for graduate study.

Meeting minimum requirements does not guarantee admission. Students not meeting the minimum admission requirements for the Ph.D. program may reapply to continue on for

the Ph.D. degree following successful completion of the M.S. in Pharmaceutical Sciences.

## General Requirements

Each beginning graduate student will have a graduate advisor assigned from the graduate faculty upon entry into the program. The student's advisor will assist the student in preparing an appropriate program of study of course work. While there is no fixed credit requirement for the Ph.D. in Pharmaceutical Sciences, the overall program of study will include at least 72 semester hours of graduate course work. The student is expected to have selected a major advisor from the graduate faculty no later than the end of his/her second semester in residence.

A grade below B is unsatisfactory and will not be counted toward fulfilling the minimum requirements for the degree. Upon recommendation of the student's advisor, and with the approval of the Director of the Graduate Program, a student may be required to withdraw at any time for failure to maintain satisfactory progress toward the degree.

When course work is essentially complete, candidates for the Ph.D. degree complete a series of written and oral comprehensive examinations that may include the defense of a written research proposal. Upon completion of all proposed research, the student's findings will be reported in the form of a dissertation to be prepared in accordance with Department and Graduate School guidelines. While the dissertation must be defended to the graduate faculty of the College, acceptability only requires the affirmative vote of a majority of the student's committee members.

## Doctor of Philosophy in Pharmaceutical Sciences (Biopharmaceutical Analysis, Medicinal Chemistry, Pharmaceutics, or Pharmacology Emphasis)

### Admission Requirements

Official report of Graduate Record Examination scores. Applicants should achieve at least a 50th percentile on one of the three aptitude

sections (Verbal, Quantitative, Analytical). Achievement of two or more scores at the 50th percentile is highly preferred. Applicants may be accepted as Classified (w/PR) students with lower GRE scores.

International students must have a demonstrated proficiency in the English language. Students from countries where English is not the first language must demonstrate proficiency in the English language. International students should refer to the "Admission of International Students" section of the Graduate Catalog.

Students with international coursework to be considered with their applications must submit an official detailed evaluation report from an institution that is a member of the National Association of Credential Services Incorporated (NACSI).

Three letters of recommendation and a personal statement of interest must accompany the application. The personal statement of interest should clearly identify which area of emphasis in the graduate program the applicant intends to follow (e.g., pharmacology, medicinal chemistry, etc.), and members of the department faculty with whom the applicant would prefer to complete his/her degree. Applications without a personal statement following these guidelines will be rejected.

Applications for the graduate program in Pharmaceutical Sciences (Emphasis in Biopharmaceutical Analysis, Drug Delivery, Medicinal Chemistry, or Pharmacology) are reviewed twice yearly near the end of the fall and spring semesters. Deadline for the receipt of applications is April 1 for admission in the fall semester, and October 1 for admission in the spring semester. Incomplete applications and applications received after these deadlines will not be considered.

## General Requirements

Candidates must complete the following courses:

PSCI 6601	Graduate Seminar in Pharmaceutical Sciences	4cr
PSCI 6602	Research Design and Analysis for the Pharmaceutical Sciences	3 cr
PSCI 6698	Dissertation Research	18 cr*min
PSCI 8850	Dissertation	1-2cr*min
	Electives in Pharmaceutical Sciences	9 cr

\*Biomedical and Pharmaceutical Sciences related courses (as determined by committee) 17 cr

\*Candidates must complete a minimum of 20 credits in combination of PSCI 698 and PSCI 699 toward completion of degree requirements after admission to candidacy.

A minimum of 72 credits including a minimum of 20 credit hours in dissertation research (PSCI 6698) and dissertation (PSCI 850) are required. For all degree candidates, at least one half of total graduate credit hours required by the student's Graduate Program Committee

must be 6600 level. Minimum graduate credit requirements usually do not fulfill Departmental degree requirements. Specific details are provided in the Department of Pharmaceutical Sciences Graduate Guidelines.

All students in the graduate program, whether seeking the Doctor of Philosophy or the Master of Science, are expected to demonstrate proficiency in written and spoken English. Students may be required to successfully complete classes in speech and in technical writing at the request of the graduate program director and the graduate faculty of the Department of Biomedical and Pharmaceutical Sciences.

## Joint Pharm. D.-M.S. in Pharmaceutical Sciences or Pharm.D.-Ph.D. in Pharmaceutical Sciences Bipharmaceutical Analysis, Medicinal Chemistry, Pharmaceuticals, or Pharmacology Emphasis)

### Admission Requirements

Professional students currently enrolled in the College of Pharmacy may be granted early admission to a graduate program administered by the College. In order that a student be eligible for early admission to a graduate program in the College, the following criteria must be met:

1. Completion of at least 136 academic credits or a B.S. degree must be certified to the Graduate Dean by the Registrar. Such certification must include all University general education requirements, and meet all graduate student admission requirements.
2. Formal application for admission to the College graduate program, with acceptance as a Classified (w/PR) student by the appropriate department faculty.
3. A non-B.S. degree-holding student may be admitted to the Graduate School as Classified (w/PR). Following the award of the Pharm.D. degree, the student may

petition to change to classified status. Students should consult the Graduate Catalog for course requirements for the graduate degrees offered by the College.

4. Students must meet all the requirements of the Pharm.D. program; see Undergraduate Catalog.
5. Students must meet all the department requirements for the M.S. or Ph.D. degree described in the M.S. or Ph.D. section.
6. A joint-degree student cannot take more than 19 credits/semester while in the Pharm.D. program, of which no more than 3 credits can be graduate credits. After completing the Pharm.D. requirements, the joint degree student reverts to the Graduate School requirements, not to exceed 16 credits/semester.

## Doctor of Philosophy in Pharmaceutical Sciences (Pharmacy Administration Emphasis)

Candidates must complete the following courses:

Statistics and Research Methods (14 credits)		
BIOL 6605	Biometry	4 cr
	Multivariate Analysis	4 cr
PADM 6605	Research Methods	3 cr
	One additional methods course	3 cr
(e.g., 3 cr SOC 508, PSYC 632)		
Pharmacy Administration Major Courses (28 credits)		
PADM 6601	Graduate Seminar in Pharmacy Administration	4 cr
PADM 6610	Social and Behavior Aspects of Pharmacy Practice	3 cr
PADM 6632	Medical Economics	3 cr
PADM 6634	Advanced Pharmacy Administration I	3 cr
PADM 6635	Advanced Pharmacy Administration II	3 cr
	Major area elective courses	12 cr
	Minor Area Courses (12 credits)*	
	Minor area elective courses	12 cr
	Research Activities (19 credits minimum)**	
PADM 6650	Thesis Research**	3 cr
PSCI 6698	Dissertation Research	18 cr
PSCI 8850	Dissertation Preparation	1 cr
	Total	73-76 cr

\*A student entering the Ph.D. program with an M.S. degree in a related area may petition the Advisory Committee to waive the elective 12 credits required in a minor area of study.

\*\*All students must have research experience prior to beginning the dissertation. If a student has not completed an M.S. thesis, then s/he must complete a minimum of 3 credits of graduate research (PADM 650) and complete a research project resulting in a paper of publishable quality. If a student has completed an M.S. thesis, s/he may petition the Advisory

Committee to accept it as fulfillment of this requirement.

## Master of Science in Pharmaceutical Sciences

The M.S. program offers the student a choice of four emphases:

1. Emphasis in Medicinal Chemistry leading to the degree of M.S. in Pharmaceutical Sciences (Medicinal Chemistry).
2. Emphasis in Pharmacology leading to the degree of M.S. in Pharmaceutical Sciences (Pharmacology).
3. Emphasis in Drug Delivery leading to the degree of M.S. in Pharmaceutical Sciences (Drug Delivery).
4. Emphasis in Social and Administrative Sciences leading to the degree of M.S. in Pharmaceutical Sciences (Social and Administrative Sciences).

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition, a student must possess a baccalaureate degree in biology, chemistry, psychology, other scientific field, or a professional degree in pharmacy (B.S. or Pharm.D.) from an accredited institution, and have a grade point average of 3.0 or better on all upper-division courses. Students with a grade point average between 2.75 and 3.0 will receive consideration for admission on a Classified (w/PR) basis.

All applicants are required to provide three letters of recommendation from professors from whom they have taken courses or under whose direction they have worked. It is highly recommended that the Graduate Record Examination be taken prior to the start of the semester in which a student begins graduate study. The GRE must be taken during the first semester in residence if it has not been taken previously.

### General Requirements

All classified graduate students must register for the appropriate graduate seminar (601) each semester in which they are registered for graduate credit. A maximum of two credits in graduate seminar (601) may be applied toward the degree.

### Early Entry Into the Graduate Program For Pharmacy Students Only

Professional students currently enrolled in the

College of Pharmacy may be granted early admission to a graduate program administered by the College following completion of the second professional (P2) year in the Pharm.D. curriculum.

In order that a student be eligible for early admission to a graduate program in the College, the following criteria must be met:

1. Completion of at least 136 academic credits must be certified to the Graduate Dean by the Registrar. Such certification must include all University general education requirements, and all College of Pharmacy pre-pharmacy, first (P1) and second (P2) professional year course requirements in the Pharm.D. curriculum.
2. Minimum Graduate Record Examination scores.
3. Formal application for admission to the College graduate program, with acceptance as a Classified (w/PR) student by the appropriate department faculty.

After meeting the above three criteria, a student may be admitted to the Graduate School as Classified (w/PR). Following the award of the Pharm.D. degree, the student may petition to change to classified status. Students should consult the Graduate School Catalog for course requirements for the graduate degrees offered by the College.

## Master of Science in Pharmaceutical Sciences (Medicinal Chemistry, Pharmaceutics or Pharmacology, Emphasis)

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School.

International students must have a demonstrated proficiency in the English language. Students from countries where English is not the first language must demonstrate proficiency in the English language. International students should refer to the "Admission of International Students" section of the Graduate Catalog.

Three letters of recommendation and a personal statement of interests must accompany the application. The personal statement of interest should clearly identify which area of emphasis

in the graduate program the applicant intends to follow (e.g., pharmacology, medicinal chemistry, drug delivery), and members of the departmental faculty with whom the applicant would prefer to complete their degree. Applications without a personal statement following these guidelines will be rejected.

Applicants for the graduate program in Pharmaceutical Sciences (Emphasis in Medicinal Chemistry, Pharmacology, or Drug Delivery) are reviewed twice yearly near the end of the fall and spring semesters. Deadlines for the receipt of applications is April 1 for admission in the fall semester, and October 1 for admission in the spring semester. Incomplete applications and applications received after these deadlines will not be considered.

Applicants should select either the thesis or non-thesis option. The thesis option is intended for students seeking to enter a research career, and requires completion of an original research project. The non-thesis option is intended for students seeking careers in pharmaceutical sciences that do not require extensive laboratory experience. Applicants are strongly encouraged to contact the Department of Biomedical and Pharmaceutical Sciences for advice on choosing which option best meets their career goals.

### Thesis Option:

Applicants must complete the following courses:

PSCI 6601	Graduate Seminar	2 cr
PSCI 6602	Research Design and Analysis for the Pharmaceutical Sciences	3 cr
PSCI 6650	Thesis Research	6 cr min.
	Electives in Pharmaceutical Sciences	6 cr
	Biomedical and Pharmaceutical Sciences related courses (as determined by committee)	12 cr

A minimum of 30 credits, including at least 6 credit hours in thesis research (PSCI 6650), is required by the Graduate School. For all degree applicants, at least one half of total graduate credit hours required by the student's Graduate Program Committee must be at the 6600-level. Minimum Graduate School credit requirements may not fulfill Departmental degree requirements.

### Non-Thesis Option:

Applicants must complete the following courses:

PSCI 6601	Graduate Seminar	2 cr
PSCI 6602	Research Design and Analysis for the Pharmaceutical Sciences	3 cr
PSCI 6604	Research Practicum	3 cr
PSCI 6648	Master's Paper	3 cr
	Electives in Pharmaceutical Sciences	9 cr
	Biomedical and Pharmaceutical Sciences related courses (as determined by committee)	15 cr

A minimum of 36 credits is required. For all degree applicants, at least one half of total graduate credit hours required by the student's

Graduate Program Committee must be at the 6600-level. Minimum Graduate School credit requirements may not fulfill Departmental degree requirements. All students in the graduate program, whether seeking the Doctor of Philosophy or the Master of Science, are expected to demonstrate proficiency in written and spoken English. Students may be required to successfully complete classes in speech and in technical writing at the request of the graduate program director and the graduate faculty of the Department of Pharmaceutical Sciences.

## Master of Science in Pharmaceutical Sciences (Pharmacy Administration Emphasis)

Applicants may elect either a thesis or non-thesis option and must complete the following courses:

### M.S. Degree Option:

NON-THESIS    THESIS

#### STATISTICS AND RESEARCH METHODS

BIOL 6605	Biometry	4 cr
OR		
PPRA 5518	Clinical Research Design and Analysis	4 cr
PADM 6605	Research Methods	3 cr    3 cr

#### PHARMACY ADMINISTRATION MAJOR COURSES

PADM 6601	Graduate Seminar in Pharmacy Administration	2 cr	2 cr
PADM 6610	Social and Behavioral Aspects of Pharmacy Practice	3 cr	3 cr
OR			
PADM 6632	Medical Economics	3 cr	3 cr
PADM 6634	Advanced Pharmacy Administration I	3 cr	3 cr
OR			
PADM 6635	Advanced Pharmacy Administration II	3 cr	3 cr
	Major area elective courses	15 cr	12 cr

#### RESEARCH ACTIVITY

PADM 6650	Thesis Research	6 cr
PADM 6651	Master's Paper	3 cr
TOTAL		33 cr    34 cr

## Joint Pharm.D.-Graduate Degree Program (Social and Administrative Sciences Emphasis)

Applicants must complete the following courses while enrolled in the P3 and P4 years of the Pharm.D. curriculum. (The courses listed below substitute for PSCI 5532 Clinical Research Design and Analysis, and 6 credits of professional electives required in the Pharm.D.



curriculum). In addition, the following courses taken in the P3 year will constitute a minor area in Clinical Pharmacy as required in the graduate program: PPRA 5534 and PPRA 5535 Therapeutics I and II, PSCI 5529 Clinical Pharmacokinetics, and PSCI 5568 Toxicology; PPRA 5569 will substitute for 3 credits of PADM 6650.

### Third Professional Year Course Substitutions:

BIOL 6605	Biometry	4 cr
PADM 6605	Research Methods in Pharmacy Administration	3 cr
	Pharmacy Administration	3 cr
	Major Area Graduate Course	

### Fourth Professional Year Elective Clerkship:

PPRA 5569	Research Specialty Clerkship	4 cr
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### Additional Graduate Program Requirements:

#### M.S. (thesis option):

PADM 6601	Graduate Seminar	2 cr
	Major Area Courses	12 cr
PADM 6650	Thesis Research	3 cr
Total		17 cr

#### Ph.D.

PADM 6601	Graduate Seminar	4 cr
	Multivariate Analysis	4 cr
	Research Methods Elective	3 cr
	Major Area Courses	21 cr
PSCI 6698	Dissertation Research	18 cr
PSCI 8850	Dissertation Prep	1 cr
Total		51 cr

## Pharmaceutical Sciences Graduate Courses

**PSCI 5541 Diabetes for Health Sciences 2 credits.** A discussion of Diabetes: types, development, complications, treatment, monitoring, and patient-related issues. Topics include basic science and the patient elements. Discussions will be based on student interest and background. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 5599 1-6 credits. This is an experimental course.** The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PSCI 6601 Graduate Seminar 1 credit.** Discussion of current research and theories in Pharmaceutical Sciences. May be repeated.

**PSCI 6602 Research Design and Analysis for Pharmaceutical Sciences 3 credits.** Principles of research design and statistical analysis

applicable to the pharmaceutical or biomedical sciences. Emphasis on evaluation of biomedical literature and on development of research plans. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6603 Scientific Writing 3 credits.** Basic techniques in scientific writing including: philosophy of science and logic in writing; how to write scientific papers, thesis/dissertation, grant proposals, and reviews; use of computers and software.

**PSCI 6604 Research Practicum 3 credits.** The student will receive practical laboratory training in pharmaceutical sciences under the guidance of faculty. May be repeated. PREREQ: ENROLLMENT IN THE NON-THESIS OPTION, AND PERMISSION OF THE INSTRUCTOR. Graded S/U.

**PSCI 6606 Selected Techniques in the Laboratory 2 credits.** Practical experience in the use of instrumentation and techniques in the student's area of specialization. Each student shall select three faculty laboratories in the Pharmaceutical Sciences for specific technical training. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6607 Research Foundations 3 credits.** A discussion of the nature and critical analysis of experimentation, principles of the scientific method, and literature in the Pharmaceutical Sciences.

**PSCI 6609 Advanced Drug Delivery 3 credits.** Critical assessment of novel drug carrier systems regarding biological, drug-related, and carrier-related factors. Study of targeted drug delivery and controlled release devices with emphasis on bioerodible polymers, matrix and reservoir systems.

**PSCI 6610 Analytical Techniques in Pharmaceuticals and Drug Delivery 3 credits.** Theory and practice of analytical techniques in pharmaceuticals and drug delivery research. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6611 Current Topics in Pharmaceuticals and Drug Delivery 1 credit.** Discussion of current research topics in pharmaceuticals and drug delivery. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6620 Drug Discovery 2 credits.** An overview of the process of drug discovery and the regulatory process of drug development, infrastructure of FDA and the process of clinical trials for approval of drugs, biologics, and medical devices. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6621 Biological Actions of Chemicals**

**3 credits.** Introduction to basic principles of pharmacology, including the molecular basis for drug action; entry, distribution, metabolism and elimination of chemicals, genetic influences in chemical actions, and tolerance. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6622 Principles of Toxicology 3 credits.** Introduction to basic concepts of toxicology, including mutagenesis, carcinogenesis, teratology, risk assessment, regulatory toxicology, toxicology of solvents, pesticides, metals and radioactive materials and design of toxicological studies. PREREQ: PSCI 6621 OR PERMISSION OF INSTRUCTOR.

**PSCI 6623 Pharmacology of the Pulmonary and the Renal Systems 2 credits.** Provides a detailed examination of the pharmacology of pulmonary and renal systems, focusing on mechanisms of action of major drug classes used in treatment of disorders via coordination with pharmacology sections of the professional pharmacotherapy module series. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6624 Pharmacology of the Cardiovascular System 3-4 credits.** Provides a detailed examination of the pharmacology of the cardiovascular system, focusing on mechanisms of action of major drug classes used in treatment of cardiovascular disorders via coordination with pharmacology sections of the professional pharmacotherapy module series. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6625 Pharmacology of the Gastrointestinal and the Hepatic Systems 2 credits.** Provides a detailed examination of the pharmacology of GI and hepatic systems, focusing on mechanisms of action of major drug classes used in treatment of disorders via coordination with pharmacology sections of the professional pharmacotherapy module series. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6626 Pharmacology of the Immune System and Infectious Diseases 3 credits.** Provides a detailed examination of the pharmacology of the immune system, focusing on mechanisms of action of major drug classes used in treatment of infectious diseases via coordination with pharmacology sections of the professional pharmacotherapy module series. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6627 Endocrine Pharmacology 2 credits.** Provides a detailed examination of the pharmacology of endocrine systems, focusing on mechanisms of action of major drug classes used in treatment of disorders via coordination with pharmacology sections of the professional pharmacotherapy module series. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6630 Psychopharmacology 3 credits.**

This course will cover the mechanisms of action of psychoactive drugs, including drugs used in the treatment of psychopathological disorders and drugs of abuse. Also covered will be the learned basis of drug effects. Students will critique contemporary readings in the application of psychotherapeutic agents and processes of -addiction. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6631 Cancer Biology 3 credits.**

Study of the difference between normal and cancerous cells growth control, cell cycle, carcinogenesis, growth factor and oncogenes, cellular signaling, angiogenesis, telomerases, tumor invasion and -metastasis, vitamins, diet and tobacco. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6632 Anti-cancer Drugs 3 credits.**

Cell cycle drug design and development, mechanisms of antimetabolites, alkylating agents, topo-isomerase inhibitors, natural compounds, hormones and novel agents. Relationship between receptors and response to chemotherapy, drug resistance, drug delivery. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6633 Experimental Oncology 2 credits.**

Cell culture, anticancer drug screening, protein, RNA and DNA analysis, methods in signal transduction and oncogene expression. Immunohistology, cell cycle analysis, receptor binding, receptor screening of tumors. Laboratory work included. Limit 5 students.

**PSCI 6634 Current Topics in Oncology 1 credit.**

Study of current topics in cancer research. Emphasis on novel approaches to understand and treat cancer. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6636 Concepts and Tools in Pharmacogenomics 2 credits.**

The role of genetic factors in the development and evaluation of drugs, basic principles of microarray analysis introduction to proteomics. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6635 Special Topics in Oncology 2 credits.**

An introduction to cancer biology and cancer terminology. An overview of fundamentals of pharmacology as applied to cancer therapy. Mechanisms of action and resistance to chemotherapeutic drugs will be emphasized. A discussion of the importance of early detection. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6640 Elements of Nanoscience and Nanotechnology 3 credits.**

An introduction to the properties of nanomaterials. Applications of nanomaterials in biomedical, pharmaceuti-

cal, environmental, and bioengineering systems and their impact on society. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6648 Master's Paper 3 credits.**

The student will be required to complete an original literature review of a topical area in the pharmaceutical sciences. May be repeated. PREREQ: ENROLLMENT IN THE NON-THESIS OPTION, AND PERMISSION OF THE INSTRUCTOR. Graded S/U.

**PSCI 6650 Thesis Research 1-10 credits.**

May be repeated. Graded S/U.

**PSCI 6652 Advanced Biopharmaceutics and Pharmacokinetics 3 credits.**

Physicochemical principles involved in the kinetics of drug -absorption, distribution, biotransformation, elimination, and therapeutic response. PREREQ: -PERMISSION OF INSTRUCTOR.

**PSCI 6653 Principles of Biopharmaceutical Analysis 3 credits.**

A treatment of the principles of modern methods for the qualitative and quantitative determination of drugs in biological-materials.

**PSCI 6655 Advanced Biopharmaceutical Analysis 3 credits.**

A continuation of PSCI 653, this course covers the chromatographic techniques of analysis in detail including liquid chromatography, gas chromatography, thin layer capillary zone electrophoresis, and mass spectrometry, -chromatography.

**PSCI 6660 Molecular Pharmacology 3 credits.**

Advanced study in the transduction of biological signals, molecular basis for the action of hormones, neurotransmitters and growth factors on neurotransmission, metabolism, gene regulation and cell growth. PREREQ: PSCI 5567 AND PERMISSION OF INSTRUCTOR.

**PSCI 6661 Drug Metabolism 3 credits.**

Advanced study in drug metabolism, cytochrome P450 oxidative system, toxic actions of drugs, mutagenicity, carcinogenicity, and in vitro systems for the study of metabolism. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6662 Neuropharmacology 3 credits.**

The molecular basis of drug action in the central nervous system including nerve excitation, molecular properties of ion channels, neuro-pharm-a-cological methods, pharmacology of ethanol and the mechanisms in tolerance and physical dependence. PREREQ: PERMISSION OF -INSTRUCTOR.

**PSCI 6682 Independent Problems in Pharmaceutical Sciences 1-4 credits.**

Advanced students are assigned special studies in areas

of pharmaceutical sciences on the basis of interest and previous preparation. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**PSCI 6698 Dissertation Research variable credit.**

Research toward completion of the dissertation in the pharmaceutical, social, behavioral or administrative pharmacy sciences. Graded S/U.

**PSCI 6699 1-6 credits.**

This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PSCI 8850 Dissertation variable credit.**

Preparation of the written report of the dissertation -research. Graded S/U.

## Pharmacy Administration Graduate Courses

**PADM 5554 Pharmacy Management I 2 credits.**

Principles of organization, management and financial analysis as applied to the practice of pharmacy. PREREQ: PPRA 5519.

**PADM 5556 Pharmacy Management II 2 credits.**

Problems of management, merchandising, and salesmanship, applied to community pharmacy. PREREQ: PHAR 4454.

**PADM 5538 Independent Problems in Pharmacy Administration 1-4 credits.**

Independent study of various topics in pharmacy administration. May be repeated.

**PADM 5599 1-6 credits.**

This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PADM 6601 Graduate Seminar in Pharmacy Administration 1 credit.**

Discussion of current research and theories in pharmacy administration. May be repeated.

**PADM 6603 Advanced Pharmacy Law 3 credits.**

Requirements of federal laws influencing the practice of pharmacy, including selected recent cases. PREREQ: PPRA 519 OR PERMISSION OF INSTRUCTOR.

**PADM 6605 Research Methods in Pharmacy Administration 3 credits.**

Methods in research design and analysis utilized in pharmacy administration research. PREREQ:

GRADUATE LEVEL STATISTICS COURSE.

**PADM 6610 Social and Behavioral Aspects of Pharmacy Practice 3 credits.** Examination of sociological and psychological concepts and theories as applied to the practice of pharmacy. PREREQ: PERMISSION OF INSTRUCTOR.

**PADM 6612 Ethics for Health Professionals 3 credits.** Examination of ethical issues that arise in the provision of health care. PREREQ: PERMISSION OF INSTRUCTOR.

**PADM 6624 Advanced Pharmacy Management I 3 credits.** Principles of operation and management encountered in the drug distribution process. PREREQ: ONE YEAR OF ACCOUNTING OR PERMISSION OF INSTRUCTOR.

**PADM 6626 Advanced Pharmacy Management II 3 credits.** Case studies of problems encountered in pharmacy management. PREREQ: PADM 6624.

**PADM 6630 Advanced Drug Marketing 3 credits.** Approaches and methods of marketing as applied to pharmacy and the drug distribution process.

**PADM 6632 Medical Economics 3 credits.** Examination of the market forces encountered in the medical care system.

**PADM 6634 Advanced Pharmacy Administration I 3 credits.** An integration of socio-behavioral and management principles into an advanced consideration of pharmacy administration.

**PADM 6635 Advanced Pharmacy Administration II 3 credits.** A continuation of PADM 634, this course further explores issues in the discipline of pharmacy administration.

**PADM 6649 Research in Pharmacy Administration 1-2 credits.** Research problems ancillary to the thesis project. PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR. Graded S/U.

**PADM 6650 Thesis Research 1-10 credits.** May be repeated. Graded S/U.

**PADM 6651 Master's Paper 3 credits.** May be repeated. Graded S/U.

**PADM 6691 Topical Seminar in Pharmacy Administration 2-4 credits.** Examination of selected topics in pharmacy administration. May be repeated.

**PADM 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated. Graded S/U.

## Pharmacy Practice Graduate Courses

**PPRA 5518 Clinical Research Design and Analysis 4 credits.** The fundamentals of experimental design, implementation and data analysis pertinent to pharmaceutical clinical investigations.

**PPRA 5596 Clinical Pharmacy Residency 0 credits.** Advance practical experience in clinical pharmacy practice. PREREQ: MUST HAVE A DOCTOR OF PHARMACY DEGREE.

**PPRA 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PPRA 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.  
Services Courses

**PHAR 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PHAR 6645 Pharmacotherapeutics for Advanced Practice Nurses 3 credits.** A problem-based course emphasizing the fundamentals of drug action and the rational use of drugs to treat various organ system disease states. PREREQ: BIOL 5563.

**PHAR 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

# Kasiska School of Health Professions

Interim Associate Dean: Farnsworth

## Departments

The Kasiska School of Health Professions (KSHP) is composed of one department, the Department of Counseling and 6 programs, Dietetics, Health Care Administration, Health Education, Medical, Laboratory Sciences, Public Health and Radiographic Science.

## Degree Programs

The Kasiska School of Health Professions is home to 2 doctoral degrees and Master degrees in Counseling, and Masters degrees in Dietetics, Public Health, and Health Care Administration emphasis in a MBA.

## Department of Counseling

Chair and Professor: Feit  
Professors: Allen, Hill, Kleist  
Associate Professors: Crews, Paulson, Vereen  
Assistant Professors: Horn, Kostohryz  
Clinical Assistant Professor: Singarajah  
Adjunct Associate Professor: Schmidt  
Adjunct Assistant Professor: Watts  
Adjunct Instructor: Bolinger  
Emeritus Faculty: Edgar, Lloyd

## Department Mission Statement

The principle mission of the Department of Counseling is to prepare quality counselors for various settings in Idaho and the nation. More specifically, we seek to prepare quality School Counselors for public schools in K-12 settings, Mental Health Counselors and Marital, Couple, and Family Counselors for community agencies and other mental health settings, and Student Affairs Counselors for working in college settings such as advising, residence halls, and career centers.

We prepare doctoral level counselor educators and supervisors to serve as faculty members in counselor education programs, counselor supervisors in various settings, doctoral level counselors, leaders in higher education and counseling organizations, and scholars.

We believe that it is also our mission to

- instill a strong sense of professional identity in students,
- help students gain an appreciation of the rich knowledge base in counselor education,
- develop student expertise in the skills of counseling,

- aid students to become certified and/or licensed,
- aid students/graduates in their initial job placement,
- teach and perform research applicable to the practice of counseling, and
- aid students in understanding the diversity of views and cultures within our profession and the environment in which counselors practice

The Department of Counseling also has a mission within the Division of Health Sciences, which is to represent the mental health perspective within the Division and to consult with Division faculty and departments in encouraging a holistic perspective toward health care services.

### Counselor Education

Graduate-level preparation for (1) counselors who seek employment in schools, universities, community mental health, and various other settings, and (2) college student affairs professionals.

### Pre-Counseling and Pre-Student Affairs

Preparation should consist of a broad undergraduate course of study, including some work in psychology (learning and personality theory), sociology, and the communication skills. For those seeking positions in public elementary and secondary schools, state certification requirements should be considered.

### Degree Programs

Degree programs offered by the department include Doctor of Philosophy, Educational Specialist, and Master of Counseling. Majors are available in Counselor Education and Counseling (Ph.D.); Counseling (Ed.S.); Marital, Couple, and Family Counseling (M.Coun.); Mental Health Counseling (M.Coun.); School Counseling (M.Coun.); and Student Affairs Counseling (M.Coun.).

### Accreditation

The program for preparation of school counselors is accredited by the State of Idaho.

The Counselor Education programs are approved by the Council for Accreditation of Counseling and Related Educational Programs as follows: Marital, Couple, and Family Counseling (M.Coun.), Mental Health Counseling (M.Coun.), School Counseling (M.Coun.), Student Affairs Counseling (M.Coun.), and Counselor Education and Counseling (Ph.D.).

### Progression in Clinical Track Classes - Master's

Students who obtain lower than a 3.0 in any clinical track class OR withdraw from any clinical track class (i.e., COUN 6621, COUN 6696, COUN 6697, COUN 6698) CANNOT continue taking Counseling classes the following semesters without petitioning and obtaining the approval of the Department of Counseling graduate faculty.

### Departmental Dismissal Policies

#### Master's Degree Retention and Dismissal Policy

Department of Counseling faculty are confident that each student admitted has the potential to be successful in graduate study. To assure success, the student's major advisor plays an important role in giving feedback to the student.

A faculty member may consult with other Department of Counseling faculty regarding the apparent impediments to progress of an individual student. If other faculty have made similar observations, the major advisor, or other faculty member, will initiate a meeting with the student to discuss the perceived difficulty. Remedies and expected behavior changes will be discussed and outlined in verbal and/or written form.

If, after feedback is given, a student's impediments to progress are not remedied, the faculty may recommend dismissal from the program. Dismissal of a master's student will be subject to the following:

1. Dismissal criteria established by the Graduate School.
2. Dismissal from the program occurs if any one of the following conditions exist. Students earn:
  - a. three final course grades lower than 2.7,
  - b. OR six credits below 2.7,
  - c. OR below a 3.0 GPA.
3. All degree-seeking students in the Department of Counseling will be evaluated near the end of the first semester by the Department of Counseling graduate faculty members. Based on this evaluation, students not making satisfactory progress toward the completion of a degree may be: (1) removed from graduate study, (2) provided with an alternate option for graduate study, or (3) placed on departmental probationary status. This evaluation will include progress on all course work, anticipated GPA, non-academic conditions (outlined in 4. and 5. following) and any other concerns. Students will be notified of any of these actions by

written and/or oral communication with the major advisor or the Department - Chair.

4. Academic dishonesty includes, but is not limited to, cheating and plagiarism. Academic dishonesty at the graduate level is considered a serious offense and may result in dismissal from a graduate program. For the complete statement on academic dishonesty, please refer to the Graduate School "Academic Dishonesty" policy in this Catalog. More information on academic dishonesty is also available in the ISU Student Handbook (<http://www.isu.edu/references/st.handbook>) (Student Conduct).
5. An ethical violation is viewed by the faculty of the Department of Counseling as a serious offense and may result in dismissal from the program. The Department uses the latest edition of the ACA Code of Ethics. It is the student's responsibility to be knowledgeable of these standards. Refer to the current "Master of Counseling Graduate Program Handbook" for more information.
6. Admission into the Department of Counseling does not guarantee graduation. Success in academic coursework is only one component of becoming a successful counseling student. The following nonacademic conditions may result in dismissal if they are observed to impair the student's ability to work with others in class, practicum, or internship settings: (1) personal concerns or psychopathology, (2) interpersonal relationship issues, (3) personal attitudes or value systems that conflict with effective counseling relationships, and (4) unethical behavior.

#### Doctoral Degree Retention and Dismissal Policy

Department of Counseling faculty are confident that each student admitted has the potential to be successful in graduate study. To assure success, the student's major advisor plays an important role in giving feedback to the student.

A faculty member may consult with other Department of Counseling faculty regarding apparent impediments to progress of an individual student. If others have made similar observations, the major advisor, or other faculty member, will initiate a meeting with the student to discuss the perceived difficulty. Remedies and expected behavior changes will be discussed and outlined in verbal and/or written form.

If, after feedback is given, a student's impediments to progress are not remedied, the faculty may recommend dismissal from the program. Dismissal of a doctoral student will be subject

to the following:

1. Dismissal criteria established by the Graduate School.
2. Dismissal from the program occurs if any one of the following conditions exist. Students earn:
  - a. three final course grades lower than 2.7,
  - b. OR six credits below 2.7,
  - c. OR below a 3.0 GPA,
3. All degree-seeking students in the Department of Counseling will be evaluated near the end of the first semester by the Department of Counseling graduate faculty members. Based on this evaluation, students not making satisfactory progress toward the completion of a degree may be: (1) removed from graduate study, (2) provided with an alternate option for graduate study, or (3) placed on departmental probationary status. This evaluation will include progress on all course work, anticipated GPA, non-academic conditions (outlined in 6. below) and any other concerns. Students will be notified of any of these actions by written and/or oral communication with the major advisor or the Department Chair.
4. Academic dishonesty includes, but is not limited to, cheating and plagiarism. Academic dishonesty at the graduate level is considered a serious offense and may result in dismissal from a graduate program. For the complete statement on academic dishonesty, please refer to the Graduate School "Academic Dishonesty" policy in this Catalog. More information on academic dishonesty is also available in the ISU Student Handbook (<http://www.isu.edu/references/st.handbook>) (Student Conduct).
5. An ethical violation is viewed by the faculty of the Department of Counseling as a serious offense and may result in dismissal from the program. The Department uses the latest edition of the ACA Code of Ethics. It is the student's responsibility to be knowledgeable of these standards. Refer to the current "Doctor of Philosophy Program Handbook" for more information.
6. Admission into the Department of Counseling does not guarantee graduation. Success in academic coursework is only one component of becoming a successful counseling student. The following non-academic conditions may result in dismissal if they are observed to impair the student's ability to work with others in class, practicum, or internship settings: (1) personal concerns or psychopathology, (2) interpersonal relationship issues, (3) personal attitudes or value systems that conflict with effective counseling relationships, and (4) unethical behavior.

## Doctor of Philosophy in Counselor Education and Counseling

The Doctor of Philosophy (Ph.D.) is the highest university award given in recognition of completion of academic preparation for professional practice in counseling. Candidates are provided primarily with courses and practicum/internship experiences that will be instrumental in assisting them to function more effectively as professional counselor educators, as counseling practitioners, and as researchers.

### Goals

The Doctor of Philosophy (Ph.D.) in Counselor Education and Counseling is designed to prepare counselor educators for work in counselor education programs and for work in supervisory roles in university counseling centers and other counseling sites. The major emphasis of this program is to prepare graduates for careers in university teaching in counseling programs.

Counselor education and counseling students at Idaho State University will be:

1. Prepared to teach courses in counseling skills and counseling theories.
2. Prepared to supervise counselors and counseling students who are providing individual counseling, group counseling, and/or couple and family counseling.
3. Prepared to teach selected courses in one or more of the CACREP major areas.
4. Prepared to teach selected courses in the general CACREP common core.
5. Prepared to evaluate counselor education programs and counseling sites.
6. Knowledgeable of professional issues in the counselor education and counseling fields.
7. Knowledgeable of ethical issues and practices of counselor education and counseling.
8. Experienced in developing and conducting research.
9. Experienced in writing for professional publication.
10. Experienced in the advisement and mentoring of Master of Counseling students.
11. Knowledgeable and skilled in providing advanced clinical counseling skills.
12. Knowledgeable of the sociological manifestations of cultural diversity.

### Admission Criteria

The student must apply to, and meet all criteria for, admission to the Graduate School. In

addition, persons applying for admission to the doctoral program in Counselor Education and Counseling must meet the following criteria for selection. Applicants must have:

1. a master's degree from a CACREP accredited program and be licensed as a counselor in Idaho or a state with comparable requirements **OR** a master's degree in counseling and be a Nationally Certified Counselor and apply for an Idaho Counseling License upon admission to the doctoral program **OR** a master's degree in counseling, one year of full time post-master's degree counseling experience, graduate coursework curriculum requirements in all of the CACREP common core areas, and be a Nationally Certified Counselor or Idaho Licensed Counselor. (Persons who do not meet these requirements may be considered for admission as Classified (w/PR) while removing deficiencies in coursework and/or credentials.)
2. taken the Graduate Record Examination or the Miller Analogies Test. Preference will be given to scale scores of 50 - percentile or more.
3. a professional resume.
4. a one-page statement of post doctoral career objectives.
5. submitted three (3) letters of - recommendation.
6. completed both Idaho State University Graduate School and Department of Counseling application forms.
7. completed an interview by the Department of Counseling Admissions Committee.

The Admissions Committee will make the final recommendation regarding admission. This decision will be based on grade point and test score ranking, as well as on the committee's impression of the applicant's interpersonal style and compatibility of personality with the program's training philosophy, and on the student's written statement.

### Selection Schedule for Doctoral Study

Application forms will be mailed after August 15. Applications must be postmarked by January 15. Selection of applicants for on-campus (ISU-Pocatello) interviews will be announced by February 1. Notification of successful applicants for admission and alternates will be announced by approximately March 1. A maximum of 5-6 students are admitted to the program each year (ISU-Pocatello, 4; ISU-Meridian, 2). Classes begin in the Fall semester of each year.

## Master's Degree Curriculum Review

Doctoral students who have earned their master's degree from a CACREP accredited program will be assumed to have entry level knowledge in core and major course areas. Those not graduating from a CACREP accredited program will have their transcripts evaluated by a faculty committee to determine knowledge base deficiencies. A remediation plan of study will be developed and approved by the faculty as necessary.

## Specialization Areas

Doctoral students will choose a prescribed program of study that develops counselor education specializations in the CACREP core and major areas.

The Area of Specialization will be approved by the faculty before the end of the first semester of doctoral study.

The Area of Specialization must be completed prior to the scheduling of the final oral examination.

## Admission to Candidacy

Each student demonstrating an adequate foundation for doctoral study, based upon the selection criteria and the master's degree curriculum review, may apply for degree candidacy. The application for candidacy will include:

1. A course of study designed to remove entry level deficiencies as indicated by the master's degree curriculum review.
2. An approved plan for completion of specialization areas in both core and major areas.
3. An approved final program of study.

After receiving the written approval of the major professor and a second graduate faculty committee member from the department, the application may then be submitted to the department for approval and the appointment of a third departmental committee member. The fourth committee members is non-departmental graduate faculty selected from the Division of Health Sciences or the university at large. The fifth committee member is the Graduate Faculty Representative (GFR).

## Comprehensive Examination

The comprehensive examination will address information in the coursework required in the doctoral program, counselor education professional issues, and specific areas identified by the candidate's committee. If failed, the comprehensive examination may only be retaken once after one year of additional study.

## Dissertation

After the student is admitted to degree candidacy, the dissertation proposal and preliminary research that the candidate and first two committee members have agreed upon will be presented to the complete five-member committee for recommendations and approval. Following the approval of the proposal and the completion of the comprehensive examination, the candidate is authorized to proceed with the dissertation in preparation for a final oral examination defense. The final defense is open to any member of the graduate faculty directing a request through the Dean of the Graduate School and the chair of the committee.

## Residence

Following the bachelor's degree, each applicant must complete the equivalent of ten semesters of graduate study including the master's degree and three semesters of doctoral internship. At least six of the semesters must be at the doctoral level and four of these must be consecutive semesters (not including summer sessions) of full-time graduate study on campus. Students are strongly encouraged to attend all six of these semesters on a full-time basis.

## Continuous Enrollment

Following admission to doctoral study, the student must register for course work, practicum, internship, independent study, or dissertation credit each semester until the completion of the degree.

## Required Courses

COUN 7701	Advanced Statistics	2 cr
COUN 7702	Advanced Research and Experimental Design	2 cr
COUN 7703	Qualitative Research	2 cr
COUN 7704	Qualitative Methodology & Analysis	2 cr
COUN 7705	Instructional Theory for Counselor Educators	4 cr
COUN 7710	Practicum in College Teaching	2 cr
COUN 7712	Advanced Psychological Testing and Assessment	2 cr
COUN 7724	Advanced Diversity Issues	3 cr
COUN 7727	Advanced Theories of Counseling	3 cr
COUN 7774	Advanced Group Procedures	3 cr
COUN 7790	Supervision in Counselor Education	2 cr
COUN 8800	Research and Professional Issues	1-3 cr
COUN 8801	Doctoral Career Development	1 cr
COUN 8802	Scholarship in Counselor Education	1 cr
COUN 8848	Doctoral Counseling Practicum	3 cr
COUN 8848L	Doctoral Counseling Practicum Lab	0 cr
COUN 8849	Doctoral Internship	1-18 cr
COUN 8849L	Doctoral Internship Lab	0 cr
COUN 8850	Dissertation	1-12 cr

## Suggested Electives

COUN 7723	Advanced Vocational Theory	3 cr
COUN 7758	Independent Problems	1-4 cr
COUN 7775	Advanced Practicum in Group Counseling	2 cr

# Educational Specialist Degree

## Education Specialist in Counseling

The Ed.S. program is designed for persons who have completed a master's degree in counseling and wish to increase their skills for advanced certification requirements or other professional objectives.

## Admission Requirements

The applicant must:

1. Hold a master's degree in counseling from a CACREP accredited school counseling program or equivalent CACREP course work.
2. Submit Graduate School application forms and application fee.
3. Submit departmental application form and application fee by specified application date.
4. Submit three (3) letters of recommendation; two (2) letters must be from Department of Counseling faculty who agree to serve on the graduate committee.
5. Have a minimum of two (2) years of work experience as a school counselor (post-master's), and be currently employed as a certified school counselor.
6. Be recommended for admission by the Department of Counseling Admissions Committee.

## Degree Requirements

The student must complete a minimum of 70 credit hours of course work (including the master's degree) and a case study. All post-master's degree course work must be approved in advance by Department of Counseling faculty. A minimum grade point average of 3.0 is required over all course work taken in the Ed.S. program. An oral examination is required that involves the presentation of a case study and demonstration of advanced counseling skills.

## Major Requirements

At the post-master's degree Ed.S. level, all course work must be in Counseling-related areas and must include:

HRD 5501	Foundations of Professional-Technical Education	3 cr
COUN 6693	Supervision of Counselors	1 cr
COUN 6694	Psychodiagnosis and Psychotropic Drugs	3 cr
COUN 7723	Advanced Vocational Theory	3 cr
COUN 7759	Ed.S. Internship (school counseling setting)	3 cr

## Educational Specialist Case Study

The case study presented during the oral examination reflects (both in written and video form) advanced counseling skills and theoretical orientation. It reflects therapeutic goals, client themes and counseling techniques necessary to facilitate client growth.

## Time Requirement

All requirements for the Ed.S. must be completed within a period of seven (7) years from the date of completion of the first post-master's degree course to be applied toward the degree.

# Master of Counseling in Marital, Couple, and Family Counseling, Mental Health Counseling, School Counseling, or Student Affairs Counseling

## Goals

The general objective of the Master of Counseling (M.Coun.) degree is to prepare students to be professional counselors. The Department of Counseling faculty believe that the development of a strong professional identity, a rich knowledge base, and expertise in the skills of counseling are essential to functioning as a professional in each counseling setting.

The Master of Counseling degree is designed to be the strong foundation upon which graduates enter a lifetime career in the helping professions. This program prepares counselors to respond to the multitude of changes in society, and to enter the ever-expanding counseling profession. In addition to knowledge and experience in the following eight common-core areas, graduates also have specialized knowledge and skills as identified in the objectives of the Marital, Couple, and Family Counseling, Mental Health Counseling, School Counseling, and Student Affairs Counseling majors.

## Curricular Objectives:

1. Students will have knowledge of Human Growth and Development so that they can understand the nature and needs of individuals at all developmental levels.
2. Students will have knowledge of Social

and Cultural Foundations to be effective in a multicultural and diverse society.

3. Students will be knowledgeable and skillful in Counseling and Consultation processes.
4. Students will be knowledgeable about group development, dynamics, counseling theory, group counseling methods, and group work approaches.
5. Students will be knowledgeable and understand career development and related factors.
6. Students will understand and be knowledgeable about individual and group approaches to assessment and evaluation.
7. Students will be knowledgeable about various research methods and basic statistics.
8. Students will be knowledgeable about the profession of counseling including history, organizational structures, ethics, standards, and credentialing.

## Student Professional Objectives:

In addition to the above curricular objectives, the Department of Counseling has program-wide objectives. These include:

9. School counseling students will obtain certification as school counselors.
10. Students in all majors (Mental Health Counseling, Marital, Couple and Family Counseling, School Counseling, and Student Affairs Counseling) will obtain the appropriate state licensure.

## Admission Requirements

Admission into the counseling program is competitive. A preset number of students will be admitted, according to faculty resources. The Admissions Committee will make the final recommendation regarding admission based on grade point and test score rankings, as well as on the committee's impression of the applicant's interpersonal style and compatibility of personality with the program's training philosophy, and on the student's written statement.

The student must apply to, and meet all criteria for, admission to the Graduate School inclusive of the submitting of the Graduate School application forms and application fee. In addition, the applicant must:

1. Have a bachelor's degree from an accredited college or university in the United States, or its equivalent from a school in another country. (Must complete degree before onset of classes in the Fall semester in year of acceptance.) NOTE: Preference will be given to those applicants who meet both GPA and GRE/MAT criteria. The Graduate School does consider requests by the department to waive

either the GPA or the GRE/MAT so applicants are eligible to apply for admission if they meet one of the two criteria.

2. Prospective students are expected to come to campus (Pocatello or Boise) for an interview. Selected applicants will be interviewed by the Department of Counseling Admissions Committee as part of the admissions procedure. Ultimately, a student's GPA and test scores qualify the student to take part in the interview process. Students are generally selected for admission based on the interview.
3. Submit three (3) letters of recommendation from individuals who have knowledge of the applicant's academic capabilities, work performance, professional potential, and character.
4. Submit departmental application forms and application fee.
5. Read and sign the Department of Counseling Conditions for Admission/Retention/Dismissal form.

Only applicants who have submitted all application materials on or before the application deadline will have their material reviewed by the Admissions Committee to determine status as a competitive, qualified applicant (incomplete, late, or inaccurate files/forms will not be reviewed). Due to the competition for limited seats in the Master of Counseling program, satisfactory completion of the entry level requirements does not guarantee acceptance.

Selected applicants will be interviewed by the Department of Counseling Admissions Committee as part of the admissions procedure.

## Selection Schedule

After August 15, application forms will be mailed upon request, or they are available for download at <http://www.isu.edu/hpcounsel>. ISU-Pocatello: Application review begins February 15, and continues until all seats are filled. Interviews are tentatively scheduled for late March or early April. Notification of admission decisions will be announced approximately April 15 – May 1. A maximum of 20-25 students are admitted to the Master of Counseling program each year at ISU-Pocatello. Classes begin the fall semester of each year.

ISU-Meridian: Application review begins February 15 and continues until all seats are filled. Interviews are tentatively scheduled for late April. Notification of admission decisions will be announced approximately May 1. A maximum of 10-12 students are admitted to the Master of Counseling program each year at ISU-Meridian. Classes begin the fall semester of each year.

If the February 15 deadline has passed, please

contact the Department of Counseling. A secondary admission process may be conducted.

### Classified w/Performance Requirements Status

Students who meet the undergraduate grade point average of 3.0 or higher for all upper division undergraduate classes but have not received their scores for the GRE or MAT or are registered to take one of these examinations at the next possible testing may be admitted Classified (w/PR) status, and may be considered for openings not filled by Classified applicants in the Department of Counseling program.

Students must request a change of status from Classified (w/PR) status to Classified status upon completion of their first semester of graduate study. The change from Classified (w/PR) to Classified status must be approved by the Department of Counseling and the Dean of the Graduate School.

### Unclassified Status

Unclassified (non-degree seeking) status can only be used by students who have completed a master's degree in a helping profession and who agree in writing that they are taking elective courses for continuing education credit.

### Approval of Master's Degree Final Program of Study

A student who has been admitted to the Master of Counseling (M.Coun.). Program may submit a final program of study following the completion of COUN 6621, 6627, 6696 and during the semester in which COUN 6697 is being completed. The final program of study must include all coursework required to complete the selected M.Coun. major and must be approved by two counseling faculty members who have graduate faculty status (one of whom will serve as committee chair). Prior to the semester of the proposed graduation, the final program of study must receive the approval of a majority of the Counseling graduate faculty.

### General Requirements

For the Master of Counseling (M.Coun.) degree the student is required to complete the equivalent of at least four full semesters of resident graduate study beyond the bachelor's degree. For the Mental Health Counseling, Marital, Couple, & Family Counseling, School Counseling, and Student Affairs Counseling majors, a minimum of 60 semester hours must be completed in the Core and Major Course Requirements.

### Core Course Requirements

COUN 6611 Applied Statistics and Research	3 cr
COUN 6612 Psychological Testing for Counselors	2 cr
COUN 6621 Professional Orientation and Ethics	2 cr
COUN 6623 Lifestyle and Career Development	2 cr
COUN 6624 Cultural Counseling	2 cr
COUN 6625 Crisis Intervention and Trauma	2 cr
COUN 6627 Conceptual and Applied Theory	4 cr
COUN 6630 Addictions Counseling	2 cr
COUN 6660 Theories of Family and Couple Counseling	3 cr
COUN 6676 Small Group Activity	1 cr
COUN 6677 Group Counseling Techniques	3 cr
COUN 6694 Psychodiagnosis and Psychotropic Drugs	3 cr
COUN 6696 Practicum Counseling Techniques	3 cr

### Major Course Requirements:

#### Major in Marital, Couple, and Family Counseling

COUN 6661 Issues in Family Counseling	3 cr
COUN 6664 Family Assessment	2 cr
COUN 6665 Advanced Family Systems Theory	2 cr
COUN 6697 Practicum in Counseling	2 cr
COUN 6697L Practicum in Counseling Lab	0 cr
COUN 6698 Internship in Counseling	18 cr
COUN 6698L Internship in Counseling Lab	0 cr

#### Major in Mental Health Counseling

COUN 6690 Foundations of Clinical Mental Health Counseling	2 cr
COUN 6691 Professional Issues in Clinical Mental Health Counseling	2 cr
COUN 6692 Continuum of Care in Clinical Mental Health Counseling	2 cr
COUN 6697 Practicum in Counseling (mental health setting)	2 cr
COUN 6697L Practicum in Counseling Lab	0 cr
COUN 6698 Internship in Counseling	18 cr
COUN 6698L Internship in Counseling Lab	0 cr

#### Major in School Counseling

COUN 6638 Foundations of School Counseling	3 cr
COUN 6639 Application of School Counseling	3 cr
COUN 6697 Practicum in Counseling (school setting)	2 cr
COUN 6697L Practicum in Counseling Lab (school setting)	0 cr
COUN 6698 Internship in Counseling	18 cr
COUN 6698L Internship in Counseling Lab	0 cr

#### Major in Student Affairs Counseling

COUN 6680 Foundations of Student Affairs	3 cr
COUN 6683 Administration of Student Affairs	3 cr
COUN 6697 Practicum in Counseling (student affairs setting)	2 cr
COUN 6697L Practicum in Counseling Lab (student affairs setting)	0 cr
COUN 6698 Internship in Counseling	18 cr
COUN 6698L Internship in Counseling Lab	0 cr

### Requirements for the Idaho Counseling License

The Idaho Counseling License requirements include: (1) Master's degree in a counseling major (any one of the four M.Coun. majors meets this requirement), (2) 60 graduate credits in a planned counseling program (including the courses in one of the M.Coun. majors), (3) 1000 hours of counseling experience supervised by a licensed counselor (including the hours received as part of a M.Coun. program), and (4) a passing score on the Idaho Counsel-

ing License Examination (or the National Board for Certified Counselors Examination).

### Counseling Graduate Courses

**COUN 5550 Peer Counseling Seminar 1-2 credits.** Supervised experience in assisting another student. Students meet out of class on a weekly contact basis. Course provides ongoing training for the peer counselors. May be repeated up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**COUN 5584 Guidance Principles and Practices 3 credits.** Survey of the various guidance practices in secondary education. Each service is discussed from the point of view of its role in the total educational program.

**COUN 5585 Independent Problems 1-2 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems of interest to majors in education. Experience in research composition. PREREQ: PERMISSION OF INSTRUCTOR. May be repeated.

**COUN 5591 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas. Limited enrollment. May be graded S/ or on a letter-grade basis in separate sections. May be repeated up to 8 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**COUN 5594 Elementary School Guidance 2 credits.** Study of (1) the function of guidance in relation to children's needs; (2) principles and techniques of elementary school guidance; (3) analysis of representative programs of guidance in the elementary schools; and (4) research related to elementary school guidance and resulting trends.

**COUN 5598 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**COUN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**COUN 6606 Family Violence 2 credits.** Delineates the implications for assessment and treatment of the family with violence. Topics of physical abuse, sexual abuse and psychological/emotional abuse of adults and children within a family structure will be addressed.



PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6607 The Family and Mental Illness 2 credits.** Addresses therapeutic and community support that enhances the family unit as the primary care system. Mental illness as it relates to the family system is presented. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6608 The Family and Chemical Dependency 2 credits.** Addresses family systems under the influence of addictions with primary emphasis on alcohol dependency. Models and patterns of addictions will be examined. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6609 The Family and the Aged 2 credits.** Emphasizes the impact of aging on family systems from an economic, emotional, social, spiritual, and physiological perspective. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6611 Applied Statistics and Research 3 credits.** Basic understanding of applied statistics. Procedures for designing, interpreting, critiquing, and presenting professional research. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6612 Psychological Testing for Counselors 2 credits.** An overview of the standardized tests most commonly used by counselors. In addition to learning the underlying concepts of standardized testing, students will also be taught how to select and use tests appropriate to their proposed work settings. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6613 Basic Projective Techniques 2 credits.** Projective theory and its relationship to psychoanalysis, dynamic theory, and learning theory. Techniques including problems of clinical practicality, prediction of behavior, and personality assessment. Practical experiences available in laboratory courses. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6619 Individual Intelligence Testing 3 credits.** Supervised practice in administering, scoring, and interpreting the results of individual intelligence tests. Each section lim-

ited to 6 students. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6612 OR PERMISSION OF INSTRUCTOR.

**COUN 6621 Professional Orientation and Ethics 2 credits.** Introduction to profession of counseling: history, accreditation, licensure, organizational structure, advocacy, and use of technology. Ethical problems in counseling with specific attention given to the American Counseling Association Code of Ethics. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6623 Lifestyle and Career Development 2 credits.** Career development theories and decision-making models for counselors including career resources and materials. PREREQ AND CO-REQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6621 AND COUN 6696, OR PERMISSION OF INSTRUCTOR.

**COUN 6624 Cultural Counseling 2 credits.** The roles of minority groups, gender, age and other factors influencing adjustment in a pluralistic society. PREREQ AND CO-REQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6621 AND COUN 6696, OR PERMISSION OF INSTRUCTOR.

**COUN 6625 Crisis Interventions & Trauma Counseling 2 credits.** Current information, skills and strategies for counseling interventions specific to crises, disasters, and other trauma causing events. Topics include: triage, assessment and diagnosis, individual and community resiliency, emergency preparedness, multicultural considerations, interagency cooperation, and "psychological first aid". PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6627 Conceptual and Applied Counseling Theory 4 credits.** The conceptual study of selected counseling theories related to historical development, personality development, client maturation, and learning theory. Application emphasis on the evolution of maladjustment, process change, and appropriate interventions for generating change. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6630 Addictions Counseling 2 credits.** Acquaint students with current theories of addiction, recovery, and relapse prevention as well as effective strategies and techniques in working with clients with addictions. The course will explore public policies on local,

state, and national levels with regard to addiction services. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6638 Foundations of School Counseling 3 credits.** An introduction to the school counseling profession, developmental program models and the roles of the professional school counselor. Special focus will be placed on current literature, cultural considerations, philosophical assumptions, key concepts, techniques, practical applications, recent legislation and consultation. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6639 Application of School Counseling Foundations 3 credits.** This school counseling class prepares students to identify and work with specific populations of youth-at-risk and their communities. Special focus will be placed on current literature, cultural considerations, philosophical assumptions, key concepts, techniques, and practical applications for the K-12 school counselor. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6650 Thesis 1-9 credits.** May be repeated. Graded S/U. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6651 Master's Paper 3 credits.** A paper involving extensive familiarity with research findings written under the supervision of a faculty member in the department. May be repeated. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6652 Specialist Paper 3 credits.** A paper involving extensive familiarity with research findings under the supervision of a faculty member of the department. May be repeated. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6658 Independent Problems 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems. Experience in research composition. May be repeated up to 6 credits. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, OR THE PH.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM, OR THE ED.S. IN COUNSELING PROGRAM, OR PERMISSION OF INSTRUCTOR.

**COUN 6659 Seminar 1-3 credits.** Critical analysis of the literature in one or more areas of education. Enrollment limited. May be repeated up to 8 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**COUN 6660 Theories of Family & Couple Counseling 3 credits.** The study of the development of the family and couple counseling field and the issues and theories related to its practice. PREREQ OR COREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6621, COUN 6627, COUN 6696, OR PERMISSION OF INSTRUCTOR.

**COUN 6661 Issues in Family Counseling 3 credits.** Examination of the effects of violence, issues of sexuality, and issues related to parenting place on family dynamics and family counseling. PREREQ OR CO-REQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6660 OR PERMISSION OF INSTRUCTOR.

**COUN 6664 Family Assessment 2 credits.** Introduction to family assessment models and instruments as well as evaluation of programs/agencies providing family counseling. PREREQ OR COREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6660, COUN 6662, OR PERMISSION OF INSTRUCTOR.

**COUN 6665 Advanced Family Systems Theory 2 credits.** Advanced theoretical study with emphasis on researched applications of family counseling. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6660 OR PERMISSION OF INSTRUCTOR.

**COUN 6669 Family/Couple Counseling Practicum 3 credits.** Practicum experience counseling families and couples. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6660, COUN 6663, COUN 6697, OR PERMISSION OF INSTRUCTOR.

**COUN 6676 Small Group Activity 1 credit.** Designed to give direct experiences as a group participant and provide preparation for

**COUN 6677 Group Counseling Techniques 3 credits.** Essential research, selected group - development and therapy theories, leadership orientations and strategies, structural group dynamics, and applications. Skills development in a laboratory setting. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6676, COUN 6696 OR PERMISSION OF INSTRUCTOR.

**COUN 6680 Foundations of Student Affairs 3 credits.** History, philosophy, purpose, and function of student affairs practice including review of "The Student Personnel Point of View," theories of student development, and current trends. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6683 Administration of Student Affairs Practice 3 credits.** Leadership and management theories and practice in higher education and student services. Essential research, consultation, good practices, and assessment techniques for all student populations and services. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6680 OR PERMISSION OF INSTRUCTOR.

**COUN 6687 Field Work in Personnel Services 1-2 credits.** Observation and learning the duties performed by the persons in the field work setting. A combination of fifty hours of experience and supervision equals one hour of academic credit. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.. Graded S/U.

**COUN 6689 Internship in Student Personnel 3-12 credits.** A combination of fifty hours of experience and supervision equals one hour of academic credit. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6690 Foundations of Clinical Mental Health Counseling (CMHC) 2 credits.** Orientation to the professional foundation of clinical mental health counseling for individuals, couples, and families across the lifespan. Topics include history and philosophy, ethics, professional roles and functions, professionalism, community systems and mental health, identity, and diversity within clinical mental health counseling. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6691 Professional Issues in Clinical Mental Health Counseling (CMHC) 2 credits.** This course will provide current information and strategies for counseling issues specific to clinical mental health counseling. Topics include advocacy, public policy, administration and finance, and practice privileges. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6690 OR PERMISSION OF INSTRUCTOR.

**COUN 6692 Continuum of Care in Clinical Mental Health Counseling (CMHC) 2 credit.** The course will address philosophical and contextual elements of clinical mental health counseling. Topics include the wellness model, prevention, diagnosis in context, treatment modalities, delivery systems, and best practices for clinical mental health counselors. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6693 Supervision of Counselors 1 credit.** The study of current practices used in the clinical supervision of counselors. Current literature will be reviewed as well as standards for supervision which have been established by accrediting bodies and professional associations. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, OR THE ED.S. IN COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 6694 Psychodiagnosis and Psychotropic Drugs 3 credits.** Psychological classification systems, mental status evaluations, and the use of psychotropic drugs in treatment programs. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6621 AND COUN 6696, OR PERMISSION OF INSTRUCTOR.

**COUN 6696 Prepracticum Counseling Techniques 3 credits.** The study and practice of counseling techniques including micro-counseling and role-playing. May be repeated. PREREQ AND CO-REQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6621, COUN 6627 OR PERMISSION OF INSTRUCTOR.

**COUN 6697 Practicum in Counseling 2 credits.** Supervised counseling experience. A combination of fifty hours of experience and supervision equals one hour of academic credit. Each section limited to 5 students. May be repeated. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6696 OR PERMISSION OF INSTRUCTOR.

**COUN 6697L Practicum in Counseling Lab 0 credits.** Group supervision of students working in the field during their internship experience. Supervision is provided on a weekly basis and thus the units of instruction are devised as tutorial experience based on the student's developmental needs. Graded S/U. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM AND COUN 6697.

**COUN 6698 Internship in Counseling 1-18 credits.** A combination of fifty hours of experience

rience and supervision equals one hour of academic credit. May be repeated for a maximum of 17 credits. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6697.

**COUN 6698L Internship in Counseling Lab 0 credits.** Group supervision of students working in the field during their internship experience. Supervision is provided on a weekly basis and thus the units of instruction are devised as a tutorial experience based on the student's developmental needs. Graded S/U. PREREQ AND CO-REQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, COUN 6698.

**COUN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated. PREREQ: ADMISSION TO THE MASTER OF COUNSELING PROGRAM, THE ED.S. IN COUNSELING PROGRAM, OR THE PH.D. IN COUNSELOR EDUCATION & COUNSELING PROGRAM OR PERMISSION OF INSTRUCTOR.

**COUN 7701 Advanced Statistics 2 credits.** Statistical application appropriate for doctoral research and writing. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7702 Advanced Research and Experimental Design 2 credits.** Quantitative methods of conducting research in doctoral study. PREREQ: COUN 7701 AND ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7703 Qualitative Research 2 credits.** Explores and contrasts philosophical assumptions of qualitative and quantitative research. Various methodologies and approaches to qualitative research are reviewed and applications discussed. PREREQ: COUN 7701 AND ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7704 Qualitative Methodology & Analysis 2 credits.** Design, data collection, analysis and writing qualitative research. Practice using data collection procedures, traditional analytic methods and qualitative data processing programs for coding and matrix construction. Emphasizes grounded theory approach. PREREQ: COUN 7703 AND ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7705 Instructional Theory for Counselor Educators 3 credits.** Instructional theory and methods relevant to counselor education including models and methods of appraisal. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7710 Practicum in College Teaching 2 credits.** Observation of and assisting in the teaching and evaluation of a college course under the supervision of the course instructor. The student will prepare and deliver at least five lectures which will be observed by the instructor and will, in addition to observing the balance of the course, meet individually with the instructor for periodic discussions of procedure and methodology. PREREQ: COUN 7705, COMPLETION OF THE COURSE IN WHICH THE PRACTICUM WILL BE SERVED, ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7712 Advanced Psychological Testing and Assessment 2 credits.** Advanced psychological testing concepts, test administration, test construction and interpretation. Advanced information of standardized tests commonly used in the counselor education field. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7723 Advanced Vocational Theory 3 credits.** Theory of vocational development, sociological aspects of vocational choice and entry, development of interests and aspiration levels, and research relating to entry into work, satisfaction in work, dissatisfaction in topics. Course is structured around the major theories of vocational development as they relate to individual development. Various approaches to vocational testing are included. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7724 Advanced Diversity Issues 3 credits.** Pedagogy relevant to current social and cultural issues. Role of diversity issues in counselor education, supervision, and counseling. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7727 Advanced Theories of Counseling 3 credits.** Analysis of various counseling theories and their relationships to specific philosophies concerning humanity. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7758 Independent Problems 1-4 credits.** Individual work under staff guidance. Field and/or library research on specific educational problems. Experience in research composition. May be repeated up to 8 credits. PREREQ: PERMISSION OF INSTRUCTOR AND ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM..

**COUN 7759 Ed.S. Internship 1-9 credits.** Placement in a post-master's degree counseling setting. A combination of fifty hours of experience and supervision equals one hour of academic credit. May be repeated. PREREQ: ADMISSION AS AN ED.S. STUDENT AND PERMISSION OF INSTRUCTOR.

**COUN 7774 Advanced Group Procedures 3 credits.** Advanced group leadership theory and techniques. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7775 Advanced Practicum in Group Counseling 2 credits.** Fifty hours of group counseling as the group facilitator, plus a coordinating seminar. Includes the theoretical basis for group leaders and development of group leadership skills. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 7790 Supervision in Counselor Education 3 credits.** Analysis of systems for conducting supervision of counseling students including various models of supervision and their implementation in Practicum and Internship. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8800 Research and Professional Issues 1-3 credit.** Critical analysis of the literature in counselor education including topics such as program models, current research, and professional associations. May be repeated up to 3 credits. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8801 Doctoral Career Development 1 credit.** Implementation of career theory into professional development plans for advancement in Counselor Education. PREREQ: ADMISSION TO Ph.D. PROGRAM IN COUNSELOR EDUCATION AND COUNSELING.

**COUN 8802 Scholarship in Counselor Education 1 credit.** Developing a scholarly identity and research agenda within counselor education and supervision. Course will focus on creating and submitting publishable manuscripts; developing grant writing skills; navigating the academic publication process; and,

enhancing writing quality and productivity. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8848 Doctoral Counseling Practicum 3 credits.** Counseling under supervision and an intensive examination of the students own counseling philosophy and its relationship to client behavioral and attitudinal change. A combination of fifty hours of experience and supervision equals one hour of academic credit. Each section limited to 5 students. PREREQ: COUN 7727 AND ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8848L Doctoral Counseling Practicum Lab 0 credits.** Group supervision of student working in the field during their doctoral practicum experience. Supervision is provided on a weekly basis and thus the units of instruction are devised as a tutorial experience based on the student's developmental needs. Graded S/U. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8849 Doctoral Internship 1-18 credits.** Placement in a doctoral level counseling or counselor education setting. May be repeated. A combination of fifty hours of experience and supervision equals one hour of academic credit. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8849L Doctoral Internship Lab 0 credits.** Group supervision of student working in the field during their doctoral internship experience. Supervision is provided on a weekly basis and thus the units of instruction are devised as tutorial experience based on the student's developmental needs. Graded S/U. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

**COUN 8850 Dissertation 1-12 credits.** May be repeated. Graded S/U. PREREQ: ADMISSION TO Ph.D. IN COUNSELOR EDUCATION AND COUNSELING PROGRAM.

## Dietetic Programs

Director: McKnight

Assistant Professors: Blanton, Weeden

Clinical Faculty: Grim, McKnight, Schneider

Adjunct Faculty: Hilvers, Vance

Professor Emeritus: Dundas

The two Dietetic Programs at Idaho State University are undergraduate and post-baccalaureate. Though no graduate degree is offered in Nutrition nor Dietetics, there are

several courses available to take for graduate credit once the prerequisites have been met. Dietetics has two graduate faculty who are available to work on theses with a nutrition focus.

## Nutrition and Dietetics Graduate Courses

### (No Graduate Degrees Offered)

**NTD 5509 Professional Readings 1-3 credits.** Identification and investigation of conceptual ideas about the relationship of programs, trends, legislation, and developments in food and nutrition. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**NTD 5539 Sports Nutrition 3 credits.** Nutrition recommendations for competitive and recreational athletic performance. Rationale for nutrition practices through an examination of individual nutrient metabolism. Controversies and misinformation addressed. Suggested prereq NTD 2239 or equivalent or permission of instructor.

**NTD 5557 Experimental Foods 3 credits.** Development of experimental methods and their application to cookery and food technology; preparation of student for independent investigation in foods; acquaintance with literature in the field. Two hours lecture/four hours laboratory. Suggested prereq NTD 1104 or equivalent or permission of instructor.

**NTD 5561 Nutritional Biochemistry I 3 credits.** Advanced study of nutrition science, including protein, carbohydrate, lipid, vitamin, and mineral metabolism. Introduction to research methodology and professional literature. Suggested prereq NTD 2239, CHEM 1101, CHEM 1102 and CHEM 1103 or higher levels of chemistry including inorganic, organic, and biochemistry, or permission of instructor.

**NTD 5581 Special Problems in Nutrition and Dietetics 1-2 credits.** Students select problems on the basis of special needs, interests, or abilities and work on them independently in the laboratory, library, or community, with regular conferences with the advisor. PREREQ: Permission of instructor.

**NTD 5585 Nutritional Biochemistry II 3 credits.** Human metabolism in health and disease. Emphasizes interrelationships among hormones, carbohydrates, proteins, lipids, vitamins and minerals within tissues and organs. Suggested prereq NTD 4461 or NTD 5561 or permission of instructor.

**NTD 5591-5592 Special Problems in Nutrition and Dietetics I & II 1-2 credits.** Students select problems on the basis of special needs,

interests or abilities, and work on them independently in the laboratory, library, or community with regular conferences with the advisor. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR.

**NTD 5595 Dental Nutrition 1 credit.** This course reviews the role of nutrition in attaining and maintaining optimal oral health. The course explores how the essential nutrients influence oral health. This course is only available to students in the Idaho Dental Education Program in the Department of Dental Science.

**NTD 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NTD 6620 Nutritional Epidemiology 2 credits.** Specialized study of epidemiology including nutritional assessment methods, interrelationships between disease, diet, and health status, and implications for public health policy.

**NTD 6622 Maternal, Infant, and Child Nutrition 2 credits.** Advanced study of nutrition in human growth and development during pregnancy, lactation, infancy, childhood, adolescence. Therapeutic nutritional management of diseases specific to pregnancy, infancy, and childhood are addressed.

**NTD 6624 Nutrition and Aging 2 credits.** Exploration of the physiological, psychosocial, and chronic degenerative conditions associated with aging and the nutritional implications of each. Epidemiological basis for setting dietary goals and program development to support the nutritional needs of the elderly is addressed.

**NTD 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

# Health Care Administration Program

Program Director and Assistant Professor:  
Farnsworth

Associate Professor: Hermanson

## Health Care Administration Graduate Courses

### (No Graduate Degrees Offered)

**HCA 5550 Special Topics in Healthcare 1-3 credits.** Topics relevant to health professionals. May be repeated for up to 9 credits with different titles or content. Graded S/U.

**HCA 5553 Healthcare Finance 3 credits.** The application of financial management principles, practices and techniques used in healthcare organizations. An understanding an analysis of how these financial tools are used in decision making and how they are integrated into the healthcare organization's planning process. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ACCT 2202 and FIN 3315 or equivalent.

**HCA 5565 Health Care Operations and Quality 3 credits.** This capstone course in health care administration addresses the application of managerial concepts and practices within various health care environments, including acute, ambulatory, mental health, and long term care organizations. Topics include issues/trends and best practices related to governance, leadership, management; planning and marketing; quality assessment/operations improvement; and maximizing human resources and financial performance. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**HCA 5573 Marketing for Health Care Organizations 3 credits.** Introduction to basic marketing management issues as they pertain to healthcare. Current marketing trends in the health care marketplace. Consumer orientation, healthcare marketing plans, and strategy development. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**HCA 5575 Health Law and Bioethics 3 credits.** This course develops a roadmap to facilitate risk management in the provision of healthcare services. Issues addressed include regulation and licensure, liability, selected aspects of public programs, and ethical issues regarding death, reproduction, and research. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**HCA 5595 Administrative Internship 4 credits.** During the internship experience, students work in a health or human services organization, performing various duties and being exposed to various aspects of managerial careers in health services management.\* PREREQ: HCA emphasis and permission of HCA department chair. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. \*Some facilities may require a background check. When required, this check will be conducted at the student's expense.

**HCA 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**HCA 6610 Industry in Transition 2 credits.** Current readings from the popular and academic literature are used to explore and to understand the critical aspects of access, cost, and quality health care delivery across all areas of the industry.

**HCA 6615 Health Services Management 3 credits.** Determination and fulfillment of mission, plans, and structure, motivating individuals, and managing activities to support people in their work and in the achievement of their goals.

**HCA 6620 Economics and Reimbursement 2 credits.** In-depth synthesis of the insurance and reimbursement practices in today's health care environment, and the economic foundations upon which they are based.

**HCA 6625 Healthcare Law and Bioethics 3 credits.** Comprehensive coverage of legal issues and the ethical implications of the law as applied to regulation and licensure, health care financing, Medicare and Medicaid, health care reform, and other relevant current issues.

**HCA 6630 Financial Management 3 credits.** The application of financial management principles, practices, and techniques used in health care organizations. Financial tools as decision making, strategy, and planning tools.

**HCA 6635 Healthcare IT and Quality 2 credits.** Healthcare IT management framework, hardware and software, project management, and the collection, use, security of health information, external accreditation processes, and internal quality improvement programs.

**HCA 6640 Healthcare Policy 2 credits.** The formulation of priorities, development of leg-

islation, implementation of legislative provisions through administrative action, and their effect on population health.

**HCA 6645 Strategic Management 3 credits.** An integration of the principles of organization management, finance, and marketing. Market analysis and positioning including strategic planning and new program development. The leader's role in strategy formulation and implementation.

**HCA 6651 Master's Project 1-3 credits.** Under the guidance of a supervising committee, each student will conduct an in-depth project specific to a current issue or problem in health care management. Written documentation and an oral defense of the project are required. Must be taken for three credits the first time this course is taken. May be repeated for variable credit thereafter. Graded S/U.

**HCA 6660 Applied Research 3 credits.** Students will develop the knowledge and skills needed to investigate and address important issues in health organizations using the methods of health services research, as well as to effectively use and evaluate the published literature. How to identify and define a question that is researchable, appropriately use primary and secondary data, choose and execute appropriate research designs, and select and apply appropriate qualitative, quantitative, survey, and evaluation methods.

**HCA 6665 Health Insurance and Reimbursement 3 credits.** Introduction to, and analysis of, health insurance in the United States. Select topics include reimbursement systems, public and private health insurance; their impact on patients, organizations, society, care delivery modes, and clinical and managerial quality.

**HCA 6680 Applied Topics in Health Care 3 credits.** Advanced readings and analysis in the areas of health economics, health finance, social aspects of medicine, bioethics, public health and epidemiology.

**HCA 6682 US Health Systems and Policy 3 credits.** An examination of US health industry, systems, and organizations from the four-point perspective of access, quality, finance, and policy.

**HCA 6691 Independent Problems in Health Care Administration 1 - 3 credits.** Individual work under faculty guidance may be repeated for up to 6 credits.

**HCA 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the schedul-

ing department. Experimental courses may be offered no more than three times. May be repeated.

## Health Education Program

Program Director and Professor: McAleese  
Professor: Rankin  
Assistant Professors: Batacan, Olsen

## Master of Health Education (MHE)

The master's degree program in Health Education is designed to prepare students to teach strategies in health promotion/disease prevention. Coursework emphasizes the acquisition of skills to assess, plan, implement, and evaluate health education programs in the school, community, or worksite setting.

### Admission Requirements

To be accepted as a applicant for the Master of Health Education degree, the student must apply to, and meet all criteria for, admission to the Graduate School. In addition, the Health Education Program may require: (1) the applicant to have necessary background in the related natural sciences, and (2) that the applicant have the necessary background in tests and measurements and basic statistical procedures. Both thesis and non-thesis options are available.

### Entrance Procedure

The Program Director will review MHE applications. Admission standards and application procedures are presented in the Graduate Catalog. The Program Director will admit prospective students who satisfy the MHE Program and Graduate School admission requirements. Applicants who do not completely satisfy requirements are referred to the Admissions Committee to determine recommended admission or denial.

For classified admission into the program, applicants must satisfy the following criteria:

1. The student must apply to, and meet all criteria for, admission to the Graduate School.
2. Submit all previous college transcripts and have a cumulative undergraduate grade point average of at least 3.0 in upper division courses. An applicant who currently holds a graduate degree must submit transcripts, but the undergraduate GPA requirement will not be part of departmental consideration.
3. Submit two letters of recommendation from individuals (non-relatives) who are

familiar with their abilities. The letters should be sent to the Health Education Program at the same time the application is sent to the Graduate School.

4. Applicants must submit a typed essay (one to two pages, single spaced) describing their interest in pursuing the MHE degree and their vision of how it will facilitate their career goals.

Applicants currently holding degrees at the doctoral level from an accredited institution will not be required to submit GRE general test scores, except for applicants who have a professional doctoral degree (e.g., PharmD and Juris Doctorate). Those holding degrees at the baccalaureate and master's level must submit GRE general test results to the Graduate School.

### Course Requirements

HE/MPH 6605 Leadership and Administration	3 cr
HE/MPH 6620 Health Program Planning and Evaluation	3 cr
HE 6639 Teaching Strategies in Health	3 cr
HE/MPH 6640 Research and Writing in Health	3 cr
HE/MPH 6660 Behavior Change Theory and Applications	3 cr

In addition, one of the following:

HE 6623 Curriculum and Supervision	3 cr
MPH 6604 Social and Cultural Perspectives in Public Health	3 cr

### Thesis Option

HE 6650 Thesis	6 cr
Approved Electives	6 cr
TOTAL	30 cr

### Non-Thesis Option

HE 6651 Master's Project in Health Education	6 cr
Approved Electives	6 cr
TOTAL	30 cr

## Health Education Graduate Courses

**HE 5501 Issues in Health and Wellness 1-3 credits.** Contemporary health and wellness issues emphasizing education interventions and application. Topics may include: death and dying, computer technology in health, healthy aging, motivation, emergency preparedness, alternative and complementary medicine, international health. May be repeated to 6 credits with different content. PREREQ: PERMISSION OF INSTRUCTOR.

**HE 5525 Patient Education Skills 2 credits.** Explores the foundations and application of organizational and communication skills which promote a positive atmosphere for patient education in clinical and worksite settings.

**HE 5542 Environmental Health and Health Education 3 credits.** Study of a variety of issues related to protecting and preserving the

environment with an emphasis on school and community educational programs. PREREQ: ADMISSION TO HEALTH EDUCATION PROGRAM OR PERMISSION OF INSTRUCTOR.

**HE 5543 Substance Abuse and Health Education 3 credits.** Study of the physical, psychological, sociological, and environmental factors related to drug use with emphasis on school and community prevention programs. PREREQ: ADMISSION TO HEALTH EDUCATION PROGRAM OR PERMISSION OF INSTRUCTOR.

**HE 5545 Human Sexuality and Health Education 3 credits.** Study of the multifaceted nature of human sexuality with an emphasis on school and community-level educational programs. PREREQ: ADMISSION TO HEALTH EDUCATION PROGRAM OR PERMISSION OF INSTRUCTOR.

**HE 5585 Independent Problems in Health Education 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific health education problems of interest to majors and minors. Permission of instructor. May be repeated up to 6 credits.

**HE 5591 Health Education Workshop 1-3 credits.** A critical analysis of one or more areas of health education. Limited enrollment. May be repeated up to 6 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**HE 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**HE 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**HE 6605 Leadership Policy and Administration 3 credits.** Development of leadership and administrative skills which contribute to implementation of effective public health policies and programs. Students will learn strategic planning, facilitation techniques, communication strategies, budget development, and management. Cross-listed with MPH 6605.

**HE 6620 Health Program Planning and Evaluation 3 credits.** Theory and processes of assessment, planning, implementing, and evaluating health education, promotion, and disease prevention programs. Principles taught in this course will be applied to community situations.

Cross-listed as MPH 6620.

**HE 6623 Curriculum and Supervision 3 credits.** Consideration of the health education curriculum in public schools and in colleges and universities. Recent developments and current trends that influence the curriculum and supervision policies. Observation techniques, standards in judging instruction, the supervisory conference, cooperative supervision, basic foundation of curriculum construction, and lesson planning.

**HE 6639 Teaching Strategies in Health 3 credits.** An advanced study of strategies and innovative methods of teaching health education. Emphasis on application to a variety of educational levels.

**HE 6640 Research and Writing in Health 3 credits.** Application of principles of research design in the health sciences. Requires preparation of a thesis/project proposal. Cross-list with MPH 6640.

**HE 6648 Problems in Health Education 1-3 credits.** Individual and group study of problems in the area of health. May be repeated to 6 credit hours. PREREQ: APPROVAL OF ADVISOR AND/OR CHAIRPERSON. Graded S/U.

**HE 6650 Thesis 1-6 credits.** Graded S/U. May be repeated.

**HE 6651 Master's Project in Health Education 1-6 credits.** Graded S/U. May be repeated.

**HE 6655 Internship 1-3 credits.** Administration, supervision and operation of a community health program. Students work under the direction of a graduate faculty member and practicing administrator. May be repeated up to 3 credits. PREREQ: APPROVAL OF ADVISOR AND/OR CHAIR. Graded S/U.

**HE 6660 Behavior Change Theory and Applications 3 credits.** Provides a basic understanding of the social, emotional, and lifestyle factors related to health behavior. Strategies designed to identify barriers to behavior and to enhance the health of selected populations are examined. Cross-listed with MPH 6660.

**HE 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Master of Science in Medical Laboratory Science

Program Director & Clinical Associate Professor: Nehr-Kanet  
Assistant Professor: Ma  
Clinical Associate Professors: Galindo  
Clinical Professor: Spiegel (Emeritus)

Medical laboratory scientists are vital healthcare detectives, uncovering and providing key medical information from laboratory analyses that assist physicians in patient diagnosis, treatment, as well as in disease monitoring or prevention.

Laboratory testing encompasses such disciplines as clinical chemistry, hematology, immunology, transfusion medicine, microbiology, and molecular biology.

The Medical Laboratory Science program is located in the Division of Health Sciences, Kasiska School of Health Professions in both Pocatello and Meridian Idaho.

The Master of Science in Medical Laboratory Science degree is designed for either the practicing medical laboratory scientist (certified lab professional) or those students who wish to become certified and then go into leadership positions in administration, education or specialize in a certain area of athology/laboratory medicine. Graduates are ideally suited for positions involving teaching, laboratory management, and research. Full-time and part-time options are available, and many courses are available online. A curriculum of course work and research project is designed and personalized for each student, depending on his/her area of interest and experience.

The M.S. program in Clinical Laboratory Science requires an original research project that culminates in a thesis, a minimum of 32 credits earned in graduate courses (including research and thesis), and expertise in core conceptual areas of Medical Laboratory -Science (scientific, administrative, or educational).

### Admission Requirements

Applicants must have a minimum 3.0 GPA for upper division credits taken at the undergraduate level. Graduate School Admission GPA is calculated based on the last 60± semester undergraduate credits (90± quarter credits). The student must apply to, and meet all criteria for admission to the Graduate School.

In addition, admission into the M.S. program will require the student to meet one of the two following conditions:

1. Professionals already certified as Medical Laboratory Scientist (BOC) and completion of a B.S. or B.A. degree in a related science from an accredited university or college. Note: Certification as Medical Laboratory Scientist categorical does not wholly satisfy this requirement.

OR

2. Professional entry-level M.S. completing certification requirements while pursuing the M.S. degree. Completion of a B.S. or B.A. degree from an accredited institution and completion of the following requirements during the M.S. program of study:
  - a. At least 16 semester hours of chemistry to include inorganic chemistry and some combination of organic, biochemistry and analytical chemistry;
  - b. At least 16 semester hours of biology, to include at least one semester in microbiology, cell biology, genetics, immunology, anatomy and physiology and human pathophysiology.
  - c. Successful completion of the ISU Medical Laboratory Science professional program, accredited by NAACLS (National Accrediting Agency for Clinical Laboratory Science). Successful completion qualifies the applicant to take the national credentialing examinations offered by Board of Certification (BOC) and this should be attempted within one year of finishing the MLS professional block and prior to completion of the MLS research thesis.

### Core Curriculum Areas

The three core areas for Medical Laboratory Science that all students could include in their programs of study are:

1. Scientific subject core area including pathology, hematology, transfusion medicine (immunohematology), clinical chemistry, genetics, microbiology or molecular biology.
2. Management core area including information management, statistics, Quality Assurance Programs (i.e. Westgard, 6 Sigma Lean) predictive value theory, personnel, financial, organizational or regulatory concepts.
3. Educational core area including educational design and adult learning for professionals within and outside the medical laboratory setting.

Students are expected to have significant exposure to these core areas by the time they complete their degree requirements. Students coming in with MLS credentials have already demonstrated mastery of the core scientific

subject area and those who do not have these credentials will be expected to demonstrate mastery by an examination administered by the program before they finish their M.S. studies.

Students may opt to gain expertise through a variety of mechanisms including independent readings, formal course work, seminars or special projects. For those students who are not already credentialed, the 6 credits of the MLS Practicum are at the undergraduate level. This does not count toward the 32 graduate credit requirements.

Required Courses for the M.S. in MLS used to satisfy the core areas described below:

MLS 4490, MLS 4491, MLS 4492, MLS 4493 and MLS 4494 Practicum experiences 6 cr (does not count for graduate credit)

OR

BOC MLS certification (does not count for graduate credit)

MLS 6648 Graduate Problems (research)	4 cr
MLS 6650 Thesis	6 cr
and	
at least 3 cr of MLS graduate course work (MLS 6640, MLS 6641, MLS 6642, MLS 6643 and/or MLS 6644)	3 cr

The remaining credits are to be taken from graduate-level courses (a minimum of 16 at the 6600 level) in one or more of the core areas with the approval of the applicant's committee and MLS Program Director.

Three graduate level courses (6 to 9 credits) approved by the graduate student's committee may be taken from outside the department (to be taken at Boise State University, Idaho State University, or another approved university) and may include adult education, management, and/or medical informatics.

The thesis project may be in a core scientific subject, management or education or a combination thereof.

## Medical Laboratory Science Courses

**MLS 5512 Urinalysis and Body Fluids 1 credit.** Fundamental principles of urine and body fluid analysis with correlation of laboratory methods and practice. Graduate students will prepare, conduct, and evaluate case study sessions. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5514 Hematology and Hemostasis 3 credits.** Theoretical and applied aspects of medical hematology and hemostasis with emphasis on recognition and correlation of abnormal laboratory observations with pathological conditions. Graduate students will prepare, conduct, and evaluate case study sessions.

PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5516 Medical Microbiology I 3 credits.** Study and identification of medically important bacteria, viruses, fungi, chlamydiae, rickettsiae, and parasites as applicable to laboratory and infection control settings. Graduate students will prepare, conduct, and evaluate case study sessions. PREREQ: BIOL 2235 OR 2221 OR EQUIVALENT. ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5518 Medical Chemistry and Instrumentation 3 credits.** Theoretical and applied aspects of medical chemistry with emphasis on test development, validation, and use in diagnosis and management of pathological conditions. Graduate students will prepare, conduct and evaluate case study sessions. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5520 Medical Immunology 2 credits.** Practical aspects of immunology with emphasis on pathological conditions and laboratory practice. Graduate students will prepare, conduct, and evaluate case study sessions. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5522 Basic Concepts in Transfusion Medicine 2 credits.** Practical aspects and theoretical considerations of major blood groups with respect to transfusion therapy. Oral and written project presentation required for graduate credit. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5524 Medical Laboratory Fundamentals 1 credit.** Theory and application of basic techniques and instruments used in all areas of medical laboratories. Graduate students will evaluate laboratory methods and write standard operating procedures.. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE. LAB FEE.

**MLS 5531 Medical Microbiology II 3 credits.** Advanced topics in medical microbiology, including application of laboratory techniques to the identification and evaluation of medically important pathogens, and correlations with disease states. Graduate students will prepare, conduct and evaluate case study sessions. PREREQ: CLS 5516 MEDICAL MICROBIOLOGY I, ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5533 MLS Management and Education 2 credits.** Advanced principles of current personnel, financial, regulatory issues, laboratory information systems, management, and

education. Student presentations will be required. Students taking the course for graduate credit will prepare, conduct and evaluate a project. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5535 Molecular Diagnostics 3 credits.** A comprehensive overview of the fundamental principles of medical molecular diagnostics and use of molecular techniques in the diagnosis of disease. Topics include: nucleic acid structure and function, genetics, DNA chemistry, introduction to nucleic acid isolation, identification and amplification techniques. Graduate students will prepare, conduct, and evaluate case study sessions. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5537 Critical Analysis of Lab Information 3 credits.** Evaluation of clinical laboratory values with emphasis on advanced methods, specialized statistics, algorithm building, and clinical correlations. Graduate students will prepare, conduct and evaluate case study sessions.. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5539 Advanced Concepts in Transfusion Medicine 2 credits.** Advanced topics in Immunohematology. Application of laboratory techniques to the identification and evaluation of antibodies and antigens. Emphasis on transfusion therapy. Graduate students will prepare, conduct and evaluate case study sessions. PREREQ: CLS 5522 BASIC CONCEPTS IN TRANSFUSION MEDICINE. ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5541 MLS Graduate Research 1-3 credits.** Individual theory and application of related topics associated with the medical laboratory. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE.

**MLS 5555 MLS Student Laboratory Practices 2 credits.** Directed practice in the advanced tests and techniques in common use in the medical laboratory (including molecular biology, microbiology, hematology, chemistry, blood bank). Graduate students will be responsible for higher complexity testing and advanced problem solving exercises. PREREQ: ACCEPTANCE INTO MLS PROGRAM. PROFESSIONAL FEE. LAB FEE.

**MLS 6640 Advanced Topics in Hematology 1-4 credits.** Current research and practice in hematology and hemostasis including molecular approaches to medical diagnosis and treatment. May be repeated for a maximum of 4 credits.



**MLS 6641 Advanced Topics in Immunology and Transfusion Medicine 1-4 credits.** Current research and practice in immunology and transfusion medicine including molecular approach to diagnosis and treatment. May be repeated for a maximum of 4 credits.

**MLS 6642 Advanced Topics in Medical Chemistry 1-4 credits.** Current research and practice in medical chemistry including innovative instrumentation and molecular diagnostics. May be repeated for a maximum of 4 credits.

**MLS 6643 Advanced Topics in Medical Laboratory Education 1-4 credits.** Curriculum design and evaluation in the Medical Laboratory setting. May be repeated for a maximum of 4 credits.

**MLS 6644 Advanced Topics in Medical Microbiology 1-4 credits.** Current research and in microbiology and molecular diagnostics including the molecular basis of important infectious diseases, microbial pathogenesis, and host-pathogen interactions. May be repeated for a maximum of 4 credits.

**MLS 6648 Graduate Problems 1-9 credits per semester (may be repeated).** Thesis related research. PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR. GRADED S/U

**MLS 6650 Thesis 1- 9 credits.** Thesis related research. May be repeated. PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR. Graded S/U.

## Master of Public Health (MPH)

Program Director and Assistant Professor: Louis

Assistant Professors: Fore, Mispiera

Public health has as a basic goal to improve the health of populations through planning, implementing, and evaluating health promotion and disease prevention programs. Public health professionals design these intervention programs by using a combination of health education and related organizational, economic, legislative, and environmental supports to enhance the probability of creating a healthier populace.

The Master of Public Health Program curriculum prepares individuals to carry out the following core public health functions as defined by the American Public Health Association: assess both the health needs and the resources available in a community, assist in health policy development that supports programs in

prevention, and assure that necessary, high quality, effective services including education are available to every citizen.

To meet this challenge, the MPH degree at Idaho State University is designed to meet the needs of two types of students: (1) those practicing health professionals who desire to augment their previous preparation so they may better implement health promotion strategies in their current work setting or community, and (2) those professionals who wish to train for careers in public health.

Core courses focus on the acquisition of requisite public health knowledge and skills in the disciplines of epidemiology, biostatistics, health policy management, social and behavioral sciences and environmental health. Elective courses allow the student to focus additional coursework in her/his chosen area of interest.

### Admission Requirements

For classified admission into the program, applicants must satisfy the following criteria:

1. The student must apply to, and meet all criteria for, admission to the Graduate School.
2. Have a cumulative undergraduate grade point of at least 3.0 in upper division (3000-4000 level) courses. Applicants who currently hold a graduate degree must submit their transcripts. All official college transcripts must be submitted to the ISU Graduate School.
3. Score an average of at least 40th percentile when considering both quantitative and verbal sections of the GRE general test but no lower than the 20th percentile in either section. No other instruments such as MCAT, LSAT, or GMAT may be substituted.
4. Applicants currently holding degrees at the doctoral level from an accredited institution will not be required to submit GRE general test scores (this includes professional doctoral degrees such as PharmD, Juris Doctorate, Medical Doctor, Doctor of Osteopathy, Doctor of Veterinary Medicine). Students who are admitted as Classified w/PR status without GRE scores must take the general test within their first semester of enrollment. Continuation in the program is contingent on the student meeting GRE score requirements. GRE scores must be submitted to the Idaho State University Graduate School.
5. Have two letters of recommendation from non-relative individuals familiar with applicant's academic or professional abilities (no personal references) sent to the Department of Health and Nutrition Sci-

ences at the same time application is sent to the Graduate School. The letters must be sealed with the signature of the recommender across the envelope flap.

6. Two years of experience working in the health field is preferred for admission. A B.S. or B.A. degree in health or a health-related discipline may substitute for working experience. Applicants will be evaluated on an individual basis.
7. Submit a typed essay (one to two pages, single spaced) describing applicant's interest in pursuing the MPH degree and vision of how it will facilitate the applicant's career goals.
8. International students who have not graduated from an accredited college or university in the United States, and whose native language is not English, must achieve satisfactory scores on the Test of English as a Foreign Language (TOEFL). Satisfactory TOEFL requirements for classified admission are described in the Idaho State University Graduate Catalog under "Admission of International Students." In addition, international student applicants who have not graduated from an accredited college or university in the United States must take the GRE and are required to score in the 40th percentile on at least one area of the GRE.

### General Requirements:

Applicants' transcripts will be evaluated by the Departmental Graduate Admissions Committee at the time of application to determine if deficiencies exist in the undergraduate coursework. Any deficiency that is identified must be made up prior to beginning the MPH program. Committee members will specify to the student courses that must be taken to rectify any deficiency.

Students pursuing the MPH degree must complete a minimum of 48 credits of coursework, including a 6-credit thesis and 9 credits of elective course work.

All students must maintain a satisfactory record of scholarship. A 3.0 grade point average (GPA) is required for any graduate degree or certification at Idaho State University. A grade of C+ or lower is essentially failing at the graduate level. However, the department may accept a C+ grade in one or two courses as long as the minimum overall 3.0 GPA is maintained.

### Course Requirements

MPH 6601	Applications in Epidemiology	3 cr
MPH 6602	Biostatistics	3 cr
MPH 6604	Social and Cultural Perspective in Public Health	3 cr
MPH/HE 6605	Leadership, Policy and Administration	3 cr
MPH 6606	Environmental and Occupational	

Health	3 cr
MPH 6607 US and Global Health Systems	3 cr
MPH 6608 Technological Applications in Public Health	3 cr
MPH 6609 Seminar in Public and Community Health	3 cr
MPH/HE 6620 Health Program Planning and Evaluation	3 cr
MPH/HE 6640 Research and Writing in Health	3 cr
MPH 6650 Thesis	1-6 cr
MPH 6655 Internship	1-3 cr
MPH/HE 6660 Behavior Change Theory and Applications	3 cr
Approved Electives	1-9 cr
TOTAL	48 cr

## Master of Public Health Graduate Courses

**MPH 5585 Independent Study in Public Health 1-3 credits.** Individual work under staff guidance. Field and/or library research on specific public health problems of interest to majors and minors. Permission of instructor. May be repeated up to 6 credits.

**MPH 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MPH 6601 Applications in Epidemiology 3 credits.** Facilitates an epidemiological approach to problem solving in the health sciences through practical application of field epidemiology concepts and methods. PREREQ: PERMISSION OF INSTRUCTOR IF STUDENT IS NOT IN THE MPH PROGRAM.

**MPH 6602 Biostatistics 3 credits.** This course will equip students with a conceptual understanding of the calculation and interpretation of inferential statistics in public health research. PREREQ: PERMISSION OF INSTRUCTOR IF STUDENT IS NOT IN THE MPH PROGRAM.

**MPH 6604 Social and Cultural Perspectives in Public Health 3 credits.** Exploration of multicultural health beliefs, health disparities and needs of our society focusing on local cultures to develop culturally competent interventions. Learn about ethical issues, social justice, community systems, coalition building, and development of community partnerships.

**MPH 6605 Leadership Policy and Administration 3 credits.** Development of leadership and administrative skills which contribute to implementation of effective public health policies and programs. Students will learn strategic planning, facilitation techniques, communication strategies, budget development, and management. Cross-listed with HE 6605.

**MPH 6606 Environmental and Occupational Health 3 credits.** Understanding the interaction of humans with their environment and the implications of human actions. Learn about assessment and control of health risks posed by chemical and biological contaminants and physical exposures (noise, heat, and radiation) in occupational and non-occupational environments.

**MPH 6607 U.S. and Global Health Systems 3 credits.** Explore the historical and contemporary multi-layered social, cultural, political, and economic determinants in the US and internationally that shape health status, health behavior, and health inequalities. Practical application of creating appropriate interventions specific to the target population.

**MPH 6608 Technological Applications in Public Health 3 credits.** Introduction and application of software programs utilized in public health practice. Examples include SPSS, MS Excel, GIS, EpiInfo, MS Publisher. PREREQ: MPH 6602.

**MPH 6609 Seminar in Public and Community Health 3 credits.** Study of topics, trends and challenges within public health.

**MPH 6620 Health Program Planning and Evaluation 3 credits.** Theory and processes of assessment, planning, implementing, and evaluating health education, promotion, and disease prevention programs. Principles taught in this course will be applied to community situations. Cross-listed as HE 6620.

**MPH 6632 Community Health 3 credits.** A study of the role of health education/health promotion in the community setting. Emphasis on methods to build coalitions to address community health concerns and on the role of needs assessment.

**MPH 6640 Research and Writing in Health 3 credits.** Application of principles of research design in the health sciences. Requires preparation of a thesis/project proposal. Cross-list with HE 6640.

**MPH 6650 Thesis 1-6 credits.** Completion of a thesis/manuscript. Practical application of knowledge/skills in a public health setting. Graded S/U. May be repeated. PREREQ: MPH 6601, 6602, 6603, 6620, AND 6640.

**MPH 6655 Public Health Internship 3 credits.** Application of skills in a public health agency, organization or other entity to provide the student with practical experience in the field. Graded S/U. May be repeated.

**MPH 6660 Behavior Change Theory and**

**Applications 3 credits.** Provides a basic understanding of the social, emotional, and lifestyle factors related to health behavior. Strategies designed to identify barriers to behavior and to enhance the health of selected populations are examined. Cross-listed with HE 6660. PREREQ: PERMISSION OF INSTRUCTOR.

**MPH 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## School of Nursing

Mary A. Nies, PhD, RN, FAAN, FAAHB  
Associate Dean Division of Health Sciences  
Director School of Nursing and Professor:  
Karen S. Neill, Ph.D., R.N., SANE-A  
Associate Director for Graduate Studies and  
Professor: Christine Mladenka, DNP, WHNP, RN  
Associate Director for Undergraduate Studies/  
Clinical Associate Professor  
Professors: Neill, Nies  
Associate Professor: Arvidson  
Clinical Professor: Mladenka  
Clinical Associate Professor: Reynolds  
Clinical Assistant Professors: Belliston,  
Hewett, Jardine-Dickerson, Marquette, Molina  
-Shaver, Ovitt, Pesnell, Pukoney, Reiland,  
Sabel

### Degree Programs

Degree programs offered by the School of Nursing include:  
Doctor of Philosophy (Ph.D.) in Nursing  
Doctor of Nursing Practice (DNP)  
DNP specific options include: Family Nurse Practitioner (FNP) and Adult Gerontology Clinical Nurse Specialist (ACNS)  
Master's in Nursing (M.S)  
M.S. specific options include: Education and Leadership

### Accreditation

The graduate and undergraduate programs in the School of Nursing are accredited by the American Association of College of Nursing, Commission on Collegiate Nursing Education (CCNE).

### School of Nursing Fees:

The School of Nursing (SON) charges a student professional fee each semester of enrollment including summer session in any nursing program. Other fees may apply. Please see ISU School of Nursing website at <http://www.isu.edu/nursing/dnp.shtml> for further information.

Students may be required to enroll in Nursing Education Exchange (NEXus) courses as part of any graduate program/option in Nursing.

## Doctor of Philosophy (Ph.D.) in Nursing

The Ph.D. in Nursing degree program will prepare the candidate to conduct independent research, collaborate as a scholar and leader, and educate for improving health and health care globally. The Ph.D. program will admit students on full time status.

### Goals

The Ph.D. in Nursing is designed with a research emphasis dedicated to extending nursing science and improving the delivery of health care for rural and vulnerable individuals, families and communities within existing cultural, geographical, and health care context. An interprofessional research focus will provide an opportunity for students to learn by collaborating with other professionals, and prepare graduates for leading change and advancing health and health care systems.

### Ph.D. Degree Program Outcomes

Each student will complete a core curriculum and work closely with interprofessional faculty advisors to complete an individualized course of study which includes the student's goals and develops the foundation for a program of research. Students will complete the coursework and dissertation through online technologies integrating an interprofessional/disciplinary approach to:

1. Synthesize and critically evaluate existing literature in nursing and related fields to identify issues and critical gaps in scientific knowledge.
2. Participate in extending scientific knowledge through mentored interprofessional opportunities and courses.
3. Create original research that contributes to scientific nursing knowledge through collaborative inquiry.
4. Practice scientific methodologies and/or contribute to development of methodologies congruent with the broad concerns of the discipline (physiological, bio-behavioral, spiritual, and psychosocial).
5. Complete research and disseminate findings with high standards of ethical conduct.
6. Display readiness for post-doctoral study through high achievement in research and scholarship.
7. Develop and assume roles that facilitate discovery, application and integration of new nursing and interprofessional

knowledge and leadership.

### Admission Requirements:

The student must apply to and meet all requirements for admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following:

1. Earned Bachelor of Science (B.S.) and Master of Science (M.S.) degree in Nursing from programs accredited by the National League for Nursing Accrediting Commission (NLN) or the Commission on Collegiate Nursing Education (CCNE).
2. Cumulative GPA of 3.5 or higher from a Master's program of study.
3. Competitive GRE score.
4. English Proficiency Exams: Students whose native language is not English must provide evidence of satisfactory scores on the English Foreign Language (TOEFL) or on the International English Language Testing System (IELTS). (See Graduate Catalog for details).
  - a. Satisfactory TOEFL requirements for admission include: 1) Internet-based total test score of 80 with a score of at least 20 on each Section and 23 or above on the Speaking Section; or 2) Computer-based total test score of 213 with a score of at least 21 on Section 1 (Listening Comprehension); or 3) Paper-based total test score of 550 with a score of at least 55 on section 1 (Listening Comprehension).
  - b. Satisfactory IELTS requirement for admission include scoring 6.5 or higher on the total band and 6.5 on the speaking test component.
5. Completed application to the SON by established deadline which includes an essay addressing goals and focal area of research.
6. Verification of valid and current unencumbered Registered Nursing license.
7. Completion of a preadmission interview by the SON Ph.D. Admissions committee. If the applicant resides at a distance over 100 miles, an interview by videoconference may be provided for at the student's expense.
8. Mandatory attendance at the orientation for the Ph.D. program to be held on the ISU campus in the summer session following admission.

The SON Ph.D. Admissions committee will make the final recommendation regarding admission. This decision will be based on evaluation of established application and admission requirements.

### Application Requirements

The student must apply to and meet all requirements for admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following:

1. Application to the Graduate School AND to the School of Nursing with payment of appropriate fees (separate application process).
2. Submission of official transcripts of all degrees including the completion of accredited Bachelor of Science in Nursing (BSN or B.S. in Nursing) and Master's in Nursing (M.S.) degree from an accredited nursing program. Official transcripts must be sent directly to the Graduate School from the Registrar's office of the applicant's previous institution of study.
3. Submission of official report of Graduate Record Examination Scores taken within the previous five years. Applicants should achieve at least a 50th percentile on one of the three aptitude sections (Verbal, Quantitative, Analytical). Achievement of two or more scores at the 50th percentile is highly preferred.
4. Evidence of completing prerequisite graduate level descriptive or inferential statistics course (600 or higher) with a C grade or better within three (3) years previous to admission to the program. A descriptive or inferential statistics course may be taken during the admission process; course must be completed prior to starting the program.
5. Submission of a professional essay (3-4 pages) describing applicant's interest in pursuing the Ph.D. degree and vision of how this preparation will facilitate career goals.
6. Submission of a writing sample (professional paper).
7. Three professional references attesting to the applicant's capacity and potential for doctoral study. Two references should be from academic sources and one from a recent employer.
8. Submission of professional vitae or resume.

### Selection Schedule for Ph.D Program

Application for the Ph.D. program will open in September of any academic year. Preference will be given to applications submitted by February 1 of any year. Applications however are accepted on a rolling basis until filled. Selection of candidates for on campus interviews will be announced by February 28 of any year. Notification of successful applicants for admission and alternates will be announced by April 5 of any year.

## Dissertation Preparation and Advancement to Candidacy

### Comprehensive Examination

The student must complete designated required and elective courses in order to complete the comprehensive qualifying examination requirements. If the student fails any component of the comprehensive examination, the student may retake the examination one time within established ISU SON guidelines, Ph.D. handbook.

### Admission to Candidacy

Each student that has successfully completed the comprehensive examination may apply for degree candidacy.

### Dissertation

Once the student has been admitted to degree candidacy, the student enrolls in NURS 8890 for completion of the dissertation.

Students must maintain continuous enrollment in dissertation (NURS 8890) credit while in the process of research and writing the dissertation.

\*Upon admission to the Ph.D. program the student will be provided access to a SON Ph.D. Handbook which will include further information, program specific policies and procedures.

### Continuous Enrollment

Following admission to doctoral study, the student must register for coursework and maintain continuous enrollment.

### Required Courses and Electives

NURS8805 Philosophy of Inquiry	3 cr
NURS8808 Theoretical and Conceptual Analysis in Nursing Science	3 cr
NURS8809 Rural/Global Communities in Society	2 cr
NURS8813 Advanced Qualitative Analysis	3 cr
NURS8814 Advanced Statistics: Multivariate	3 cr
NURS8815 Advanced Quantitative Analysis	3 cr
NURS8816 Advanced Statistical Methods	3 cr
NURS8825 Grant and Scholarly Writing	2 cr
NURS8826 Advanced Scientific Writing	2 cr
NURS8830 Mixed Methods in Health Care Research	3 cr
NURS8835 Mentored Research Project	4 cr
NURS8840 Health Policy	3 cr
NURS8890 Dissertation	1-12 cr
Electives	9 cr
NURS 8880/8881/8882/8883 Research Seminar	1 cr each
Total	59 cr

## Curriculum for the Master of Science in Nursing to Doctor of Philosophy in Nursing Program

Year 1  
Summer Session  
Orientation

0 cr

Total 0 cr

### Fall Semester

NURS 8805 Philosophy of Inquiry	3 cr
NURS 8809 Rural/Global Communities in Society	2 cr
NURS 8813 Advanced Qualitative Analysis	3 cr
NURS 8814 Advanced Statistics: Multivariate	3 cr
NURS 8880 Research Seminar	1 cr
Total	12 cr

### Spring Semester

NURS 8815 Advanced Quantitative Analysis	3 cr
NURS 8840 Healthy Policy	3 cr
NURS 8825 Grant and Scholarly Writing	2 cr
NURS 8881 Research Seminar	1 cr
Elective	3 cr
Total	12 cr

### Year 2

#### Fall Semester

NURS 8808 Theoretical and Conceptual Analysis in Nursing Science	3 cr
NURS 8826 Advanced Scientific Writing	2 cr
NURS 8830 Mixed Methods in Health Care Research	3 cr
NURS 8882 Research Seminar	1 cr
Elective	3 cr
Total	12 cr

#### Spring Semester

NURS 8835 Mentor Research Project	4 cr
NURS 8816 Advanced Statistical Methods	3 cr
NURS 8883 Research Seminar	1 cr
Elective	3 cr
Oral Examination	
Total	11 cr

### Year 3

#### Fall/Spring Semester

NURS 8890 Dissertation	12 cr
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## Doctor of Nursing Practice (DNP)

The Doctor of Nursing Practice will prepare clinical leaders for comprehensive clinical nursing practice that influences health care outcomes for individuals or populations, grounded in evidence-based application, within a changing health care system. The DNP program will enroll students on full time or part time status. Admission to any option on full time or part time status is contingent on sufficient enrollment as defined by the SON.

Two specific options are open for enrollment in the DNP program. These options include: Family Nurse Practitioner (FNP) and Adult Gerontology Clinical Nurse Specialist (ACNS)

The Family Nurse Practitioner (FNP) is prepared to be a leader in primary care, combining the roles of provider, mentor, educator and administrator. The FNP is prepared to practice autonomously and in collaboration with other healthcare professionals to provide evidence-based care to individuals, families, and populations across the lifespan in a variety of settings.

The Adult-Geriatric Clinical Nurse Specialist (ACNS) demonstrates expert knowledge and ability to advance health care in adult and geriatric populations. The ACNS functions in collaboration with health care professionals for

continuous improvement of patient outcomes and nursing care through three spheres of influence including the patient, nurse and system.

### Goal:

The primary goal of the DNP degree program is to prepare experts in advanced nursing practice in specialized areas with an emphasis on innovation and evidence based application to improve health care outcomes.

### DNP Program Outcomes

1. Synthesize and integrate scientific evidence for the development of evidence based clinical practice to improve patient outcomes.
2. Translate scientific, theoretical, and ethical principles into health care for individuals, families, communities, and populations.
3. Manage intra and interprofessional collaboration to address health disparities and to improve health outcomes across diverse and rural populations and cultures.
4. Assume complex leadership roles to advance clinical practice and health care delivery at the organizational and systems level and to improve health outcomes of individuals and populations.
5. Incorporate knowledge of current and emerging health technologies to improve care delivery and organizational systems.
6. Evaluate policy, care delivery, and organizational systems to improve current and future health care outcomes.
7. Advocate for social justice, equity, and ethical policies in health care.

### Admission Requirements:

The student must apply to and meet all requirements for admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following:

1. Earned Bachelor of Science (B.S.) degree in Nursing or with a major in Nursing from a program accredited by the National League for Nursing Accrediting Commission (NLN) or the Commission on Collegiate Nursing Education (CCNE).
2. Cumulative GPA of 3.0 or higher (calculated based on previous 60 credits of undergraduate coursework) from a Bachelor of Science degree (B.S. in Nursing or BSN).
3. Competitive GRE score.
4. English Proficiency Exams: Students whose native language is not English must provide evidence of satisfactory scores on the English Foreign Language (TOEFL) or on the International English Language Testing System (IELTS). (See Graduate Catalog for details).

- a. Satisfactory TOEFL requirements for admission include: 1) Internet-based total test score of 80 with a score of at least 20 on each Section and 23 or above on the Speaking Section; or 2) Computer-based total test score of 213 with a score of at least 21 on Section 1 (Listening Comprehension); or 3) Paper-based total test score of 550 with a score of at least 55 on section 1 (Listening Comprehension).
- b. Satisfactory IELTS requirement for admission include scoring 6.5 or higher on the total band and 6.5 on the speaking test component.
- 5. Completed application to the SON by established deadline which includes an essay describing applicant's interest in pursuing the DNP degree and vision of how this preparation will facilitate career goals.
- 6. Verification of valid and current unencumbered Registered Nursing license.
- 7. Completion of a preadmission interview by the SON DNP Admissions committee. If the applicant resides at a distance over 100 miles, an interview by videoconference may be provided for at the student's expense.

Two years of documented previous healthcare or nursing experience before admission is preferred, but not required.

Admission to the FNP or ACNS DNP degree option is contingent on sufficient enrollment as defined by the SON.

The SON DNP Admissions committee will make the final recommendation regarding admission. This decision will be based on evaluation of established application and admission requirements.

**Application Requirements:**

The student must apply to and meet all requirements for admission to the Graduate School. In addition, the following must be complied with:

- 1. Application to the Graduate School AND to the School of Nursing with payment of appropriate fees (separate application process).
- 2. Submission of official transcripts of all degrees including the completion of the Bachelor of Science in Nursing (B.S.N. or B.S. in Nursing) from an accredited nursing program. Official transcripts must be sent directly to the Graduate School from the Registrar's office of the applicant's previous institution(s) of study.
- 3. Submission of official report Graduate Record Examination Scores taken within the previous five years. Applicants should achieve at least a 50th percentile

on one of the three aptitude sections (Verbal, Quantitative, Analytical). Achievement of two or more scores at the 50th percentile is highly preferred.

- 4. Evidence of completing prerequisite descriptive or inferential statistics course with a C grade or better within three (3) years previous to admission to the program. A descriptive or inferential statistics course may be taken during the admission process; course must be completed prior to the starting the program.
- 5. Submission of professional essay (3-4 pages) describing applicant's interest in pursuing the DNP degree and vision of how this preparation will facilitate career goals.
- 6. Three professional references attesting t the applicant's capacity and potential for clinical doctoral study.
- 7. Submission of professional vitae or resume.

**Selection Schedule for DNP Program**

Application for the DNP program will open in November of any academic year. Applications must be submitted and received by the first Monday in February of any year for consideration of admission in that same year. Notification of successful applicants for admission and alternates will be announced by April 5 or the following business day of any year.

**Graduation Criteria**

- 1. Successfully complete a scholarly project.
- 2. Successfully pass a written and oral comprehensive examination.
- 3. Meet all requirements established by ISU, the Graduate School and the School of Nursing for graduation with the DNP degree.

**Scholarly Project**

Synthesis of scientific evidence and theoretical principles within a practice environment(s) to improve healthcare outcomes. Incorporation of knowledge of current and emerging healthcare technologies to improve care delivery and organizational systems for groups and populations. Requires a minimum of eight credit hours. May be repeated.

**Continuous Enrollment**

Following admission to doctoral study, the student must register for coursework and maintain continuous enrollment. Completion of all coursework is required with continuous enrollment in Scholarly Project (NURS 7790) until graduation.

**Doctorate of Nursing Practice (DNP) Programs of Study**

**Core Courses (required for all DNP options)**

NEXus	Human Pathophysiology	3 cr
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NURS6611	Advanced Health Assessment	2 cr
NURS6611L	Advanced Health Assessment Lab (96 clinical hours)	2 cr
PHAR6645	Pharmacotherapeutics for APN	3 cr
NURS5580	Genetics for the Health Care Professional	2 cr
NURS6600	Theoretical Foundations	3 cr
NURS6610	Advance Evidence Application	3 cr
NURS6655	Advanced Leadership	3 cr
NURS7720	Professional Issues of the DNP I	3 cr
NURS7723	Health Promotion for APN	3 cr
NURS7725	Informational Technology in Health Care	2 cr
NURS7735	Statistical Analysis in Evidence Based Practice	3 cr
NURS7760	Professional Issues of the DNP II	3 cr
NURS8809	Rural/Global Communities in Society	2 cr
NURS8826	Advanced Scientific Writing	2 cr
NURS8840	Health Policy Elective	3 cr
NURS7790	Scholarly Project (384 project hours)	8 cr
TOTAL HOURS	Core Theory and Scholarly Project	52 cr

**Adult Geriatric Clinical Nurse Specialist**

NURS6657	Advanced Adult Health Nursing I	3 cr
NURS6657L	Advanced Adult Health Nursing I Lab (96 clinical hours)	2 cr
NURS6658	Advanced Adult Health Nursing II	3 cr
NURS6658L	Advanced Adult Health Nursing II Lab (96 clinical hours)	2 cr
NURS7750	Advanced Adult-Geriatric Health Concepts	2 cr
NURS7750L	Advanced Adult-Geriatric Health Concepts Lab (144 clinical hours)	3 cr
NURS7785	Advanced Adult-Geriatric Practicum (192 clinical hours)	4 cr
	Elective	3 cr
	Total Option Specific Credits	22 cr
	Total Clinical Hours	13 cr 624

**Family Nurse Practitioner**

NURS6642	Primary Care of the Young Adult	3 cr
NURS6642L	Primary Care of the Young Adult Lab (96 clinical hours)	2 cr
NURS6643	Primary Care of Child & Adolescents	3 cr
NURS6643L	Primary Care of Child & Adolescents Lab (96 clinical hours)	2 cr
NURS6644	Primary Care of the Older Adult	3 cr
NURS6644L	Primary Care of the Older Adult Lab (96 clinical hours)	2 cr
NURS7740	Primary Care Throughout the Lifespan	1 cr
NURS7740L	Primary Care Throughout the Lifespan Lab (192 clinical hours)	4 cr
NURS7780	FNP Practicum (192 clinical hours)	4 cr
	Total Option Specific Credits	24 cr
	Total Clinical Hours	16 cr 768

<b>DNP Degree Program</b>	<b>FNP</b>	<b>ACNS</b>
Total Core Credits	52	52
Total Option specific credits	24	22
Total Clinical credits (hrs)	16 (768hrs)	13 (624hrs)
Total Scholarly Project Credits (hrs)	8 (384hrs)	8 (384hrs)
<b>Total Credit (hrs)</b>	<b>76 (1152hrs)</b>	<b>74(1008hrs)</b>

**Master of Science in Nursing**

The Master of Science in Nursing (M.S.) program is offered primarily online and requires 38-43 credits depending upon the option in which the student is enrolled. Full and part time programs are available in the following options; Leadership and Education. Delivery of a Master's degree program option in any academic year is based on number of total applicants and ability to establish a full cohort at the time of the admission process as deter-

mined by SON. All students are required to enroll in five core course (12 credits). To develop clinical expertise applicable to the option, the students are introduced to advanced knowledge and practice of nursing.

### Pathways to the M.S. degree:

Bachelor of Science (B.S.) to Master of Science (M.S.) and Post Masters Certificate. A Post Masters certificate program is available in both options for nurses holding an earned Master's degree from a nationally accredited nursing program who seek advanced preparation in a specialty. Students enrolled in the Nursing Education option will be prepared to teach in an academic nursing program as well as in other settings. Students enrolled in the Nursing Leadership option will be prepared to assume leadership roles within acute, ambulatory care, or community based settings.

Application for the Master of Science degree options open in October of any year. Completed applications are due by the first Monday in February of any academic year. Notification of successful applicants for admission and alternates will be announced by April 5 or the following business day of the year.

### Admission Requirements

The student must apply to and meet all requirements for admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following:

1. Earned Bachelor of Science (B.S. or BSN) degree in Nursing from a program accredited by the National League for Nursing Accrediting Commission (NLN) or the Commission on Collegiate Nursing Education (CCNE).
2. Cumulative GPA of 3.0 or higher (calculated based on previous 60 credits of undergraduate coursework).
3. Competitive GRE score.
4. English Proficiency Exams: Students whose native language is not English must provide evidence of satisfactory scores on the English Foreign Language (TOEFL) or on the International English Language Testing System (IELTS). (See Graduate Catalog for details).
  - a. Satisfactory TOEFL requirements for admission include: 1) Internet-based total test score of 80 with a score of at least 20 on each Section and 23 or above on the Speaking Section; or 2) Computer-based total test score of 213 with a score of at least 21 on Section 1 (Listening Comprehension); or 3) Paper-based total test score of 550 with a score of at least 55 on section 1 (Listening Comprehension).

- b. Satisfactory IELTS requirement for admission include scoring 6.5 or higher on the total band and 6.5 on the speaking test component.
5. Completed application to the SON by established deadline which includes an essay describing applicant's interest in pursuing the Master of Science degree and vision of how this preparation will facilitate career goals.
  6. Verification of valid and current unencumbered Registered Nursing license.

### Application Requirements

The student must apply to and meet all requirements for admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following:

1. Application to the Graduate School AND to the School of Nursing with payment of appropriate fees (separate application process).
2. Submission of official transcripts of all degrees including completion of the Bachelor of Science in Nursing (BSN or B.S. in Nursing) degree from an accredited nursing program. Official transcripts must be sent directly to the Graduate School from the Registrar's Office of the applicant's previous institution(s) of study.
3. Submission of official report of Graduate Record Examination (GRE) scores taken within the previous five years. Applicants should achieve at least a 40th percentile on one of the three aptitude sections (Verbal, Quantitative, or Analytical). No standardized test (GRE) is required if GPA is 3.5 to 4.0 for the previous 60 semester credits of undergraduate work.
4. Evidence of completing prerequisite descriptive or inferential statistics course with a C grade or better within three (3) years previous to admission to the program. A descriptive or inferential statistics course may be taken during the admission process; course must be completed prior to starting the program.
5. Submission of a professional essay (2-3 pages) describing applicant's interest in pursuing the Master of Science degree and vision of how this preparation will facilitate career goals.
6. Three professional reference forms attesting to the applicant's capacity and potential for master's study. (It is recommended two references should be from academic sources and one from a recent employer).
7. Submission of professional vitae or resume.

NOTE: Achievement of minimum GPA and GRE requirements does not guarantee admis-

sion to the Master's degree program. Individuals who do not meet these admission requirements may be considered for admission as a classified student with program restrictions until all requirements are met, or candidate is evaluated for progress based on established SON guidelines, policies and/or procedures. The SON Master of Science Admissions committee will make the final recommendation regarding admissions. This decision will be based on evaluation of established admission and application requirements.

### Master of Science (MS) Options of Study Required Coursework Nursing Education

NURS 5563 Human Pathophysiology	4 cr
NURS 6600 Theoretical Foundations for Nursing Practice	3 cr
NURS 6602 Health Policy	3 cr
NURS 6610 Advanced Evidence Application	3 cr
NURS 6612 Health Care of Rural Communities	2 cr
NURS 6613 Health Assessment for Clinical Practice	2 cr
NURS 6613L Health Assessment for Clinical Practice Lab	1 cr
NURS 6621 Advanced Nursing Roles	2 cr
NURS 6633 Rethinking Nursing Education	3 cr
NURS 6635 Curriculum Issues and Development	3 cr
NURS 6640 Evaluation Issues and Strategies	3 cr
NURS 6639 Teaching and Learning Strategies	3 cr
NURS 6647 Advanced Practicum in Nursing (288 Practicum Hours)	6 cr
Electives	2-3 cr
Total Practicum Hours	336
Total Option Credits:	39-43

### Required Coursework Nursing Leadership

NURS6602 Health Policy	3 cr
NURS6600 Theoretical Foundations for Nursing Practice	3 cr
NURS6610 Advanced Evidence Application	3 cr
NURS6612 Health Care of Rural Communities	2 cr
NURS6621 Advanced Nursing Roles	2 cr
NURS6652 Administrative Approaches to Nursing Leadership	3 cr
NURS6653 Organizational Behavior in a Changing Health Care System	3 cr
NURS6654 Financial Management	3 cr
NURS6655 Advanced Leadership	3 cr
NURS6655L Advanced Leadership Lab (96 Hours)	2 cr
NURS6656 Advanced Leadership Practicum (192 Practicum Hours)	4 cr
Electives (3)	7-9 cr
Total Option Credits	38-40

### Progression of Graduate Students:

1. Progression criteria established by the SON and Graduate School. Each degree program or option have specific progression requirements established within the SON and Graduate School.
2. Maintenance of a cumulative minimum GPA of 3.0.

### The following will constitute grounds for dismissal from the Graduate program:

1. A grade of "C-" or below or "U" in any required course or approved elective course.
2. A grade of "C+" or below in any required course or approved elective course with an associated lab.
3. More than three credits of "C+" or "C" in any required course or approved elective course not associated with a lab/practicum.
4. Failure to complete any course for which an incomplete grade was recorded through the ISU Registrar by midterm of the subsequent semester.
5. Failure to actively meet requirements as posted in the Homeroom or specific program Handbook established in the School of Nursing.

### Graduation Criteria

To qualify for graduation with a graduate degree (M.S., D.N.P., or Ph.D.) from the School of Nursing, the student must:

1. Successfully pass a written and oral comprehensive examination. (No written comprehensive examination is required for the Post Masters Certificate).
2. Meet all requirements established by ISU, the Graduate School and the School of Nursing specific to the degree program in which the student is enrolled.

## Post-Master's Nursing Certificate Option

Applicants must have received a graduate degree in Nursing from a nationally accredited program. To receive a Post-Master's Certificate, students must:

1. Meet all School of Nursing and Graduate School admission and progression criteria for the Master of Science in Nursing degree for the option in which they enroll (no GRE required).
2. Successfully complete a minimum of 12 credits from Idaho State University.
3. Successfully complete all prerequisite courses with a grade of B or better.

The Graduate Nursing Council approves prerequisite courses prior to or at the time of admission to the certificate program. In addition, students may transfer up to 9 credit hours of required coursework with approval of the Nursing Graduate Council.

### Prerequisites for Admission to Post Master's Options:

NURS 6600 Theoretical Foundations for Nursing Practice	3 cr
NURS 6602 Health Policy	3 cr
NURS 6610 Advanced Evidence Application	4 cr
NURS 6621 Advanced Nursing Roles	2 cr

### Required Coursework: Nursing Education Option

NURS 6612 Health Care of Rural Communities	2 cr
NURS 6613 Health Assessment for Clinical Practice	2 cr
NURS 6613L Health Assessment for Clinical Lab (48 Hours)	1 cr
NURS 6639 Teaching and Learning Strategies	3 cr
NURS 6640 Evaluation Issues and Strategies	3 cr
NURS 6647 Advanced Practicum in Nursing Education	6 cr
Electives	2-3 cr

### Required Coursework: Nursing Leadership Option

NURS 6612 Health Care of Rural Communities	2 cr
NURS 6652 Administrative Approaches to Nursing Leadership	3 cr
NURS 6653 Organizational Behavior in a Changing Health Care System	3 cr
NURS 6654 Financial Management	3 cr
NURS 6655 Advanced Leadership	3 cr
NURS 6655L Advanced Leadership Lab	2 cr
NURS 6656 Advanced Leadership Practicum	4 cr
Electives	7-9 cr

### Nursing Graduate Courses

**NURS 4404 Professional Role Expansion 5 credits.** A study of nursing theories and philosophy as well as an integration of community, leadership, management, and informatic principles to prepare the Associate Degree to Master of Science nurse to function in the changing health care environment. PREREQ: ADMISSION TO THE AD-MS PROGRAM.

**NURS 5517 Interdisciplinary Evaluation Team 1 credit.** Introduction to the principles and techniques associated with interdisciplinary evaluation. Disciplines emphasized: Audiology, Nursing, Physical Therapy, Psychology, Social Work, Special Education, Speech-Language Pathology. Cross-listed as PSYC 5517, SOWK 5517, CSED 5517.

**NURS 5580 Genetics for Health Care Professionals 3 credits.** An in depth interprofessional review of the impact of genetics on patients and patient care and biological, social, ethical, and legal issues surrounding genetics and genomics. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Cross listed as CSED 5580.

**NURS 5599 1-6 credits.** This is an experimental course. The course title and number of

credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NURS 6600 Theoretical Foundations for Nursing Practice 3 credits.** Critical examination of the development of nursing knowledge; critique, evaluate and apply a variety of theories from nursing, family and related disciplines as a base for advanced nursing practice.

**NURS 6602 Health Policy 3 credits.** Analysis of policy research relevant to health care. Evaluate effects of local, regional, national and international health policy and trends on delivery systems and care of rural and diverse populations. PREREQ: NURS 6600.

**NURS 6610 Advanced Evidence Application 3 credits.** Application of evidence to advance nursing practice. Includes issue identification, research process, statistical principles, and outcomes evaluation. PREREQ: NURS 6600.

**NURS 6611 Advanced Health Assessment 2 credits.** Concepts of advanced health assessment required for advanced nursing practice in various settings and diverse populations. Introduction to differential diagnosis and clinical reasoning skills. PREREQ: BIOL 5563; COREQ: NURS 6600, 6611L.

**NURS 6611L Advanced Health Assessment Lab 2 credits.** Acquisition and application of advanced health assessment, skills in diverse populations. Skills include health history, physical assessment and health promotion. PREREQ: BIOL 5563; COREQ: NURS 6611.

**NURS 6612 Health Care of Rural Communities 2 credits.** Explores rural culture using theories, frameworks and methodologies from various disciplines. Focus on culturally responsive care systems at the community level. Rural life analyzed to identify factors related to health systems and health care practice needs. PREREQ: NURS 6610.

**NURS 6613 Health Assessment 2 credits.** Concepts of health assessment for practice in various settings and with diverse populations. COREQ: NURS 6613L.

**NURS 6613L Health Assessment Lab 1 credits.** Acquisition and application of advanced health assessment skills in diverse populations. Skills include health history, physical assessment, health promotion, and pharmacological evaluation in practice. COREQ: NURS 6613.

**NURS 6621 Advanced Nursing Roles 2**

**credits.** Integration of theory and research related to role development, transition and ambiguity in advanced nursing practice. Emphasis on evaluation of health care delivery, ethical decision-making, partnership development, collaborative practice and accountability for quality. PREREQ: NURS 6600.

**NURS 6633 Rethinking Nursing Education 3 credits.** Theoretical perspective on teaching and learning in nursing education, creating a theoretical base for the education curriculum. The learners will examine theories of learning and adult learning and explore their application to nursing education.

**NURS 6635 Curriculum Issues and Development 3 credits.** Examination of various external and internal issues influencing nursing curriculum. Curriculum components and designs will be explored and a model curriculum developed. PREREQ: NURS 6633.

**NURS 6636 Special Problems 1-3 credits.** Independent study under faculty guidance. May be repeated up to 6 credits. PREREQ: - PERMISSION OF INSTRUCTOR.

**NURS 6639 Teaching and Learning Strategies in Nursing Education 3 credits.** Exploration of a variety of strategies to facilitate achievement of curriculum outcomes. The use of current technology and learner-centered strategies are emphasized. PREREQ: NURS 6633.

**NURS 6640 Evaluation Issues and Strategies in Nursing Education 3 credits.** Examination of issues surrounding program and student evaluation. Plans for formative and summative evaluation will be developed. COREQ: NURS 6633.

**NURS 6642 Primary Care of the Young Adult 3 credits.** Management and evaluation of primary care problems in the young adult. Provides the student with knowledge to assist individuals with common health problems, while integrating the concepts of health promotion. PREREQ: NURS 6611, 6611L, PHAR 6645; COREQ: 6642L.

**NURS 6642L Primary Care of the Young Adult Lab 2 credits.** Delivery of advanced nursing care to young adults and their families. Clinical application of theoretical knowledge with ongoing refinement of essential skills used by nurse practitioners in primary health care. Identification and management of a broad range of common health problems including health promotion in various clinical settings. PREREQ: NURS 6611, 6611L, PHAR 6645; COREQ: NURS 6642. Graded S/U.

**NURS 6643 Primary Care of the Child and Adolescent 3 credits.** Management and evaluation of primary care problems of children, adolescents and their families in a variety of ambulatory settings. The initiation of health promotion and health maintenance activities is stressed. PREREQ: NURS 6642, 6642L; COREQ: NURS 6643L.

**NURS 6643L Primary Care of the Child and Adolescent Lab 2 credits.** Delivery of advanced nursing care to children and adolescents and their families. Clinical application of theoretical knowledge with ongoing refinement of essential skills used by nurse practitioners in primary health care. Identification and management of a broad range of common health problems including health promotion in various clinical settings. PREREQ: NURS 6642, 6642L; COREQ: NURS 643. Graded S/U.

**NURS 6644 Primary Care of the Middle and Older Adult 3 credits.** Management and evaluation of primary care problems of middle and older adults, including acute episodic and chronic illnesses. The initiation of health promotion and maintenance activities is stressed. PREREQ: NURS 6642, 6642L; COREQ: NURS 6644L.

**NURS 6644L Primary Care of the Middle and Older Adult Lab 2 credits.** Delivery of advanced nursing care to middle and older adults and their families. Clinical application of theoretical knowledge with ongoing refinement of essential skills used by nurse practitioners in primary health care. Identification and management of a broad range of common health problems including health promotion in various clinical settings. PREREQ: NURS 6642, 6642L; COREQ: NURS 6644. Graded S/U.

**NURS 6647 Advanced Practicum in Nursing Education 6 credits.** Application of learning theories, strategies and evaluation in a nursing program. The learners will explore and practice various facets of the faculty role. PREREQ: NURS 6633, 6635, 6639, 6640. Graded S/U.

**NURS 6652 Administrative Approaches to Nursing Leadership 3 credits.** Synthesis and evaluation of organizational theory in leadership and management of health care organizations. Emphasis on system-wide structures, processes, and outcomes.

**NURS 6653 Organizational Behavior in a Changing Health Care System 3 credits.** Examination of administration and organizational behavior in relation to population-based needs. Includes examination of organization and management theory in relation to strategic

planning, management of the changing health care delivery system, program planning and evaluation, decision-making, and change. PREREQ: NURS 6600, 6652.

**NURS 6654 Financial Management 3 credits.** Application of basic strategies for evaluating financial resources for health care systems; models of forecasting, prediction, and politics of budgeting and health care finances.

**NURS 6655 Advanced Leadership 3 credits.** Examination of nursing leadership in health care delivery systems. Theoretical knowledge required for program management and interprofessional collaboration. Examination of quality and risk management, legal and ethical implications, shared governance, and conflict management. PREREQ: NURS 6600, 6610, 6653; COREQ: NURS 6655L.

**NURS 6655L Advanced Leadership Lab 2 credits.** Application of knowledge and practice of skills required for program management and interprofessional collaboration. Application of quality and risk management, legal and ethical implications, shared governance, and conflict management. PREREQ: NURS 6600, 6610, 6653; COREQ: NURS 6655. Graded S/U.

**NURS 6656 Advanced Leadership Practicum 4 credits.** Critical examination and application of leadership in health care delivery systems with an emphasis on individualized leadership experiences. PREREQ: NURS 6655, 6655L. Graded S/U.

**NURS 6657 Advanced Adult Health Nursing I 3 credits.** Physiological concepts of health and illness and the role of the Clinical Nurse Specialist in assisting patients, families, and caregivers to manage simple health situations in adult populations. PREREQ: NURS 6611, 6611L; COREQ: 6657L.

**NURS 6657L Advanced Adult Nursing I Lab 2 credit.** Delivery of advanced nursing care to adults and their families. Clinical application of theoretical knowledge with ongoing refinement of essential skills used by clinical nurse specialists. Management of simple health situations in various clinical settings. PREREQ: NURS 6611, 6611L COREQ: NURS 6657. Graded S/U.

**NURS 6658 Advanced Adult Health Nursing II 3 credits.** Physiological concepts of health and illness and the role of the Clinical Nurse Specialist in assisting patients, families, and caregivers to manage complex health situations in specialty adult populations. PREREQ: NURS 6657, 6657L; COREQ: NURS 6658L.



**NURS 6658L Advanced Adult Health Nursing II Lab 2 credits.** Delivery of advanced nursing care to adults and their families. Clinical application of theoretical knowledge with ongoing refinement of essential skills used by clinical nurse specialists. Management of complex health situations in various clinical settings. PREREQ: NURS 6657, 6657L; COREQ: NURS 6658. Graded S/U.

**NURS 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NURS 7720 Professional Issues of the DNP I 3 credits.** Introduction to DNP related professional issues including DNP background, APRN role development, and interprofessional practice. Exploration of current and emerging healthcare issues.

**NURS 7723 Health Promotion for Advanced Practice Nurses—Health Promotion and Disease Prevention for Advanced Practice Nurses 3 credits.** Identification of risk factors and critical examination of screening and therapeutic interventions employed in health promotion and disease prevention across age and culture in diverse populations. PREREQ: BIOL 5563, NURS 6600, NURS 6611 and NURS 6611L, PHAR 6645

**NURS 7725 Informational Technology in Health Care 2 credits.** Application of technologies and information systems to evaluate and improve health care outcomes. Exploration of information technologies in clinical practice, education, research, and administration will be emphasized with a focus on transformation of data into information.

**NURS 7735 Statistical Analysis in Evidence Based Practice 3 credits.** Exploration of biostatistical methods used in implementing and evaluating health care related research and evidence based practice. Legal and ethical issues in research are addressed. PREREQ: NURS 6610.

**NURS 7740 Primary Care Throughout the Life Span (FNP) 1 credit.** Integration of advanced nursing care for patients and families across the lifespan. Application and evaluation of primary care management of complex diagnoses and system foci.

**NURS 7740L Primary Care Throughout the Life Span Lab (FNP) 4 credit.** Delivery of advanced nursing care to patients and families across the lifespan. Clinical application and evaluation of theoretical knowledge and

skills used by the nurse practitioner in primary health care at a more complex level. Includes focus on systems individualized by each student. PREREQ: NURS 6642 and NURS 6642L, NURS 6643 and NURS 6643L, NURS 6644 and NURS 6644L, NURS 7723. COREQ: NURS 7740.

**NURS 7750 Advanced Adult and Geriatric Health Concepts (ACNS) 2 credits.** Exploration of advanced health care concepts relating to adult and geriatric populations for the Adult/Geriatric Clinical Nurse Specialist (ACNS).

**NURS 7750L Advanced Adult and Geriatric Health Concepts Lab (ACNS) 3 credits.** Implementation of advanced nursing care concepts to adult and geriatric population in various clinical settings. PREREQ: NURS 6657 and NURS 6657L, NURS 6658 and NURS 6658L, NURS 7723 COREQ: NURS 7750.

**NURS 7760 Professional Issues of the DNP II 3 credits.** Integration of DNP related professional issues including the APRN's role in the initiation and evaluation of change in patient care, interprofessional practice and current and emerging health care issues. Transition into the APRN role is emphasized. PREREQ: NURS 7720.

**NURS 7780 FNP Practicum 4 credits.** Application of theoretical content, research findings and intervention strategies to advanced nursing practice in both rural and non-rural settings. PREREQ: NURS 7723, NURS 6642 and NURS 6642L, NURS 6643 and NURS 6643L, and NURS 6644 and NURS 6644L, NURS 8809.

**NURS 7785 Advanced CNS Practicum 4 credits.** Synthesis and application of clinical specialty and ACNS role knowledge and skills in adult-geriatric populations. PREREQ: NURS 6657 and NURS 6657L, NURS 6658 and NURS 6658L, NURS 7750 and NURS 7750L NURS 8809.

**NURS 7790 DNP Scholarly Project 1-3 credits.** Synthesis of scientific evidence and theoretical principles within a practice environment to improve health care outcomes. Incorporation of knowledge of current and emerging health care technologies to improve care delivery and organizational systems for groups and populations. Requires a minimum of eight credit hours over four semesters. May be repeated.

**NURS 8805 Philosophy of Inquiry 3 credits.** Discusses the nature and characteristics of philosophical inquiry for researchers. Science requires the ability to think and reason. Discussion of philosophical inquiry includes con-

ceptual clarification, analysis of arguments and problems related to the ontology, epistemology and ethics of health care and nursing. Although methodological approaches to philosophical inquiry are diverse, common tools include assumptions and the intellectual processes of conceptualizing, judging and reasoning within a context of wonder.

**NURS 8808 Theoretical Analysis Nursing Science 3 credits.** This course focuses on the relationship of theory to research with an emphasis on applying theory in the design, implementation and interpretation of research. Students will develop an understanding of the evaluation of theory, utility in research and ability to compare research strategies from different theoretical perspectives. Emphasis will be placed on multidisciplinary midrange theories that are relevant to clinical research. The course will provide the foundation for learners to create new approaches and paradigms of advanced nursing science. Prerequisite: NURS 8805.

**NURS 8809 Rural and Global Communities in Society 2 credits.** Explores rural culture using theories, frameworks and methodologies from various disciplines. Focus on culturally responsive methodologies. Rural life analyzed to identify factors related to health systems and health care practice needs. Students critique rural research articles for use of conceptual frameworks and generate researchable questions related to rural/global nursing practice issues.

**NURS 8813 Advanced Qualitative Analysis 3 credits.** This course focuses on the study of research that guides the collection and analysis of qualitative data. The course provides an overview of qualitative methods such as phenomenology, grounded theory, case study, ethnography, hermeneutics and historical approaches. Emphasis is placed on the appropriateness of each approach for description and explanation of phenomena encountered in clinical, organizational, and educational settings. Experience is provided in problem formulation and development of the qualitative research proposal.

**NURS 8814 Advanced Statistics: Multivariate 3 credits.** This course provides an understating of how to interpret multivariate analysis and their associated techniques including (1) data reduction (principal components, factor analysis, and cluster analysis), (2) discrimination and classification (cluster analysis, discriminant analysis), and (3) hypothesis testing (multivariate regression, multivariate analysis of variance, logistic regression). PREREQ: Evidence of completing prerequisite descriptive or inferential statistics course with

a C grade or better within three (3) years previous to admission to the Ph.D. program.

**NURS 8815 Advanced Quantitative Analysis 3 credits.** This course focuses on quantitative research methods with an emphasis on research designs appropriate for studying health care phenomena. Some of the methods include descriptive, comparative, correlational, survey, methodological, epidemiological, experimental and quasi-experimental designs, clinical trials, longitudinal and secondary analysis. Research designs and related statistical analyses are explored with respect to appropriateness for addressing rural and global health care relative to individuals, families and communities in society. Pre-requisite: NURS 8814.

**NURS 8816 Advanced Statistical Methods 3 credits.** The focus of this course will be on developing a conceptual understanding of the uses and interpretation of statistics involving the differences between and among populations (groups) including t-tests, one way ANOVA, multifactorial ANOVA and MANOVA, analysis of Covariance, (ANCOVA and MANCOVA) and repeated measures ANOVA. Computer applications such as SPSS will be utilized. Prerequisites: NURS 8814 and 8815.

**NURS 8825 Grant and Scholarly Writing 2 credits.** This course provides the foundation upon which to build skills for grant writing grant applications from seeking appropriate mechanisms for accomplishing the dissertation through the completion of a grant application. Students will use this course to develop a predoctoral proposal such as a National Research Service Award (NRSA).

**NURS 8826 Advanced Scientific Writing 2 credits.** Using a workshop approach students will learn how to present and publish their research findings in scholarly journals and books. Students will critique their classmates work in mock peer review process and will critically examine the publishing standards and approaches of academic nursing journals. Students will prepare and submit one paper for publication in a peer reviewed journal.

**NURS 8830 Mixed Methods Health Care Research 3 credits.** Research approaches combining quantitative and qualitative research methods will be applied to examine complex clinical and other problems and health behaviors. The course will provide an overview and introduction to mixed methods/multi-method research designs. Prerequisites: NURS 8813, NURS 8814, NURS 8815, NURS 8816

**NURS 8835 Mentored Research Project 4 credits.** This course is designed to give the

student actual research experience in research outside the dissertation. Interprofessional teamwork and collaboration are encouraged. Students may participate as a team member in their mentor's research. Activities may include developing a research proposal, preparing a protocol for Human Subjects' committee submission, assisting with recruitment or data collection, learning data management skills, conducting literature searches and participating in team meetings.

**NURS 8840 Health Policy 3 credits.** Analysis of policy research relevant to health care access, affordability, delivery, finance and integrated care systems. Students will evaluate effects of local, regional, national and international health policy and trends that impact research funding agencies and agendas, and national and international systems of health care delivery.

**NURS 8880/8881/8882/8883 Research Seminar 1 credit each.** These series of seminars assist students to focus on their research area for doctoral studies and program of research. Students will learn how to gather research based evidence, critically appraise the research, and conduct a systematic literature review related to their specific research question. Students will be introduced to interprofessional and translational research, and will learn how to build a program of research through preliminary studies and interprofessional team building. Key issues in human subjects' protection and the ethical conduct of research will be examined.

**NURS 8890 Dissertation 1-12 credits.** Completion of original research.

**NURS 8899 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Office of Medical and Oral Health Department of Dental Hygiene

Interim Director and Professor: Gurenlian  
Emerti Professors: Bowen, Herzog, Paarmann  
Professor: Hodges  
Associate Professors: Calley, Freudenthal, Rogo  
Assistant Professor: Johnson

## Master of Science in Dental Hygiene

The Master of Science degree in Dental Hygiene is an advanced degree; therefore, the program is designed for students who are licensed dental hygienists with baccalaureate degrees. Graduates will be prepared for various career opportunities within the health care arena.

### Goals

Program goals of this graduate level dental hygiene program are to prepare professional dental hygienists to:

1. Assume leadership roles in academics, rural and community health settings, research, professional associations or commercial industry.
2. Develop advanced clinical abilities that improve oral health and access to dental hygiene care.
3. Acquire research abilities that contribute to the scientific dental hygiene body of knowledge.
4. Assume responsibility for professional development through life-long learning capability.
5. Provide a foundation for future doctoral education.

### Admission Requirements

The student must fulfill the following requirements:

- Graduation from an accredited entry level dental hygiene program
- Bachelor's degree in dental hygiene or a related field
- Minimum grade point average of 3.0 in upper division and dental hygiene coursework
- Current dental hygiene licensure in good standing

1. The student must apply to, and meet all criteria for, admission to the Graduate School, and submit a completed application, residency form, fee payment, and transcripts. International students should refer to the "Admission of International Students" section of this Catalog for TOEFL and other requirements. Information is online at [www.isu.edu/departments/graduate](http://www.isu.edu/departments/graduate). Send results of the Graduate Record Examination (GRE) or the Miller Analogy Test (MAT) to the Graduate School.
2. Complete the Dental Hygiene Department application form for the Master of Science degree program (available at [www.isu.edu/departments/dentalhy/dhmasters/msadmissions.shtml](http://www.isu.edu/departments/dentalhy/dhmasters/msadmissions.shtml)).
3. Submit two recommendation forms pro-

vided by the department. One recommendation must be completed by an individual who has personal knowledge of the applicant's clinical skills such as a faculty member from a dental hygiene program, employer, or colleague. The second recommendation must be completed by an individual who has personal knowledge of the applicant's academic and professional qualifications for graduate study such as a faculty member, officer of a professional association, or colleague.

4. Submit to the Graduate School official transcripts to provide evidence of:
  - Graduation from an accredited entry level dental hygiene program
  - Bachelor's degree in dental hygiene or a related field
  - Minimum grade point average of 3.0 in upper division courses and a 3.0 in dental hygiene coursework.
5. Previous education in local anesthesia and nitrous oxide administration is not a requirement for admissions; however, it is preferred. If previous education in these pain control methods was completed, provide evidence of successful completion of classroom and clinical experiences in local anesthesia and nitrous oxide administration. Evidence could include transcripts, course descriptions, expanded functions or continuing education certificates.
6. Send a photocopy of a license to provide evidence of current dental hygiene licensure in good standing.
7. Complete a telephone or personal interview.

Applicants can contact the Department at the following address:

Graduate Program Director  
 Department of Dental Hygiene  
 Division of Graduate Studies  
 921 South 8th Avenue, STOP 8048  
 Pocatello, Idaho 83209-8048  
 E-mail address: msdh@isu.edu  
 Telephone: (208) 282-2482

## General Requirements

A total of 37 credits, including a thesis (minimum of 6 credits), will be required for degree completion. Requirements include 7 courses (22-23 credits) in the core curriculum, 4 courses (a minimum of 11 credits) in an area of emphasis, and 3 credits of electives.

The core courses advance the theory and practice of dental hygiene and prepare students in research methodology to apply during the thesis process. A thesis is required because the Master of Science degree in Dental Hygiene is the terminal degree in the discipline

and a research foundation is imperative to advance the theoretical knowledge base of the profession. In addition to the core curriculum, graduates complete an area of emphasis in dental hygiene education or rural and community health. Two required dental hygiene courses in the emphasis area, coupled with a practicum experience and a related elective course, provide a strong basis for advanced study and thesis work. To enhance the breadth of knowledge, students are required to complete a minimum of 3 credits of electives selected from related graduate coursework offered outside the Department of Dental Hygiene.

The program is an online graduate curriculum with on-campus visitations required for orientation, DENT 6619, and oral examination for thesis defense. The advanced clinical course will be offered in Pocatello at the on-campus clinical facility during the Summer Semester. A maximum of 9 credits may be transferred officially to Idaho State University.

## Core Course Requirements

DENT 5596 Graduate Seminar I	1 cr
DENT 6605 Program Development and Evaluation	3 cr
DENT 6610 Special Care Populations	2 cr
DENT 6615 Progressive Dental Hygiene Theory	3 cr
DENT 6618 Leadership Strategies to Improve Health Care	3 cr
DENT 6619 Graduate Seminar II	1 cr
DENT 6646 Health Research*	3 cr
DENT 6650 Thesis	minimum 6 cr
<b>TOTAL</b>	<b>37 cr</b>

\*Undergraduate statistics or biostatistics must be taken as a prerequisite. A minimum grade of "C" or better is required.

## Dental Hygiene Education Emphasis

DENT 6620 Advanced Educational Theory and Methods	3 cr
DENT 6621 Dental Hygiene Clinical Instruction and Administration	3 cr
DENT 6625 Dental Hygiene Education Practicum	2-4 cr
Elective course in emphasis area (Program Director approval required)	3 cr
<b>TOTAL</b>	<b>11-13 cr</b>

## Rural and Community Health Emphasis

DENT 6630 or MPH/HE 6626 Rural and Community Health Programs	3 cr
DENT 6631 Management Strategies for Health Care	3 cr
DENT 6635 Rural and Community Health Practicum	2-4 cr
Elective course in emphasis area (Program Director approval required)	3 cr
<b>TOTAL</b>	<b>11-13 cr</b>

Elective course requirements (Program Director approval required)  
**TOTAL DEGREE CREDITS:** 36 cr

## Academic Requirements

1. Once admitted, students must complete a

plan of graduate study with their dental hygiene graduate advisor no later than the end of the first semester after enrollment. This plan must be approved by the Program Director.

2. Any student who, after admission to the Master of Science program, falls below a 3.0 GPA, or who receives a grade of C+ or below in two graduate courses during his or her program of study will be deemed to be performing at an unsatisfactory level and will be dismissed.
3. Any student who, after admission to the Master of Science program, receives a C, C-, D, F, or grade in any graduate course in his or her program of study will be dismissed. Courses with grades of C or lower may not be used to satisfy graduation requirements.
4. Current CPR, related screenings and/or immunizations are required prior to attending the on-campus orientation.

## Graduation Requirements

1. Successfully conduct and defend a thesis as outlined in the Department of Dental Hygiene, Division of Graduate Studies, Graduate Student Handbook.
2. Complete the coursework on the study plan approved by the Program Director, Department of Dental Hygiene, Division of Graduate Studies, and by the ISU Graduate School.

## Dental Hygiene Graduate Courses

**DENT 5596 Graduate Seminar I 1 credit.** This seminar uses web based activities and on-site campus activities to assist students in developing skills and abilities essential for successful participation in the MSDH Program. Graded S/U.

**DENT 5598P Professional Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May be applied to graduate degrees under special circumstances. Graded S/U.

**DENT 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**DENT 6605 Program Development and Evaluation 3 credits.** An overview of general principles of teaching, learning and evaluation in academic and community oral health programs. Emphasis on assessment, planning,

implementation and evaluation of programs.

**DENT 6610 Special Care Populations 3 credits.** Concepts related to providing oral health care for special care populations. Emphasis on assessment, planning, implementation and evaluation of care for individuals with transient or lifelong physical, mental, medical or social health needs.

**DENT 6615 Progressive Dental Hygiene Theory 3 credits.** Critical analysis of the dental hygiene process of care related to advanced preventive and therapeutic interventions to various population groups, technology and outcomes.

**DENT 6618 Leadership Strategies to Improve Health Care 3 credits.** Application of leadership theory and models to professional issues, policy development, advocacy, coalition building, strategic planning, communication, conflict resolution and professional advancement.

**DENT 6619 Graduate Seminar II 1 credit.** This course provides students with experiential learning in dental hygiene practice, research, education, and innovations in technology. The course will culminate in an updated portfolio that addresses career goals within and beyond graduate education. PREREQ: DENT6625 or PERMISSION OF INSTRUCTOR. Graded S/U.

**DENT 6620 Advanced Educational Theory and Methods 3 credits.** Study of theory, principles, and research related to the faculty role in active teaching and learning, development of ethical reasoning, critical thinking and reflective judgment, development of curricular frameworks, outcomes and competencies, and course delivery methods. PREREQ: DENT 6605 OR DEPARTMENTAL APPROVAL.

**DENT 6621 Dental Hygiene Clinical Instruction and Administration 3 credits.** Theory and practices of clinical instruction and supervision, related to psychomotor skill development, competency-based evaluation, student mentoring and remediation. Examination of organizational and administrative philosophy and practice in curriculum planning, implementation, and evaluation based on accreditation standards. PREREQ: DENT 6620 OR DEPARTMENTAL APPROVAL.

**DENT 6625 Dental Hygiene Education Practicum 2-4 credits.** Individualized experience to apply principles and theories in dental hygiene education. Approval required for practicum sites. May be repeated for a maximum of 6 credits. PREREQ: DENT 6616 and 6620, OR DEPARTMENTAL APPROVAL. Graded S/U.

**DENT 6630 Rural and Community Health Programs 3 credits.** Study of theories, epidemiology, cultural competence, and trends impacting rural and community health care programs. Emphasizes needs assessment, planning, implementation, and evaluation of health promotion/disease prevention programs and service-learning opportunities. Cross-listed as MPH 6620 or HE 6620. PREREQ OR COREQ: DENT 6605 OR DEPARTMENTAL APPROVAL.

**DENT 6631 Management Strategies for Health Care 3 credits.** Study of organizational leadership and management theory in a variety of health care delivery settings. Includes planning, organization, decision making, financial management, delivery of care, insurance and reimbursement practices. PREREQ: DENT 6605 OR 6630 OR DEPARTMENTAL APPROVAL.

**DENT 6635 Rural and Community Health Practicum 2-4 credits.** Individualized service-learning experience designed to apply theories in rural and community health to improve access to care. Approval required for practicum sites. May be repeated for a maximum of 6 credits. PREREQ: DENT 6616 AND 6630 OR DEPARTMENTAL APPROVAL. Graded S/U.

**DENT 6640 Independent Study in Dental Hygiene 2-3 credits.** Specific problems selected on the basis of interest and preparation. Individualized student effort under the guidance of the instructor. May be repeated up to 6 credits.

**DENT 6646 Health Research 3 credits.** Development of foundations in health research and design. The focus will be on effective literature searching with critical analysis and synthesis of evidence-based literature leading to identification of problems for research. PREREQ: UNDERGRADUATE STATISTICS OR BIostatISTICS.

**DENT 6650 Thesis 1-9 credits.** Research project under supervision of academic faculty member. May be repeated. Minimum of 6 credits required. PREREQ DENT 6646 or PERMISSION OF PROGRAM DIRECTOR. Graded S/U.

**DENT 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of Dental Science

Chair, IAGD Director, and Associate Professor: Crawford  
 IDEP Director and Assistant Professor: Ybarguen  
 Adjunct Faculty: Nielsen

### Certificate in Idaho Dental Education Program (IDEP)

The Department of Dental Science administers the Idaho Dental Education Program (IDEP) for predoctoral dental students, and the Idaho Advanced General Dentistry Residency (IAGD) as a postdoctoral program.

The Idaho Dental Education Program is designed to provide residents of Idaho with access to a high quality dental education as if Idaho had its own dental school. The IDEP program is fully accredited as a Satellite Program of Creighton University School of Dentistry by the American Dental Association. The program involves a first year curriculum at Idaho State University in Pocatello, followed by completion of the second through fourth years at Creighton University in Omaha, Nebraska. Students completing the four year program receive the Doctor of Dental Surgery (D.D.S.) degree and are eligible to take the licensure examinations necessary to become a practicing dentist. Students may also elect to pursue advanced training through residencies or specialty programs, eventually becoming board certified in one of the recognized dental specialties.

There are eight positions available for Idaho residents. Applicants to the program must have completed the necessary prerequisites in English, Biology, Inorganic Chemistry, Organic Chemistry, Physics and other requirements as outlined in the Department of Dental Science Bulletin. In addition to fulfilling the minimal prerequisites, most students accepted into the program will have a bachelor's degree at the time of entry into IDEP. Occasionally, some exceptional students who have completed the junior level (upper division) of college course work are admitted into the program.

Students are encouraged to work closely with their pre-dental academic advisor in making course selections which fulfill dental school and degree completion requirements.

Formal application for admission to the IDEP program follows the guidelines printed in the Department of Dental Science Bulletin and the Creighton University School of Dentistry Bulletin. The application process involves: taking the Dental Aptitude Test (DAT), comple-

tion of the American Dental Education Association Application Service centralized application, the Creighton Supplemental Application and the IDEP Residency Certification Form. Although the application process can be completed as late as January 1 of the year the student plans to enter the program, earlier application is strongly encouraged to allow adequate time for completion of admission requirements and consideration by the admission committee.

Further information concerning the program, admission requirements, Bulletins and Residency Certification forms can be obtained by contacting the program at the following address:

Brian R. Crawford, D.D.S  
Department of Dental Science  
Box 8088  
Idaho State University  
Pocatello ID 83209-8088  
Phone: (208) 282-3289  
Email: larsjeri@isu.edu  
Website: www.isu.edu/departments/dentsci

### Required Basic Science Courses

BIOL 5500 Oral History and Embryology	3 cr
BIOL 5500L Oral Histology and Embryology Lab	0 cr
BIOL 5519 Mammalian Histology	4 cr
BIOL 5519L Mammalian Histology Lab	0 cr
BIOL 5532 Biochemistry	3 cr
BIOL 5540 Human Gross Anatomy	4 cr
BIOL 5540L Human Gross Anatomy Lab	0 cr
BIOL 5546 Selected Topics in Physiology	1 cr
BIOL 5550 Head and Neck Anatomy	3 cr
BIOL 5550L Head and Neck Anatomy Lab	0 cr
BIOL 5555 Pathogenic Microbiology	3 cr
BIOL 5560 Neuroanatomy	2 cr
BIOL 5568 Oral Microbiology	1 cr

### Required Dental Science Courses

IDEP 5513 Dental Anatomy Lecture I	1 cr
IDEP 5514 Dental Anatomy Laboratory	3 cr
IDEP 5515 Dental Materials Science I	2 cr
IDEP 5517 Interpersonal Relationships and Communication	1 cr
IDEP 5523 Preventive Dentistry	2 cr
IDEP 5525 History of Dentistry	1 cr
IDEP 5526 Dentistry Field Experience	1 cr
IDEP 5533 Oral Hygiene Technique	1 cr
IDEP 5534 Dental Materials Science II	3 cr
IDEP 5535 Occlusion Laboratory	1 cr
IDEP 5544 Values and Ethics	1 cr
IDEP 5554 Occlusion Lecture	1 cr
IDEP 5563 Dental Radiology I	1 cr
IDEP 5564 Dental Radiology Technique	1 cr
NTD 5595 Dental Nutrition	1 cr

### Optional Dental Science Courses

IDEP 6617 Education Program	2 cr
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## Idaho Advanced General Dentistry Residency Program (IAGD)

The Department of Dental Sciences sponsors the Idaho Advanced General Dentistry Residency. The goal of the program includes increasing the knowledge and clinical skills of the general dentist beyond that achieved in the predoctoral education. Through an integrated multidisciplinary learning environment, residents are able to increase their competence in the application of modern standards of care and practice management.

This one-year residency focuses on providing comprehensive care in a variety of clinical settings, emphasizing rural, underserved, and at-risk populations. Residents also receive training with patients who have emergency or episodic needs. A certificate is awarded upon the successful completion of the program.

The IAGD is fully accredited by the American Dental Association Commission on Dental Accreditation until 2015.

Further information concerning this program, e.g., admission requirements, forms, etc., can be obtained by contacting the Program Director.

### Idaho Advanced General Dentistry Courses

**IAGD 5599 1-6 credits.** This is an experiential course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**IAGD 6610 General Dentistry Practicum I 12 credits.** Supervised provision of general dental services with emphasis on increasing skills in routine general dental procedures and introduction to selected specialty procedures. Course may include periodic lectures on selected topics. PREREQ: ACCEPTANCE INTO IAGD PROGRAM.

**IAGD 6620 General Dentistry Practicum II 12 credits.** Continued provision of general dental services with emphasis on increasing skills in advanced general dental procedures and completion of selected specialty procedures. Course may include periodic lectures on selected topics. PREREQ: IAGD 6610.

**IAGD 6624 Dental Practice Management I 1 credit.** An experiential course in dental practice management. Enrollees will participate in aspects of the management of the AEGD program's dental clinic. PREREQ: ACCEPTANCE INTO THE IAGD PROGRAM.

**IAGD 6625 Dental Practice Management II 1 credit.** Continuing experiential course in dental practice management. Enrollees will participate in aspects of the management of the AEGD program's dental clinic. PREREQ: IAGD 6624.

**IAGD 6626 Dental Practice Management III 1 credit.** Advanced course in dental practice management. Enrollees will participate in all aspects of the management of the AEGD program's dental clinic. PREREQ: IAGD 6625.

**IAGD 6630 Dental Implantology I 1 credit.** A coordinated lecture, laboratory and clinical experience in treatment planning, placement and restoration of dental implants. This course emphasizes the theory and basic biology of dental implants. PREREQ: ACCEPTANCE INTO THE IAGD PROGRAM.

**IAGD 6631 Dental Implantology II 1 credit.** Continuing lecture, laboratory and clinical experience in treatment planning, placement, restoration and maintenance of dental implants. This course emphasizes problem solving and incorporation of implants in general dental practice. PREREQ: IAGD 6630.

**IAGD 6632 Dental Implantology III 1 credit.** Continuing lecture, laboratory and clinical experience in treatment planning, placement, restoration and maintenance of dental implants. This course emphasizes problem solving and incorporation of implants in general dental practice. PREREQ: IAGD 6631.

**IAGD 6635 Dental Medicine Seminar I 1 credit.** Participation in the ISU Family Medicine residents' seminar series covering topics of internal and specialty medicine. PREREQ: - ACCEPTANCE INTO THE IAGD PROGRAM.

**IAGD 6636 Dental Medicine Seminar II 1 credit.** Continuing participation in the ISU Family Medicine residents' seminar series covering topics of internal and specialty medicine. PREREQ: IAGD 6635.

**IAGD 6637 Dental Medicine Seminar III 1 credit.** Continuing participation in the ISU Family Medicine residents' seminar series covering topics of internal and specialty medicine. PREREQ: IAGD 6636.

**IAGD 6640 Dental Conscious Sedation I 2**

**credits.** Integrated lecture and clinical experience in safe and efficacious delivery of conscious sedation. The two-semester experience is designed to fulfill the ADA guidelines. PREREQ: ACCEPTANCE INTO THE IAGD PROGRAM.

**IAGD 6641 Dental Conscious Sedation II 2 credits.** Continuing lecture and clinical experience in safe and efficacious delivery of -conscious sedation. PREREQ: IAGD 6640

**IAGD 6645 General Dentistry Videoteleconference I 4 credits.** Participation in the weekly two-way videoteleconference general dentistry series originating from Lutheran Medical Center in Brooklyn, NY, designed for AEGD programs. PREREQ: ACCEPTANCE INTO THE IAGD PROGRAM.

**IAGD 6646 General Dentistry Video teleconference II 4 credits.** Continuing participation in the weekly two-way video- teleconference general dentistry series originating from Lutheran Medical Center in Brooklyn, NY, designed for AEGD programs. PREREQ: IAGD 6645.

**IAGD 6647 General Dentistry Video teleconference III 3 credits.** Continuing participation in and presentation for the weekly two-way video teleconference general dentistry series originating from Lutheran Medical Center in Brooklyn, NY, designed for AEGD - programs. PREREQ: IAGD 6646.

**IAGD 6650 Dental Literature Review I 1 credit.** Critical review of current and historical dental literature in general dentistry and selected recognized specialty areas of dentistry. PREREQ: ACCEPTANCE INTO THE IAGD PROGRAM.

**IAGD 6651 Dental Literature Review II 1 credit.** Continuing review of current and historical dental literature in general dentistry and selected recognized specialty areas of dentistry emphasizing outcomes and parameters of care. PREREQ: IAGD 6650.

**IAGD 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Idaho Dental Education Program Courses

**IDEP 5513 Dental Anatomy Lecture I 1 credit.** Nomenclature, chronology and methods of designation of human teeth. Form, size

and contour of the teeth, including external and internal anatomy of the permanent and deciduous dentitions, intertooth relations and occlusion. COREQ: IDEP 5514

**IDEP 5514 Dental Anatomy Laboratory 3 credits.** Carving of plaster teeth larger than average measurements and carving of wax teeth to natural size. Mounting of study casts on a functional articulator and waxing of teeth in occlusion. COREQ: IDEP 5513

**IDEP 5515 Dental Materials Science I 2 credits.** Composition, properties and application of the materials used in dentistry. Basic information on the design of preparatory work necessary for the mouth incident to the reception of these materials.

**IDEP 5517 Interpersonal Relationships and Communication 1 credits.** To assist their orientation and adjustment to professional education, freshmen will participate in group introductions followed by a discussion on interpersonal relationships with classmates, administrators, faculty, and staff; dealing with stress; and establishing study habits.

**IDEP 5523 Preventive Dentistry 2 credits.** Introducing the philosophy and need for preventive dentistry by developing the student's knowledge of and skills for effective oral hygiene. Concepts of self motivation, knowledge of dental diseases and abnormalities; application of the principles of flouridation, nutrition, patient motivation, and home care.

**IDEP 5525 History of Dentistry 1 credit.** To acquaint the student with the history of dentistry from ancient times to present, emphasis is placed upon contributions by individuals and groups of individuals leading to the current status of dentistry in the United States.

**IDEP 5526 Community Dentistry Field Experience 1 credit.** Designed to acquaint students with area health problems and with area health services and agencies. Field experience is gained during dental health and/or career presentations in public schools. To provide a variety of experiences, visits are made, for example, to the chronically ill, aged, or handicapped; to water purification facilities; to Indian groups.

**IDEP 5533 Oral Hygiene Technique 1 credit.** Introduction to the instruments and their usage in performing a complete scaling prophylaxis of the teeth. Periodontal charting and instrument sharpening techniques are also performed. Didactic, laboratory, and clinical introduction.

**IDEP 5534 Dental Materials Science II 3**

**credits.** Continuation of ISU DENT 5515. PREREQ: ISU DENT 5515.

**IDEP 5535 Occlusion Laboratory 1 credit.** Various exercises simulating clinical diagnostic and treatment procedures are employed to exemplify principles of maxillomandibular -relationships. COREQ: IDEP 5554

**IDEP 5544 Values and Ethics 1 credit.** Designed to identify and understand one's own ethical decision-making processes and the relationship of religion with values and ethics. Students will discuss the areas of value of care for people as individuals, challenges of personal and professional opportunities, code of ethics of the ADA and dental care delivery systems.

**IDEP 5554 Occlusion Lecture 1 credit.** Basic principles of maxillomandibular relationships, static and functional, as related to the occlusal surfaces of the teeth. COREQ: IDEP 5535

**IDEP 5563 Dental Radiology I 1 credit.** History, theory and application of ionizing radiation resulting in radiography of the oral structures; including exposure and developing parameters along with basic interpretation. COREQ: IDEP 5564.

**IDEP 5564 Dental Radiology Technique 1 credit.** Practical experience in exposing and developing dental radiographs. The course will include techniques required to complete a diagnostic full mouth series, bitewing films and panoramic radiographs. COREQ: IDEP 5563.

**IDEP 5565 Dental Radiology II 1 credit.** History, theory, and application of radiographic methods in dentistry including cephalometric, panoramic, and digital modalities. COREQ: IDEP 5563 and IDEP 5564.

**IDEP 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**IDEP 6617 Extramural Dental Education Program 2 credits.** Community clinical experience at the ISU dental clinic. Under direct supervision, dental students observe and participate in total patient care and office management while serving Idaho residents who would not normally receive dental care.

**IDEP 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and an-

nounced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Department of Physician Assistant Studies

[www.isu.edu/paprog](http://www.isu.edu/paprog)

Chair and Program Director: Phelps  
Medical Director: D'Souza, McClusky  
Associate Professors: Phelps  
Assistant Professors: Forbes, Johnson, Martin,  
Mirly, Papa, Salazar, Sawyer, Talford, Whitaker  
Clinical Instructor: Smith

### Master of Physician Assistant Studies (MPAS)

Physician Assistants (PAs) are highly skilled health practitioners who work under physician supervision to provide patient care services. PAs take complete medical histories, perform physical examinations, order and interpret diagnostic studies, such as laboratory tests and x-rays, diagnose and treat patients. Physician Assistants improve the accessibility of health care of underserved individuals in both urban and rural settings. The Physician Assistant Program at Idaho State University is the only PA Program in the state of Idaho.

### The Program

The Physician Assistant (PA) Program at Idaho State University awards the Master's of Physician Assistant Studies (MPAS) degree and a PA certificate upon successful completion of its 24 month graduate curriculum. A class of 60 students is enrolled each fall semester with 30 seats located at the Pocatello campus and 30 seats located at the Meridian campus.

The program maintains continued accreditation by the Accreditation Review Commission on Education for the Physician Assistant, Inc., (ARC-PA).

Graduates of the program are eligible to take the Physician Assistant National Certification Examination (PANCE) which is administered by the National Commission for Certification of Physician Assistants (NCCPA).

### Vision & Mission

Idaho State University Department of Physician Assistant Studies is the preferred educational destination for individuals who desire to

be trained in a student-centered, service oriented environment.

The mission of the Idaho State Physician Assistant program is to train PAs through service-oriented, multimodal, innovative learning. Graduates from ISU's PA Program will be highly competent, compassionate health care providers dedicated to serving individuals and their communities.

### Admission Requirements

1. Baccalaureate Degree: A Baccalaureate degree needs to be completed by June 30th of the year you plan to enter the PA Studies program. It must be from a regionally accredited U.S. institute of higher learning.

2. Prerequisite Courses

Required courses must also be completed at a regionally accredited U.S. institute of higher learning. The required prerequisite courses are:

Microbiology  
Biochemistry  
Human Anatomy (as a single course or as part of a two semester combined anatomy and physiology course)  
Human Physiology (as a single course or as part of a two semester combined anatomy and physiology course)  
Statistics  
Abnormal Psychology (or Developmental Psychology throughout the Lifespan)

Applicants must have a minimum cumulative prerequisite grade point average of 3.0 as well as a minimum grade of C in all prerequisite courses (listed above). Course work ten years or older is not accepted as prerequisite coursework. All prerequisites must be completed by June 30th of the year you plan to enter the program. However, applicants may have two prerequisite courses in progress during spring of the year they plan to enter the program.

Highly Recommended Courses:

(Please note: This list is not meant to be all inclusive and includes suggestions only!)

- Upper level biology courses such as:
  - Advanced Anatomy (BIOL 4420 Musculo-Skeletal Anatomy, BIOL 4470 Cross-Sectional Anatomy)
  - Advanced Human Physiology (BIOL 3304 Comparative Functional Morphology and Physiology, BIOL 4449 - Human Physiology I, BIOL 4456 Human Physiology II, BIOL 4464 Lectures in Human Physiology, BIOL 4486 Human Systemic Physiology)
  - Immunology (BIOL 4451 Immunology, BIOL 4454 Advanced Immunology)

- Genetics (BIOL 3358 Genetics, BIOL 4461 Advanced Genetics)
- Endocrinology (BIOL 4443 Endocrinology)
- Other health-related courses from departments such as Psychology, Sociology, Anthropology, Health Education, and Gender Studies.
- Proficiency in a foreign language

Additional considerations for admission include:

- Maturity
- Work and health care experience
- Evidence of the ability to achieve academic success in a rigorous academic program
- Interpersonal skills and the ability to relate effectively with patients, peers and at a professional level
- Evidence of a desire to practice primary care in Idaho, particularly among the medically underserved

Required Applications:

3. Central Application Services for Physician Assistants ([www.caspaonline.org](http://www.caspaonline.org))

The **CASPA application** must be completed by the PA program application deadline of November 1. As part of the CASPA application process you will be required to submit three letters of recommendations and official transcripts.

4. Graduate Record Exam (GRE) ([www.ets.org](http://www.ets.org))

The **GRE** is an important admission requirement as the scores are used for ranking applicants. Please go to ETS website for information about testing locations and scheduling the exam.

The GRE must be taken by November 1. The ISU GRE School Code is 4355 and the Department Code is 0634.

5. ISU Graduate School Application ([www.isu.edu/graduate](http://www.isu.edu/graduate))

The **ISU Graduate School application** (also called the "Supplemental Application") is required for admission to the PA program. When applying to the Graduate School, select the Fall semester. Please refer to the ISU Graduate School for information regarding the application, requirements, and fees.

CASPA DOES NOT forward transcripts to the Graduate School or the PA program. A separate set of official transcripts must be requested for ISU's Graduate School.

Official transcripts are to be sent directly to the Graduate School at the following address:

ISU Graduate School  
921 S 8th Ave, Stop 8075  
Pocatello, ID 83209-8075

The Graduate School application deadline is November 1.

**6. Technical Standards**

All entering students must meet the required list of Technical Standards. A complete list of technical standards covering essential capacities for observation, communication, sensory and motor function, intellectual, conceptual, integrative and quantitative abilities, behavioral and social attributes, and other student performance requirements is available from the program or on the program's website at <http://www.isu.edu/paprog/technical-standards.shtml>

**Curriculum**

The ISU PA Program Graduate Curriculum is twenty-four (24) months in length, divided into twelve (12) months of didactic (3 semesters) and twelve (12) months of clinical education (3 semesters).

The Didactic Curriculum is comprised of foundation courses in the fall semester, followed in the spring and summer semesters by modules that provide an immersion experience in the diagnosis and treatment of diseases commonly encountered in primary care medicine.

Clinical Year Rotation goals are designed to meet the needs of the student and to address the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) accreditation standards. The Clinical Year staff places students in eight rotations which best address PA student educational objectives and at sites which promote continued, quality, preceptor relations with the ISU PA Program. There are seven required content areas which include Inpatient Medicine, Outpatient Medicine, Obstetrics and Gynecology, Pediatrics, Emergency Medicine, Surgery and Psychiatry. One rotation will be an elective. Students are expected to travel during the clinical year and will pay for the expenses incurred for this travel.

**Course Sequence**

**Didactic Year**

Fall Semester	
BIOL 5529 Regional Anatomy and Histology	4 cr
BIOL 5563 Human Pathophysiology	4 cr
BIOL 5564 Lectures in Human Physiology	4 cr
PAS 6601 Intro to Physician Assistant	2 cr
PAS 6602 Evidence-based Medicine and Biostatistics	2 cr
PAS 6603 Clinical Assessment	3 cr
PAS 6604 Pharmacology	1 cr
<b>Total Credits</b>	<b>20 cr</b>

Spring Semester	
PAS 6630 Allergy/Immunology Module	1 cr
PAS 6631 Infectious Disease Module	2 cr
PAS 6632 Hematology/Oncology	1 cr
PAS 6633 Endocrinology Module	1 cr
PAS 6634 Renal Module	1 cr
PAS 6635 Pulmonary Module	2 cr
PAS 6636 Cardiology Module	2 cr
PAS 6637 Gastroenterology Module	1 cr
PAS 6638 ENT Module	1 cr
PAS 6640 Rheumatology Module	1 cr
PAS 6641 Orthopedics Module	1 cr
PAS 6642 Psychiatry Module	1 cr
PAS 6645 Ophthalmology Module	1 cr
PAS 6656 Alternative/Occupational Medicine Module	1 cr
<b>Total Credits</b>	<b>17 cr</b>

Summer Semester	
PAS 6639 Dermatology Module	1 cr
PAS 6643 Genitourinary Module	3 cr
PAS 6646 Neurology Module	2 cr
PAS 6650 Obstetrics/Perinatology Module	1 cr
PAS 6561 Pediatrics Module	2 cr
PAS 6652 Geriatrics Module	1 cr
PAS 6653 Surgery Module	2 cr
PAS 6654 Emergency Medicine Module	2 cr
PAS 6657 Comprehensive Evaluation	1 cr
<b>Total Credits</b>	<b>15 cr</b>

Clinical Year	
Fall, Spring, Summer Semesters	
PAS 6661 Clinical Rotation I	4cr
PAS 6662 Clinical Rotation II	4cr
PAS 6663 Clinical Rotation III	4cr
PAS 6664 Clinical Rotation IV	4cr
PAS 6665 Clinical Rotation V	4cr
PAS 6666 Clinical Rotation VI	4cr
PAS 6667 Clinical Rotation VII	4cr
PAS 6668 Clinical Rotation VIII	4cr
PAS 6671 Capstone Assessment I	1cr
PAS 6672 Capstone Assessment II	2cr
PAS 6673 Capstone Assessment III	1cr

**Physician Assistant Studies Graduate Courses**

**PAS 5587 Individual Problems in Physician Assistant Studies 1-3 credits.** Assigned on the basis of interest, preparation, and faculty availability. Participation in this course in no way influences opportunity to be accepted into the PA Program. May be repeated for up to 3 credits. PREREQ: APPROVAL OF PA DIRECTOR.

**PAS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PAS 6601 Introduction to Physician Assistant 2 credits.** Provides an introduction to the physician assistant profession, health promotion/ disease prevention, medical ethics, medical imaging, laboratory medicine, and medical decision-making.

**PAS 6602 Evidence-based Medicine and Biostatistics 2 credits.** Emphasizes use of current research evidence in medical decision making, a practice known as evidence-based

medicine. Topics include critical analysis of the medical literature, biostatistics, and application of EBM to patient care.

**PAS 6603 Clinical Assessment 3 credits.** Provides an introduction to medical interviewing and techniques for performing and recording a complete medical history and physical examination.

**PAS 6604 Pharmacology 1 credit.** An introduction to foundational concepts of therapeutic pharmacology, with emphasis on pharmacokinetics and pharmacodynamics.

**PAS 6630 - 6566 Module Course Descriptions. Credit varies for each module.** Lectures, laboratory practicum, problem-based learning, small group discussions, research methods, evidence-based medicine, and service learning are integrated to provide an immersion experience in the diagnosis and treatment of diseases commonly encountered in primary care medicine. May be graded S/U .

Modules have the following content areas which are tailored to the specific module:

- Case-Based Learning
- Clinical Anatomy
- Clinical Medicine
- Clinical Physiology
- Diagnostic Procedures
- Ethics and Law
- Health Promotion/Disease Prevention
- Laboratory Medicine
- PA Role and Issues
- Pathophysiology
- Physical Diagnosis
- Research/Evidence-Based Medicine
- Service Learning
- Therapeutics

**PAS 6657 Comprehensive Evaluation 1 credit.** An end-of-didactic-year comprehensive evaluation of the physician assistant student's knowledge, skills, abilities, and professional behavior. The student must receive a grade of "satisfactory" in order to progress to the clinical year of the program.

**PAS 6661 Clinical Rotation I 4 credits.** Supervised clinical practicum in primary care or specialty care in medical practice settings. PREREQ: Successful completion of all PAS Didactic Year Requirements. Graded S/U.

**PAS 6662 Clinical Rotation II 4 credits.** Supervised clinical practicum in primary care or specialty care in medical practice settings. PREREQ: PAS 6661. Graded S/U.

**PAS 6663 Clinical Rotation III 4 credits.** Supervised clinical practicum in primary care and/or specialty care in medical practice set-



tings. PREREQ: PAS 6662. Graded S/U.

**PAS 6664 Clinical Rotation IV 4 credits.** Supervised clinical practicum in primary care and/or specialty care in medical practice settings. PREREQ: PAS 6663. Graded S/U.

**PAS 6665 Clinical Rotation V 4 credits.** Supervised clinical practicum in primary care and/or specialty care in medical practice settings. PREREQ: PAS 6664. Graded S/U.

**PAS 6666 Clinical Rotation VI 4 credits.** Supervised clinical practicum in primary care and/or specialty care in medical practice settings. PREREQ: PAS 6665. Graded S/U.

**PAS 6667 Clinical Rotation VII 4 credits.** Supervised clinical practicum in primary care and/or specialty care in medical practice settings. PREREQ: PAS 6666. Graded S/U.

**PAS 6668 Clinical Rotation VIII 4 credits.** Supervised clinical practicum in primary care and/or specialty care in medical practice settings. PREREQ: PAS 6667. Graded S/U.

**PAS 6671 Capstone Assessment I 1 credit.** There are three Capstone Assessment Courses in the second year of the PA Program. Together they represent a comprehensive assessment of the students. Capstone Assessment I course is the first of the series. Students are required to study for and pass multiple objective examinations. Graded S/U.

**PAS 6672 Capstone Assessment II 2 credits.** There are three Capstone Assessment Courses in the second year of the PA Program. Together they represent a comprehensive assessment of the students. The Capstone Assessment II course is the second of the series. Students are required to study for and pass multiple objective examinations, additionally they are required to complete and present a medical case study, under the direction of the PA Program faculty. Graded S/U.

**PAS 6673 Capstone Assessment III 1 credit.** There are three Capstone Assessment Courses in the second year of the PA Program. Together they represent a comprehensive assessment of the students. The Capstone Assessment III course is the third one in the series and students are required to study for and pass multiple objective examinations. Graded S/U.

**PAS 6689 Graduate Special Topics 1-4 credits.** Special topics in specific areas of physician assistant studies which may include didactic and/or clinical studies. May be repeated up to 14 credits.

**PAS 6699 1-6 credits.** This is an experimental course. The course title and number of credits

are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

## Family Practice Residency Program

The Idaho State University Family Practice Residency is a postgraduate training program for physicians who have an M.D. or D.O. degree. The program is affiliated with the medical schools of the University of Washington and the University of Utah and is accredited by the Accreditation Council for Graduate Medical Education. The Pocatello Family Medicine Clinic, located on the Idaho State University campus, is the outpatient training site; hospital rotations are scheduled at Portneuf Medical Center.

Accepting six residents per year, the program trains Family Physicians to practice in rural Idaho. The curriculum includes family medicine, obstetrics/gynecology, surgery, internal medicine, pediatrics, geriatrics, emergency medicine, community medicine, behavioral science, rural medicine, orthopedics, and other subspecialties.

For more information, please contact:  
Family Practice Residency Program  
465 Memorial Drive  
Idaho State University  
921 S. 8th Avenue, Stop 8357  
Pocatello, Idaho 83209-8357  
(208) 282-4504  
Internet: [www.fmed.isu.edu](http://www.fmed.isu.edu)  
Email: [fammed@fmed.isu.edu](mailto:fammed@fmed.isu.edu)

## Curriculum Overview

**First Year**  
4 weeks Community Medicine  
4 weeks Psychology  
12 weeks Internal Medicine  
8 weeks Pediatrics (Inpatient)  
12 weeks Obstetrics  
8 weeks General Surgery  
4 weeks Emergency Medicine

**Second Year**  
8 weeks Internal Medicine  
8 weeks Pediatrics  
4 weeks Cardiology  
4 weeks Pulmonary/ICU  
4 weeks Medicine Subspecialty  
4 weeks Rural Rotations  
4 weeks Emergency Medicine  
4 weeks Electives  
4 weeks Obstetrics  
4 weeks Orthopedic/Sports Medicine  
4 weeks Family Medicine Center Chief

## Third Year

8 weeks Internal Medicine  
4 weeks ENT (Longitudinal)  
2 weeks Urology  
4 weeks Ophthalmology (longitudinal)  
4 weeks Dermatology (longitudinal)  
4 weeks Orthopedics/Sports Medicine/  
Rheumatology  
6 weeks Family Medicine Center Chief  
4 weeks Rural Rotations  
4 weeks Gynecology  
12 weeks Electives

# School of Rehabilitation and Communication Sciences

Associate Dean and Director: Seikel

## Departments

The School of Rehabilitation and Communication Sciences (SRCS) is composed of 2 departments with 2 Doctoral degrees and 2 Master's degrees. The department of Communication Sciences and Disorders (CSD) consists of graduate-level programs in Audiology and Speech-Language Pathology. The department of Physical and Occupational Therapy (DPOT) includes graduate programs in Occupational Therapy and in Physical Therapy. The programs within the School reflect the organization found in many rehabilitation facilities, acknowledging the strong relationships found among these disciplines.

## Degree Programs

The School of Rehabilitation and Communication Sciences is home to 2 Doctoral degrees: The Doctor of Audiology (AuD) and the Doctor of Physical Therapy (DPT). The School is also home to two Master's degrees: The Master's of Science in Occupational Therapy (MS OT) and the Master's of Science in Speech-Language Pathology (MS SLP).

# Department of Communication Sciences and Disorders

Chair and Professor: Kangas  
Associate Chair and Professor: Johnson  
Professors: Flipsen, Seikel, Sorensen  
Associate Professors: Brockett  
Assistant Professors: Altieri, Barga, Hudock, Ogiela, Ramsdell, Sanford

Clinical Professor: Loftin, Whitaker  
 Clinical Associate Professors: Bishop, Guryan, Knudson, Holst, Turner, Wallber, Willer  
 Clinical Assistant Professors: Ament, Hansen, Hardy, Melton, Miller, Morgan, O'Donnell, Smith, Stone  
 Clinical Instructors: Tucker

## Doctor of Audiology (Au.D.)

### Accreditation

The Doctor of Audiology (Au.D.) is accredited by the Council on Academic Accreditation (CAA) in Audiology and speech-Language Pathology (<http://professional.asha.org/academic/>)

### Admission Requirements

For admission to the Au.D. degree program in audiology, an applicant is expected to meet the stated (Masters') admission criteria to ISU Graduate School, and, in addition, provide three (3) letters of recommendation from those who can speak to the applicant's academic qualifications to pursue graduate education.

The Graduate School criteria include:

GPA (last 60 credits)	Standardized Test
3.5 to 4.000	No standardized test
3.0 to 3.499	(GRE/MAT) required 40th Percentile on at least one area of the GRE or 40th Percentile on the MAT
2.5 to 2.999	Combined Verbal and Quantitative (V+Q) score of 1000 on GRE or 45th Percentile on the MAT
below 2.499	No admission

### International Students

Students whose native language is not English must achieve at least the 50th percentile on the Verbal section of the GRE, and a total score of 250 on the Test of English as a Foreign Language (TOEFL). Once admitted, non-native English-speaking students must also receive a passing score on a test of spoken English to participate in clinic.

### Program Capacity

A total of 24 students are admitted to the program. The number of seats available for new admissions will vary. Classes begin in the Fall Semester of each year. Meeting entry-level requirements for admission does not guarantee a seat in the program.

### Curriculum

The curriculum is four years in duration, and includes one year (fourth year) of full-time clinical practicum. There are eight regular (fall and spring) semesters and three summer semesters. For the third year, students will be required to relocate to the ISU Meridian campus to continue their academic and clinical instruction in a robust audiology community. Students will assume the financial, housing, and logistical responsibilities of the relocation.

### Doctor of Audiology (Au.D.) Course List (Regular 4 year)

CSED 5517 Interdisciplinary Evaluation Team (or CSED 6691 Topical Seminar if IET was taken as an undergraduate)	3 cr
CSED 5556 Psychological Aspects of Deafness (or Electives if this course was taken as an undergraduate)	3 cr
CSED 5560 Educational Audiology (or Elective if Educational Audiology was taken as an undergraduate)	3 cr
CSED 6600 Principles of Research in Communication Disorders	3 cr
CSED 6603 Clinic Practicum-Audiology	9 cr
CSED 6605 Externship in Audiology	1-8 cr
CSED 6611 Auditory Assessment and Speech Audiometry	4 cr
CSED 6621 Aud Rehab and Amplification I	3 cr
CSED 6623 Pediatric Audiology	3 cr
CSED 6631 Immittance/Special Assessment	2 cr
CSED 6633 Introduction to Evoked Potential Audiometry and Balance Assessment	3 cr
CSED 6633L Introduction to Evoked Potential Audiometry and Balance Assessment Lab	1 cr
CSED 6641 Aud Rehab and Amplification II	2 cr
CSED 6641L Aud Rehab and Amp II Lab	1 cr
CSED 6643 Aud Rehab and Implants	3 cr
CSED 6645 Auditory Anatomy and Physiology	2 cr
CSED 6647 Auditory Physiology of Speech and Non-speech Signals	2 cr
CSED 6652 Speech Development: Deaf Students	3 cr
CSED 6675 Hearing Conservation and Noise	2 cr
CSED 6670 Auditory Pathologies	2 cr
CSED 6673 Instrumentation and Calibration	1 cr
CSED 6680 Counseling in Audiology	3 cr
CSED 6691 Topical Seminar (Note 1)	3 cr
CSED 7705 Off-campus Clinical Practicum	1-4 cr
CSED 7705L Off-campus Clinical Practicum Lab	1-4 cr
CSED 7710 Adv Topics in Aud Rehab	3 cr
CSED 7720 Audiology Practice Management and Dispensing	3 cr
CSED 7730 Auditory Evoked Potential Audiometry & Early Identification	3 cr
CSED 7740 Advanced Vestibular Assessment	3 cr
CSED 8805 Fourth Year Externship	1-8 cr
CSED 8810 Clinical Project	6 cr
Advanced Electives	6 cr

Note 1: If a student has not taken IET she/he may take it as a graduate student and substitute it for one of the 3 required topical seminars.

### General Requirements

Students receiving the degree of Doctor of Audiology must have satisfactorily completed all courses in the curriculum and passed all clinical practicum assignments. In addition, in spring semester of the third year, the student must pass the written comprehensive examination, and an oral comprehensive examination that includes defense of the doctoral project.

According to university regulations, no student may be granted a graduate degree who does not have a 3.0 grade point average for courses listed on the Program of Study upon completion of all academic work. The Department of Communication Sciences and Disorders, and Education of the Deaf will terminate the graduate program of any student who has received grades of C+ or lower in two or more departmental courses, or if the cumulative GPA falls below 2.7 in the first year of study, or 3.0 by the completion of graduate studies. If a student's graduate education is terminated for reasons of poor academic performance, the student may reapply for admission no sooner than one full semester following the semester of dismissal.

Additionally, graduate students deemed by the faculty not to have made satisfactory progress in the acquisition of clinical skills may be required to enroll for further credits in clinical practicum in addition to the minimum required of all students. Students may be dismissed for failure to make satisfactory progress in clinical practicum.

## Master of Science in Speech-Language Pathology

### Admission Requirements

For admission to the M.S. degree program in Speech-Language Pathology the applicant must:

1. Have an earned Baccalaureate degree with a major in communication sciences and disorders, or a Baccalaureate degree in any major with equivalent Post-Baccalaureate coursework in communication sciences and disorders.
2. Possess a 3.0 or higher GPA. The method of calculating an Admission GPA is based on the last 60± semester undergraduate credits (90± quarter credits) for coursework taken during the last two years of undergraduate training. Post-Baccalaureate coursework in communication sciences and disorders will be considered in computing GPA.
3. Obtain score of 40th Percentile or better on at least one area of the GRE.
4. Submit three letters of recommendation.
5. Apply through Communication Sciences and Disorders Centralized Application Service at [www.csdcas.org](http://www.csdcas.org).
6. Apply to, and meet all criteria for, admission to Graduate School.

### International Students

International students whose native language is not English must achieve at least the 50th percentile on the Verbal section of the GRE.

Applicants whose first language is not English need to meet the following TOEFL requirements for Classified admission: (1) Internet-based test (iBT): a total score of 80 with a score of at least 20 on each Section (graduate assistants who teach courses must score 23 or above on the Speaking Section) on the iBT; or (2) Computer-based test: a total score of 213 with a score of at least 21 on Section 1 (Listening Comprehension) on the computer test; or (3) Paper-based test: a total score of 550 with a score of at least 55 on Section 1 (Listening Comprehension) on the paper test or a score of 84 on the MTELP, or a score of 6 on the IELTS. Once admitted, non-native English-speaking students must also receive a passing score on a test of spoken English to participate in clinic.

**Required Courses for Speech-Language Pathology Emphasis**

CSED 6600 Principles of Research in Communication Disorders	3 cr
Clinical Practicum (combined credits of CSED 602 and CSED 604)	11 cr
CSED 6602 Clinical Practicum: Speech-Language Pathology	
CSED 6604 Off-Campus Clinical Practicum	
CSED 6606 Externship in Speech-Language Pathology	8 cr
CSED 6614 School-age Language Development and Disorders	3 cr
CSED 6616 Augmentative and Alternative Communication	3 cr
CSED 6620 Early Language Development and Disorders	3 cr
CSED 6622 Speech Sound Disorders	3 cr
CSED 6624 Disorders of Swallowing	2 cr
CSED 6625 Advanced Issues in Language Disorders	3 cr
CSED 6629 Neuropathologies 1	3 cr
CSED 6630 Fluency Disorders in Children and Adults	3 cr
CSED 6632 Craniofacial Anomalies	2 cr
CSED 6634 Voice Disorders	2 cr
CSED 6639 Neuropathologies of Language and Cognition	3 cr
CSED 6648 Professional Issues	3 cr
CSED 6650 Thesis (optional)	6 cr
Electives Non-thesis option	3 cr
Total 58-61 cr	

**Non-Thesis students are required to complete three credits from the following courses:**

CSED 6638 School Practice in Speech-Language Pathology	3 cr
CSED 6640 Medical Practice in Speech-Language Pathology	3 cr
CSED 6651 Master's Paper	3 cr
CSED 6691 Topical Seminar	3 cr
CSED 6651 Master's Paper	3 cr
CSED 6691 Topical Seminar	3 cr

Note that an adequate undergraduate background is assumed for entry to the graduate curriculum in speech-language pathology. When meeting with an advisor, if deficiencies are found, such as lack of a basic course, the student may be required to make up the course. An advisor must be consulted during registration week. Note also that an undergrad-

uate or graduate course in statistics or experimental design is required if not previously taken in an undergraduate program, as is 136 Graduate School 2012-2013 Catalog CSED 5517, Interdisciplinary Evaluation Team.

Students in the Graduate Program in Speech-Language Pathology must have the following ISU courses or their equivalents from another institution, or provide evidence from course syllabi that the basic information was covered in their undergraduate program. Certain of these courses may be taken during the graduate program.

CSED 4435 Speech Science	4 cr
CSED 3315 Clinical Processes: Management	3 cr
CSED 3321 Clinical Phonology	4 cr
CSED 3325 Speech Sound Disorders	3 cr
CSED 3330 Language Development	3 cr
CSED 3335 Language Disorders	3 cr
CSED 3341 Audiology I: Hearing Sciences and Audiometry	3 cr
CSED 4405 Neurological Bases of Communication Disorders	3 cr
CSED 4417 Interdisciplinary Evaluation Team	1 cr
CSED 3345 Aural Rehabilitation OR	
CSED 4460 Educational Audiology	3 cr
CSED 4420 Clinical Processes: Assessment	3 cr
MATH 2253 Introduction to Statistics	3 cr

**General Requirements**

Students must pass written and oral comprehensive examinations. For the Master of Science in Speech-Language Pathology the written exam may be fulfilled by either a portfolio or a thesis.

According to the university regulations, no student may be granted a graduate degree who does not have a 3.0 grade point average for courses listed on the program of study upon completion of all academic work. In addition, the Department of Communication Sciences & Disorders will terminate the graduate program of any student who has received grades of C+, or lower, in two or more departmental courses, or if the cumulative GPA falls below 2.7 in the first year of study and 3.0 by the completion of graduate studies. If a student's graduate education is terminated for reasons of poor academic performance, he/she may reapply for admission no sooner than one full semester following the semester of -dismissal.

Students with inadequate backgrounds in speech pathology and audiology may be required to take up to one year of undergraduate course work in addition to the above courses. In addition to the required graduate courses, students may have to take other courses in the department and related areas such as psychology and statistics. In addition to taking clinical practice (CSED 6602, 6603, or 6604) in the department, all graduate -students must complete a minimum of an -eight-week, full-time

externship in some professional program or agency. Exceptions may be made depending on the student's background. Graduate students deemed by the faculty not to have made satisfactory progress in the acquisition of clinical skills may be required to enroll for further credits in clinical practicum in addition to the minimum required of all students. Students may be dismissed for failure to make satisfactory progress in clinical practicum.

**Speech-Language Pathology and Audiology Graduate Courses**

**CSED 5500 Organic Speech Disorders 4 credits.** Comprehensive review of organic speech -disorders. Focus on Neurological disorders, voice, cleft palate and stuttering. Emphasis will be given to assessment and management of these disorders. PREREQ: CSED 3300 OR PERMISSION OF -INSTRUCTOR.

**CSED 5505 Neurological Bases of Communication Disorders 3 credits.** Provides fundamental knowledge of neuroanatomy and physiology as related to speech, language and hearing disorders. Introduction to communication disorders related to neurological damage (e.g., dysarthria, apraxia, aphasia). PREREQ: CSED 3300 OR -PERMISSION OF INSTRUCTOR

**CSED 5517 Interdisciplinary Evaluation Team 1 credit.** Introduction to the principles and techniques associated with interdisciplinary evaluation. Disciplines emphasized: Audiology, Nursing, Physical Therapy, Psychology, Social Work, -Special Education, Speech-Language Pathology. Cross-listed as PSYC 5517, SOWK, 5517, NURS 5517.

**CSED 5520 Clinical Processes: Assessment 3 credits.** Diagnostic principles, procedures, tests and clinical examination in the evaluation of speech, language and hearing disorders. Covers norms, reliability and validity. PREREQ: PSYCH 4445, CSED 3315, AND STATISTICS, AND/OR APPROVAL OF INSTRUCTOR.

**CSED 5525 Clinical Processes: Methods and Applications 3 credits.** Application of assessment and treatment components of speech and language disorders through classroom observation and indirect/direct clinical experiences. -PREREQ: CSED 3315, CSED 3325, CSED 3335, CSED 5520, PERMISSION OF CLINICAL -DIRECTOR.

**CSED 5540 Special Topics Workshop 1-3 credits.** Presentation of professionally related topics in workshop format. Meets for a minimum of 16 contact hours per credit with appropriate outside assignments, readings, or papers. May be -repeated for up to 6 credits.

Graded S/U.

**CSED 5556 Psychosocial Aspects of Deafness 3 credits.** Psychological, educational and social influences of the hearing community on deaf persons and the structure of the deaf community as a socio-cultural entity. PREREQ: CSED 3351 WITH A "B" OR BETTER.

**CSED 5560 Educational -Audiology 3 credits.** Overview of school-based audiology services including working within the public school system and with related professionals, legal issues, and options for providing comprehensive services to children with hearing loss and their families.

**CSED 5580 Genetics for Health Care Professionals 3 credits.** An in depth interdisciplinary review of the impact of genetics on patients and patient care and the biological, social, ethical and legal issues surrounding genetics and genomics. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. Cross listed as NURS 5580.

**CSED 5582 Independent Study 1-4 credits.** Study of problems selected by students and faculty. May be repeated up to 8 credits.

**CSED 5591 Seminar 1-4 credits.** Reading, preparation, and discussion of reports and projects in all areas of speech and hearing science, speech pathology and audiology. May be repeated up to 12 credits.

**CSED 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be graded S/U.

**CSED 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CSED 6600 Principles of Research in Communication Disorders 3 credits.** Issues of validity, credibility, reliability and confirmability. -Methodology including quantitative and qualitative approaches. Evaluation of research and use of evidence-based practice. Use of informational resources to develop a research proposal. PREREQ: STATISTICS OR PERMISSION OF INSTRUCTOR.

**CSED 6601 Developmental Psycholinguistics and Reading 3 credits.** Oral language development in young children and its rela-

tionship to early reading. Classroom language problems of older elementary and secondary students and language intervention to improve reading and writing discussed.

**CSED 6602 Clinical Practicum: Speech-Language 1 credit.** Students, under supervision, gain experience in the diagnosing, staffing, programming, and counseling of cases with speech and language disorders. May be repeated up to 16 credits. Approval of Clinic Director required.

**CSED 6603 Clinical Practicum: Audiology 1-4 credits.** Students gain experience in diagnosing, programming, and counseling cases with hearing disorders, and implementing rehabilitation programs for persons with hearing losses. May be repeated up to 13 credits. PREREQ: APPROVAL OF -ADVISOR AND AUDIOLOGY CLINIC -COORDINATOR.

**CSED 6604 Off-Campus Practicum 1-4 -credits.** Designed to provide clinical experience under -supervision of speech-language pathologist within placement setting. Placements include private -clinics, hospitals, residential care facilities, developmental centers, and schools. May be repeated up to 16 credits. PREREQ: CLINIC DIRECTOR APPROVAL. Graded S/U.

**CSED 6605 Externship in Audiology 4-8 credits.** Eight week off-campus placement that can be split between two summers. Final approval is the responsibility of the clinic director. Each student should obtain a minimum of 100 clock hours of clinical experience per eight week externship. PREREQ: CLINICAL DIRECTOR APPROVAL. COREQ: CSED 7705L. May be repeated. Graded S/U.

**CSED 6606 Externship in Speech-Language Pathology 4-9 credits.** Designed to give Speech-Language Pathology students full-time practical experience in a professional setting, i.e., schools, hospitals, clinics, and private practices. PREREQ: COMPLETION OF ACADEMIC -PROGRAM. May be repeated up to 18 credits. Graded S/U.

**CSED 6607 Directed Observation in Education of the Deaf 1 credit.** Directed observations at multiple levels and reporting of casual interactions and diagnostic/intervention approaches by instructor with Deaf or hard of hearing individuals (minimal 150 clock hours). May be repeated up to 3 credits. PREREQ: CSED 6601 AND/OR PERMISSION OF INSTRUCTOR.

**CSED 6608 Communication Practicum 2 credits.** Supervised experiences applying research and theory to language intervention

practices for Deaf or hard of hearing individuals. May be repeated up to 6 credits. PREREQ: CSED 6601, CSED 6607, OR PERMISSION OF INSTRUCTOR.

**CSED 6609 Teaching Internship in Deaf Education 4-8 credits.** Directed classroom and clinical teaching experience with Deaf or hard of hearing students under supervision. Minimum 250 clock hours at the level specialization. May be repeated. Graded S/U. PREREQ: APPROVED APPLICATION.

**CSED 6610 Teaching Internship in Interpreter Training 1-8 credits.** Supervised directed -classroom teaching experience with college/university students in interpreter training program. Minimum 250 clock hours. May be repeated for up to 8 credits. PREREQ: APPROVED APPLICATION. Graded S/U.

**CSED 6611 Advanced Auditory Assessment and Speech Audiometry 4 credits.** Thorough study in the historical, theoretical, and clinical aspects of fundamental audiological procedures such as pure-tone air- and bone-conduction testing, speech audiometry, and masking.

**CSED 6614 School-Age Language Development and Disorders 3 credits.** Advanced study of language development and disorders in school-age children and youth. Methods of assessing later language disorders in educational settings. PREREQ: CSED 3330, CSED 3335, CSED 6620.

**CSED 6616 Augmentative and Alternative Communication 3 credits.** Functional approaches to enhancing communication for people with severe disabilities. Includes introduction to electronic communication devices, low technology strategies, empowering clients, and inclusive practices. PREREQ: CSED 6629, CSED 6639 OR EQUIVALENT.

**CSED 6620 Early Language Development and Disorders 3 credits.** Study of language development and disorders in children (0-5 years of age). Includes theories of development and disorders, assessment and intervention of child and environment. PREREQ: CSED 3330, CSED 3335, OR EQUIVALENT.

**CSED 6621 Aud Rehab and Amplification I 3 credits.** Introduction to practice of audiologic rehabilitative patient care with an emphasis on acoustic hearing aids. Basic instrument design, components, and coupling features of various wearable amplification devices will be included. Assessment of patient candidacy, fitting protocols, and outcome measures.

**CSED 6622 Speech Sound Disorders 3 cred-**

its. Characteristics of children with speech sound disorders. Current approaches to assessment and theoretically-based treatment of speech sound errors, including multicultural applications. PREREQ: CSED 3325, OR PERMISSION OF INSTRUCTOR.

**CSED 6623 Pediatric Audiology 3 credits.** Advanced study of hearing disorders and hearing test procedures in children. Topics include development of the auditory mechanism, auditory pathologies, developmental milestones, auditory testing, differential diagnosis, and management.

**CSED 6624 Disorders of Swallowing 3 credits.** Assessment and treatment of disorders associated with all stages of swallowing in adults and children. Includes oromyofunctional, oral preparatory, oral, pharyngeal, and esophageal swallowing disorders. PREREQ: CSED 4435, CSED 4405, OR PERMISSION OF INSTRUCTOR.

**CSED 6625 Advanced Issues in Language Disorders 3 credits.** Critical issues in childhood language disorders including linguistic and cultural diversity, classroom-based strategies, and children with mental retardation, autism, learning disability and deafness. PREREQ: CSED 614 OR EQUIVALENT.

**CSED 6627 Reading/Writing Curriculum in Deaf Education 3 credits.** Theory, research and practices for teaching and assessing written language for Deaf and hard of hearing students. Applications of principles of language acquisition and development to reading and writing. PREREQ: PERMISSION OF INSTRUCTOR.

**CSED 6628 Curriculum Organization in Deaf Education 3 credits.** Organizing, adapting and implementing curriculum across all areas to meet the special needs of Deaf or hard of hearing students. Includes assessment, behavior management, instructional technology, and individualized planning. PREREQ: PERMISSION OF INSTRUCTOR.

**CSED 6629 Neuropathologies of Speech 3 credits.** Examines etiologies, characteristics, assessment and treatment of dysarthria, apraxia, and right-hemisphere dysfunction.

**CSED 6630 Fluency Disorders in Children and Adults 3 credits.** Advanced study of assessment and treatment for fluency disorders in adults and children. Includes theory, developmental issues, cluttering, and specific treatment for adults and children.

**CSED 6631 Immittance/Special Assessment 2 credits.** Study of immittance and other spe-

cial audiological tests used in site of lesion (differential) diagnostic workshops. Background, rationale, administration, and interpretations of immittance and other special tests will be considered along with the concept of Clinical Decision Analysis (CDA).

**CSED 6632 Craniofacial Anomalies 2 credits.** Consideration of the speech-language pathologist's role in the habilitation of patients with craniofacial anomalies. Clefts of the lip and palate are discussed. Team approaches to assessment and management are presented.

**CSED 6633 Introduction to Evoked Potential Audiometry and Balance Function Assessment 3 credits.** Introduction to the study of evoked potential audiometry, balance function testing, and otoacoustic emissions. Emphasis will be on the physiologic processes and instrumentation. COREQ: CSED 6633L.

**CSED 6633L Introduction to Evoked Potential Audiometry and Balance Function Assessment Laboratory 1 credit.** An introductory hands-on study and clinical practice of ABR, ENG/VNG, and OAE tests. Emphasis on clinical protocol, interpretation of test findings, and methods of reporting interpretations to referring sources. COREQ: CSED 6633.

**CSED 6634 Voice Disorders 2 credits.** Study of the anatomical, physiological, and behavioral aspects of voice production. Consideration of voice disorders by the speech-language pathologist. Principles of assessment and treatment will be discussed.

**CSED 6635 Speech Audiometry 1 credit.** Review of basic and advanced audiometric tests which utilize speech as an approach to hearing assessment. Course treatment includes historic development of speech tests and description of psychophysical principles which underlie speech audiometry.

**CSED 6637 Philosophical/Theoretical Foundations of Deaf Education 2 credits.** A comprehensive study of the philosophies and theories that influence current practice and research in the education of Deaf or hard of hearing students. PREREQ: PERMISSION OF INSTRUCTOR.

**CSED 6638 School Practice in Speech-Language Pathology 3 credits.** Advanced preparation for practice in school settings. In-depth study of caseload management, Interdisciplinary Education program requirements, legal mandates, collaborative strategies, and inclusive practices. PREREQ: CSED 6614 OR EQUIVALENT.

**CSED 6639 Neurogenic Disorders of Language and Cognition 3 credits.** Etiologies,

characteristics, assessments, and treatment of aphasia, traumatic brain injury, and dementia.

**CSED 6640 Medical Practice in Speech-Language Pathology 3 credits.** Examines methods and practices specific to medical settings, -including billing procedures, record-keeping, referral procedures, ethics, treatment models related to settings. PREREQ: CSED 6639 OR EQUIVALENT.

**CSED 6641 Aud Rehab and Amplification II 2 credit.** Continuation of wearable amplification technology with focus on advanced signal processing, prescriptive fitting rationales, and programming software. Objective and subjective verification and validation methodologies as well as patient orientation, adjustment, and care of devices will be included. PREREQ: CSED 6621. COREQ: CSED 6641L.

**CSED 6641L Aud Rehab and Amplification II Laboratory 1 credit.** Experimental learning activities with hearing aid programming software, ANSI test measures, Real Ear Measurements (REM), and hearing aid repair. PREREQ: CSED 6621. COREQ: CSED 6641.

**CSED 6643 Auditory Language Learning 3 credits.** This course exams the development of speech and hearing in children who are hard of hearing or deaf. Focus will be placed on how children with hearing impairments differ in their learning of language compared to children with normal hearing. Language strategies for use by professionals serving deaf and hard of hearing students to promote language learning will also be discussed.

**CSED 6645 Auditory Anatomy and Physiology 2 credits.** Comprehensive treatment of the anatomy, physiology, and neuroanatomy of the auditory system from the outer ear to the auditory cortex.

**CSED 6647 Auditory Physiology of Speech and Non-Speech Signals 2 credits.** Continuation of advanced study of the auditory system, including central pathways, auditory perception of speech and non-speech signals, and psychoacoustics, with focus on pitch and loudness phenomenon, masking, and binaural effect. PREREQ: CSED 6645.

**CSED 6648 Professional Issues: Speech-Language Pathology 3 credits.** Advanced preparation for professional practice in speech-language pathology. Includes study of policies and practices in employment settings, service delivery models, ethics, counseling, supervision. PREREQ: TWO SEMESTERS OF CSED 6602.

**CSED 6650 Thesis 1-9 credits.** Research

project under supervision of academic faculty member. PREREQ: ABILITY TO DEAL WITH TECHNICAL LITERATURE, PROVEN WRITING -ABILITY. APPROVAL OF ADVISOR AND INSTRUCTOR. May be repeated. Graded S/U.

**CSED 6651 Master's Paper 1-3 credits.** Major paper or project synthesizing aspects of a specialized area of speech-language pathology, audiology, or education of the deaf. A large component of the paper must reflect the student's own original thinking. May be repeated. Graded S/U.

**CSED 6652 Speech Development: Deaf Students 3 credits.** Speech and hearing development in children; developmental oral language strategies for teachers serving deaf and hard of hearing students with an emphasis on children with cochlear implants. PREREQ: CSED 6601 OR PERMISSION OF INSTRUCTOR.

**CSED 6658 Teaching Language to the Deaf 3 credits.** Students gain theoretical and practical knowledge in the evaluation and habilitation of language/communication problems in Deaf and hard of hearing children and adolescents. PREREQ: CSED 6601 OR PERMISSION OF -INSTRUCTOR.

**CSED 6659 Teaching Academic Subjects to the Deaf 3 credits.** Students gain theoretical and practical knowledge of how to teach academic subjects to children and Deaf and hard of hearing adolescents. -PREREQ: PERMISSION OF -INSTRUCTOR.

**CSED 6670 Auditory Pathologies 2 -credits.** Study and discussion of a wide range of auditory pathologies. Emphasis will be placed on the relationship between the pathology and the corresponding audiometric findings.

**CSED 6673 Instrumentation and Calibration 1 -credit.** Basic electronics, sound, acoustics, instrumentation, and the calibration of a wide variety of audiometric equipment.

**CSED 6675 Hearing Conservation in Noise 2 -credits.** Hearing conservation programs from historical and current-model perspectives. Additionally, OSHA and other applicable regulations along with the effects of noise on human hearing will be discussed.

**CSED 6680 Counseling in Audiology 3 -credits.** Examination of the role of personal adjustment counseling in audiology. Students review counseling theory and the application of counseling techniques to patient interactions.

**CSED 6691 Topical Seminar 1-4 credits.** Reading and discussions involving subjects of

concern. May be repeated up to 12 credits.

**CSED 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CSED 7705 Off-Campus Clinical Practicum 1-4 -credits.** These externships, referred to as 3rd year rotations, are for the two semesters of the third year. Students will rotate through one experience every eight weeks or two per semester. Affiliation agreements and placement decisions are arranged by the clinic director and the Boise Coordinator. COREQ: CSED 7705L. May be repeated. Graded S/U.

**CSED 7705L Off-Campus Clinical Practicum Laboratory 1 -credit.** Grand rounds seminar conducted online with other students in clinical experience settings. May be repeated. Graded S/U. PREREQ: CSED 6603.

**CSED 7710 Adv Topics in Aud Rehab 3 credits.** Advanced topics include rehabilitation issues in cochlear implants, wireless technologies, assistive listening technologies, and tinnitus. Audiologic rehabilitation outcome measures and efficacy will be included. PREREQ: CSED 6621, 6641, 6643.

**CSED 7720 Audiology Practice Management and Dispensing 3 -credits.** Practice management, particularly hearing aid dispensing, including legal issues, ethics, best practice, marketing, and business management theory. PREREQ: CSED 6641, 6643.

**CSED 7730 Advanced Electrophysiology 3 -credits.** Comprehensive discussion of advanced evoked potentials including test protocols, measurement, and interpretation. Topics in early identification of individuals with hearing loss will also be covered. PREREQ: CSED 6633.

**CSED 7740 Advanced Vestibular and Balance Function Assessment 3 -credits.** Advanced vestibular and balance function assessment including underlying causes of balance disorders, rotary chair, computerized posturography, VEMP, advances in VNG/ENG technology, and collaborative approaches to vestibular rehabilitation. PREREQ: CSED 6633.

**CSED 8805 Fourth Year Externship 1-8 credits.** Full time placement designed to provide the student with a breadth and depth of clinical experience equivalent to one year of full-time work (approximately 2,000 hours). Students must enroll for three semesters minimum. Students are responsible for identifying

potential sites and arranging affiliation agreements. Final approval is the responsibility of the clinical director. COREQ: CSED 7705L. May be repeated. Graded S/U.

**CSED 8810 Clinical Project 1-6 -credits.** Clinically-based scholarly project completed under the supervision of the audiology faculty. May be repeated for a total of 6 credits. Graded S/U.

## Department of Physical and Occupational Therapy

Chair and Associate Professor: Creelman  
Occupational Therapy Program Director and Associate Professor: Gee  
Professor:  
Associate Professors: Creelman, Devine, Dye, Gee, Seiger, Thompson  
Assistant Professors: Alexander, Jackman, Kendall, Lloyd, Peterson, Ralphs

### Program Mission

The primary mission of the Doctor of Physical Therapy Program is to provide entry-level education in a supportive learning environment fostering diverse and interdisciplinary didactic and clinical experiences, clinical skills acquisition, and a desire for lifelong learning to enhance the delivery of physical therapy services and the profession. Further, the program emphasizes faculty and student enrichment through scholarly endeavors, teaching, service, and clinical practice contributions within their areas of expertise.

## Doctor of Physical Therapy

The graduate entry level program in Physical Therapy is a professional entry level program designed to prepare students for licensure to practice as physical therapists. The program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

The Doctor of Physical Therapy program (DPT) was granted re-accreditation status by the Commission on Accreditation in Physical Therapy Education (CAPTE) in October 2006. Prospective students having questions about the program's accreditation status should contact the Commission on Accreditation of Physical Therapy Education, 111 North Fairfax Street, Alexandria, VA 22314; accreditation@apta.org; (703)684-2782 or (703)706-3245.

**Admission Requirements**

The student must apply to, and meet all criteria for admission to the Graduate School. In addition, the following conditions must be met:

1. Completion of bachelor’s degree from a college or university accredited in the United States or its equivalent from a school in another country. (Must complete degree before onset of classes in PT Program of the Fall Semester in year of acceptance.)
2. Grade point average of 3.0 or above on the equivalent of the most recent four full-time semesters of academic work. GPA is calculated on upper division courses only.
3. Grade point average of 3.0 or above in each prerequisite set of science courses. Please contact the Department of Physical Therapy for clarification.
4. Applicants must take the Graduate Record Examination (GRE) or Miller Analogies Test (MAT).
  - a. GRE must meet the following requirements to be competitive: A total combined score of at least 950 in the verbal and quantitative portions. Verbal must be at least 400. Minimum of 4.0 on the analytical portion.
  - b. MAT must meet the following requirements to be competitive: A total score of 390.
  - c. Applicants whose first language is not English need to meet the following TOEFL requirements for Classified admission: (1) Internet-based test (iBT): a total score of 80 with a score of at least 20 on each Section (graduate assistants who teach courses must score 23 or above on the Speaking Section) on the iBT; or (2 ) Computer-based test: a total score of 213 with a score of at least 21 on Section 1 (Listening Comprehension) on the computer test; or (3) Paper-based test: a total score of 550 with a score of at least 55 on Section I (Listening Comprehension) on the paper test or a score of 84 on the MTELP, or a score of 6 on the IELTS.
  - d. Applicants with scores lower than the requirements may not be considered.
  - e. The scores of the GRE/MAT/TOEFL must be received by the Graduate School by the application deadline (November 15) for an application to be considered. The ISU code for these three tests is: 4355.
5. At least 80 hours of salaried or voluntary experience in two or more physical therapy practice settings. Experience must be

supervised and documented by licensed physical therapists. This experience must have occurred within the last five years.

6. Three letters of recommendation. Two letters must be from licensed physical therapists under whom the student has obtained hours of experience. One letter must be from a professor.

The admissions committee reviews all applicants on a competitive case-by-case basis during any admissions cycle.

Qualified applicants may be invited for a personal interview with physical therapy admissions committee.

Prospective applicants should contact the department for specific descriptions of the above general requirements.

A maximum of 28 students are admitted to the program each year. Classes begin in the Fall Semester of each year. Meeting entry level requirements for admission does not guarantee a seat in the program. Admission is on a competitive basis, and a majority of the seats are offered to Idaho residents. Please contact the Department of Physical Therapy for details.

**General Requirements**

The curriculum is 3 years in duration and includes 5 clinical affiliations. There are 8 semesters and 2 full-time summer sessions encompassing a total of 101 credits. The clinical affiliations mandate student travel and housing with the usual expenses borne by the student. Out-of-state travel for affiliations is required.

**Doctor of Physical Therapy Curriculum\***

**Fall - Semester 1**

PTOT 5512 Professional Communication	2 cr
PTOT 5513 Physical Therapy Profession	2 cr
BIOL 5574/5574L Human Anatomy - PT emphasis	5 cr
BIOL 5586/5586L Human Systemic Physiology	5 cr
PTOT 6623 Physical Agents	3 cr
PTOT 6643 Physical Agents Lab	1 cr
<b>Total</b>	<b>18 cr</b>

**Spring - Semester 2**

PTOT 5501 Clinical Kinesiology	4 cr
PTOT 5502 Clinical Neuroscience	5 cr
PTOT 6606 Clinical Therapeutic Exercise	3 cr
PTOT 6620 Clinical Procedures	2 cr
PTOT 6640 Clinical Procedures Lab	1 cr
PTOT 6621 Manual Evaluation and Treatment	2 cr
PTOT 6641 Manual Evaluation and Treatment Lab	1 cr
PTOT 6618 Practicum	1 cr
<b>Total</b>	<b>19 cr</b>

**Summer - Semester 3**

PTOT 5514 Research Methodology	4 cr
PTOT 6608 Pharmacology for Physical and Occupational Therapists	3 cr
PTOT 6631 Clinical Affiliation I	3 cr

Total 10 cr

**Fall - Semester 4**

PTOT 6616 Professional Project	1 cr
PROR 667 Research Practicum	1-2 cr
PTOT 6618 Practicum	1 cr
PTOT 6622 Musculo-Skeletal System Management	4 cr
PTOT 6642L Musculo-Skeletal System Management Lab	1 cr
PTOT 6624 Cardiac and Pulmonary System Management	5 cr
PTOT 6632 Clinical Affiliation II	3 cr
<b>Total</b>	<b>18 cr</b>

**Spring - Semester 5**

PTOT 6616 Professional Project	1 cr
PTOT 6619 Practicum	1 cr
PTOT 6626 Neurological Systems Management	5 cr
PTOT 6646L Neurological Systems Mgmt Lab	1 cr
PTOT 7715 Resource Management	3 cr
<b>Total</b>	<b>11 cr</b>

**Summer - Semester 6**

PTOT 7733 Clinical Affiliation III	5 cr
PTOT 6616 Professional Project	1 cr
<b>Total</b>	<b>6 cr</b>

**Fall - Semester 7**

Oral & Comprehensive Exams	
PTOT 6616 Professional Project (elective)	1 cr
PTOT 6619 Practicum	1 cr
PTOT 7725 Multi-Systems Management	4 cr
PTOT 7727 Geriatric Management	1 cr
PTOT 7728 Lifespan Development	4 cr
<b>Total</b>	<b>11 cr</b>

**Spring - Semester 8**

PTOT 7734 Clinical Affiliation IV	5 cr
PTOT 7735 Clinical Externship	5 cr
PTOT 6648 Graduate Special Topics (Elective)	1 cr
<b>Total</b>	<b>10 cr</b>

**TOTAL CREDITS 101**

\*Minor curriculum changes and progression alteration may occur without notice in line with accreditation standards.

**Degree and Licensure Requirements**

Students receiving the degree of Doctor of Physical Therapy must satisfactorily complete all courses in the curriculum, prepare and present study papers on a regular basis, prepare and present a professional project, attend and successfully complete all clinical affiliations, and satisfactorily pass comprehensive oral and written departmental examinations. For state licensure, students must have met the degree requirements and pass the National Board Examinations for Physical Therapy.

NOTE: Admitted students should be aware that some required external clinical rotation sites will require criminal background and drug checks. In addition, students who have a record of criminal activity may have difficulty procuring a license to practice in some states after completing the program.

**Grade Requirements**

The Graduate School and the Department of

Physical and Occupational Therapy requires that an overall GPA of 3.0 be maintained in all graduate course work and all clinical affiliations must be completed with an S (satisfactory) grade. In addition, the Department of Physical and Occupational Therapy will terminate the graduate program of any student who has received grades of "B- or lower" in more than 6 credits or a maximum of two program courses. Students should consult specific departmental grading policies for specific information.

## Master of Occupational Therapy

The graduate entry level program in Occupational Therapy is a professional entry level program preparing students for licensure to practice as occupational therapists. The following information provides the specific requirements for applying to the Idaho State University Occupational Therapy (OT) Program.

Occupational therapy is a profession that uses occupation to promote well-being and health among people of all ages and abilities. Occupations are goal-directed, meaningful pursuits that occupy a person's time each day. Occupations include work and productive activities, self care or care of others, and leisure/recreational activities. Occupational therapists adapt the environment, tasks, or techniques to meet individual needs while helping each client develop new skills necessary to function productively. Occupational therapists view every aspect of a client's life as important to his/her health.

Occupational therapy seeks to improve the quality of life for individuals who are at risk for physical, cognitive, mental or psychosocial impairments. Demand for occupational therapy will increase to address the needs of a growing population of aging adults, children with developmental disabilities and those who struggle with traumatic injuries and illness. When one experiences physical or mental illness or injury, it is the job of the occupational therapist to help the individual return to work, family roles and satisfying life.

The curative nature of occupational therapy is extremely broad and requires individuals with an interest in the complexity of humanity and occupations. One also needs an ability to think critically and creatively and be able to address occupational performance problems resulting from disease, trauma and mental illness. To be well prepared, a student must enter the profes-

sion with a foundation in the liberal arts, biological, physical, and social sciences.

### Admission Requirements

Students can be admitted into the Master of Occupational Therapy (MOT) program by applying to, and meeting all criteria for, admission to the Graduate School. They must also meet the prescribed prerequisite course requirements. Students may also have the option of early pre-professional entry into the program through the established guidelines of the Bachelors of University Studies (BUS) program. The BUS is an interdisciplinary degree designed for students whose career and educational goals are not met by traditional degrees offered at Idaho State University.

During the first three years, the student develops a course of study that will meet the student's interests, university degree requirements and Occupational Therapy Program prerequisites admission requirements. The student can apply to the BUS program during his/her junior year. With successful completion of the first professional year in the OT program, the student will receive a Bachelor of University Studies and will continue directly into the MOT program over the next two years. The combination of the BUS degree with the MOT degree program creates a seamless entry into the occupational therapy profession, ensuring that all prerequisites in social, physical and biological sciences are completed in a timely manner. For further information on the BUS and Occupational Therapy program, contact the Department of Physical and Occupational Therapy at (208)282-4095.

1. Applicants must complete a bachelor's degree from a college or university accredited in the U.S. or its equivalent from a school in another country. This degree may be in progress during the application process but must be completed prior to beginning OT courses in the Fall semester.
2. All applicants applying to the OT Program must also apply for admission to ISU through the Graduate School. General admissions requirements are explained in the Admissions section of the Graduate Catalog. PLEASE NOTE: Some of the requirements for admission into the OT Program are higher than the general requirements for admission to Graduate School.
3. Applicants must have a minimum of an earned grade point average (GPA) of at least 3.0 over all upper division course work to apply to the OT Program. A minimum of 25 upper division credits must be completed, or in progress, by January of the year of admission for applications to be considered. Applicants with advanced degrees may use the most recent upper division or graduate credits completed.
4. Applicants must take the Graduate Record Examination (GRE) or Miller Analogies Test (MAT).
  - a. GRE must meet the following requirements to be competitive: A total combined score of at least 950 in the verbal and quantitative portions. Verbal must be at least 400. Minimum of 4.5 on the analytical portion.
  - b. MAT must meet the following requirements to be competitive: A total score of 390.
  - c. Applicants whose first language is not English need to meet the following TOEFL requirements for Classified admission: (1) Internet-based test (iBT): a total score of 80 with a score of at least 20 on each Section (graduate assistants who teach courses must score 23 or above on the Speaking Section) on the iBT; or (2) Computer-based test: a total score of 213 with a score of at least 21 on Section 1 (Listening Comprehension) on the computer test; or (3) Paper-based test: a total score of 550 with a score of at least 55 on Section 1 (Listening Comprehension) on the paper test, or a score of 84 on the MTELP, or a score of 6 on the IELTS.
  - d. Applicants with scores lower than the requirements may not be considered.
  - e. The scores of the GRE/MAT/TOEFL must be received by the Graduate School by the application deadline (December 15) for an application to be considered. The Idaho State University code for these three tests is: 4355.
5. Applicants must complete specific prerequisites courses with a GPA of 3.0 in each of the specified categories. Prerequisite course work in anatomy and physiology must be completed within the last five (5) years. Prerequisite course work that is ten (10) years or older may not be acceptable for admission unless approved by the Department Admissions Committee prior to application. An applicant with more than four (4) prerequisite courses in progress or planned for the spring/summer semesters may not be considered for admission. Please contact the Department of Physical and Occupational Therapy for specific information on the prerequisite course work.
6. Applicants must demonstrate knowledge and exposure to the occupational therapy



profession. All of the required experience must be completed PRIOR to admission to the Idaho State University OT Program. All of the experience must be completed under the direct supervision of a practicing occupational therapist and must have occurred within the last FIVE years. A total of 40 hours of experience is required and must be completed in a minimum of two different occupational therapy practices.

7. Each applicant must submit three letters of reference with the application. One of the letters must be from the Occupational Therapist who directly supervised the volunteer or aide experience(s). Please contact the Idaho State University OT Program for additional information.
8. Applicants meeting all of the above requirements will be given preference for admission into the program, and have been more successful in gaining entry. The admissions committee reviews all applicants on a competitive case-by-case basis during any admissions cycle.

### Program Accreditation

The Idaho State University Master of Occupational Therapy Program received accreditation from the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA) in December 2000. ACOTE can be contacted at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220 or by telephone at (301) 652-AOTA. Graduates of the program will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT).

After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination. In addition, the OT program requires that all occupational therapy students complete Level II Fieldwork within 12 months following the completion of academic component of the program.

### General Requirements

The curriculum is 33 months in duration and includes 4 clinical affiliations. There are 6 semesters and 2 full-time summer sessions encompassing a total of at least 83 credits. Please contact the Department of Physical and Occupational Therapy for additional information regarding clinical affiliations.

#### Fall I- Semester 1

BIOL 5574 Human Anatomy	5 cr
BIOL 5586 Human Systemic Physiology	5 cr
PTOT 5512 Professional Communication	2 cr
PTOT 5513 Occupational Therapy Profession	3 cr
Total	15 cr

#### Spring I- Semester 2

PTOT 5501 Clinical Kinesiology & Biomechanics	4 cr
PTOT 5502 Clinical Neuroscience	5 cr
PTOT 5521 Self-Exploration in OT	3 cr
PTOT 5522 Occupational Performance	3 cr
PTOT 5542 Occupational Performance Lab	1 cr
Total	16 cr

#### Summer I - Semester 3

PTOT 5514 Research Methodology	4 cr
PTOT 5531 Clinical Affiliation I (6 weeks)	1 cr
Total	5 cr

#### Fall II- Semester 4

PTOT 6616 Professional Project	1 cr
PTOT 5532 Clinical Affiliation II (2 weeks)	1 cr
PTOT 5525 Psychosocial Function in OT	3 cr
PTOT 5545 Psychosocial Function in OT Lab	1 cr
PTOT 5524 Physical Function in OT	4 cr
PTOT 5544 Physical Function in OT Lab	1 cr
Total	11 cr

#### Spring II- Semester 5

PTOT 5515 Service Delivery of OT	3 cr
PTOT 6616 Professional Project	1 cr
PTOT 5518 Practicum	1 cr
PTOT 5523 Therapeutic Use of Self	2 cr
PTOT 5526 Neurological Function in OT	5 cr
PTOT 5546 Neurological Function in OT Lab	1 cr
Total	13 cr

#### Summer II- Semester 6

PTOT 5533 Clinical Affiliation III	7 cr
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#### Fall III- Semester 7

PTOT 6616 Professional Project	1 cr
PTOT 5528 Occupation Children and Adolescents	4 cr
PTOT 5548 Occupation Children and Adolescents Lab	1 cr
PTOT 5519 Practicum	1 cr
PTOT 5527 OT & Environmental Management	3 cr
PTOT 5547 OT & Environmental Management Lab	1 cr
Total	11 cr

#### Spring III- Semester 8

PTOT 6616 Professional Project	1 cr
PTOT 5534 Clinical Affiliation IV	7 cr
PTOT 6648 Graduate Special Topics	2 cr
Total	10 cr
TOTAL	89 cr

### Graduation Requirements

Students receiving the Master of Occupational Therapy (MOT) degree must satisfactorily complete all courses in the curriculum with a minimum of 3.0 GPA, prepare and present academic study papers on a regular basis, prepare and present a professional project or case study, successfully complete all Fieldwork I and II clinical affiliations, and satisfactorily pass both oral and written comprehensive examinations.

Once the student has completed the degree requirements, he/she is eligible to sit for the NBCOT Certification Examination. Students are required to complete Level II Fieldwork within 12 months of completing the academic

component of the program. Students convicted of a felony may not be able to sit for the NBCOT certification examination or attain state licensure.

NOTE: Admitted students should be aware that some required external clinical rotation sites will require criminal background and drug checks. In addition, students who have a record of criminal activity may have difficulty procuring a license to practice in some states after completing the program.

### Physical Therapy and Occupational Therapy Graduate Courses

**PTOT 5501 Clinical Kinesiology and Biomechanics 4 credits.** Analysis of normal and pathological human movement in joints, posture, gait, and the vertebral column. Application of movements to therapeutic interventions is emphasized. PREREQ: BIOL 5574.

**PTOT 5502 Clinical Neuroscience 5 credits.** Study of structure and function of the human nervous system at the cellular and systemic levels. Specific application to clinical management of neurological problems and pathology. PREREQ: BIOL 5574, BIOL 5586.

**PTOT 5512 Professional Communication 2 credits.** Introduction to standard forms of professional communication in physical and occupational therapy and among other health care professions. Medical record-keeping and interdisciplinary communication are emphasized.

**PTOT 5513 Occupational Therapy Profession 3 credits.** Historical overview of occupational therapy in health care, education and psychosocial settings. Occupational therapy process, rural human service delivery system, professionalism, ethics, and legal issues will be examined.

**PTOT 5514 Research Methodology 4 credits.** Application of principles of research design in the biological, psychological and social sciences. Clinical and laboratory research in occupational and physical therapy are emphasized. Preparation for professional project. PREREQ: PTOT 5513, PTOT 5522, PTOT 6613.

**PTOT 5515 Service Delivery of Occupational Therapy 3 credits.** Application of theoretical concepts of management to the delivery of occupational therapy services. Development, implementation and outcome evaluation of community-based service delivery systems will be emphasized. PREREQ:

PTOT 5522, PTOT 5532.

**PTOT 5518 Practicum 1-3 credits.** Clinical experience in the on-campus clinic or in the community under the direction and supervision of faculty. Current issues in management and administration of practice within interdisciplinary teams are discussed. PREREQ: PTOT 5532. Graded S/U.

**PTOT 5519 Practicum 1-3 credits.** Advanced experience in the on-campus clinic or community practice under the direction and supervision of faculty. Current issues in management and administration of clinical practice within interdisciplinary teams are discussed. PREREQ: PTOT 5533. Graded S/U.

**PTOT 5521 Self-exploration in Occupation 3 credits.** Focus on self-exploration in occupation and purposeful activity. Self-evaluation in occupational performance areas, components, and context. The student will complete a self-development plan in occupation.

**PTOT 5522 Occupational Performance 3 credits.** Person/occupation/environment interactions are examined from the perspective of multiple theories and models that analyze typical occupations and address performance dysfunctions. PREREQ: PTOT 5513, PTOT 5521. COREQ: PTOT 5542.

**PTOT 5523 Therapeutic Use of Self in Occupation 2 credits.** Survey of historical and philosophical perspective of the therapeutic relationship and its development and implementation with individuals and groups with psychosocial dysfunction. PREREQ: PTOT 5521.

**PTOT 5524 Physical Function in Occupation Performance 4 credits.** The study of theory and application of occupational performance addressing function. Overview of evaluation and treatment of physical and psychosocial function in rehabilitation and orthopedic management. PREREQ: PTOT 5501, PTOT 5502. COREQ: PTOT 5544

**PTOT 5525 Psychosocial Function in Occupation 4 credits.** Theory, evaluation and intervention techniques in occupational therapy across the lifespan for persons with psychosocial dysfunction in different treatment settings. PREREQ: PTOT 5522. COREQ: PTOT 5545.

**PTOT 5526 Neurological Function in Occupation 5 credits.** Occupational therapy management of clients with neurological trauma, degenerative disorders, central and peripheral neural and neuromuscular dys-

function. Overview of rehabilitation approach to evaluation and treatment. PREREQ: PTOT 5502, PTOT 5524. COREQ: PTOT 5546.

**PTOT 5527 Occupation and Environmental Management 3 credits.** The study and application of occupational therapy in managing environmental factors that restore function and decrease disability. PREREQ: PTOT 5522, PTOT 5526. COREQ: PTOT 5547.

**PTOT 5528 Occupation with Children and Adolescents 4 credits.** Study of occupational therapy evaluations and interventions for children and adolescents who have disabling conditions that cause occupational performance problems. PREREQ: PTOT 5526. COREQ: PTOT 5548.

**PTOT 5531 Clinical Affiliation I (Fieldwork I) 1 credit.** Fieldwork opportunities to observe occupational performance of persons served by local institutional or community-based health, education, and human service organizations. PREREQ: PTOT 5522, PTOT 5542. Graded S/U.

**PTOT 5532 Clinical Affiliation II (Fieldwork I) 1 credit.** Fieldwork experiences focusing on evaluation of occupational performance dysfunction and interventions with persons served by local institutional or community-based health, educational, and human service organizations. PREREQ: PTOT 5531. Graded S/U.

**PTOT 5533 Clinical Affiliation III (Fieldwork II) 7 credits.** An in-depth clinical fieldwork with clients having physical, psychosocial, neurological, and/or multisystem impairments/disabilities in a facility-based setting such as a hospital or rehabilitation center. PREREQ: PTOT 5532. Graded S/U.

**PTOT 5534 Clinical Affiliation IV (Fieldwork II) 7 credits.** An in-depth clinical fieldwork with clients having physical, psychosocial, neurological, educational or health impairments/disabilities in community-based settings. PREREQ: PTOT 5533. Graded S/U.

**PTOT 5542 Occupational Performance Laboratory 1 credit.** Introduction to and practice using occupation focused evaluation tools and methodologies used in analyzing, evaluating, and categorizing occupational performance. COREQ: PTOT 5522.

**PTOT 5544 Physical Function in Occupation Laboratory 1 credit.** Laboratory exercise designed to apply evaluation and treatment techniques used in physical and psychosocial occupational performance approach. COREQ: PTOT 5524.

**PTOT 5545 Psychosocial Function in Occu-**

**pation Laboratory 1 credit.** Laboratory exercise designed to apply evaluation and treatment techniques in the management of psychosocial dysfunction to optimal function. The laboratory develops preclinical competency in psychosocial function across the lifespan. COREQ: PTOT 5525.

**PTOT 5546 Neurological Function in Occupation Laboratory 1 credit.** Designed to apply evaluation and treatment techniques to promote adaptation and optimal function. The laboratory serves to develop preclinical competency in the management of neurological disorders. COREQ: PTOT 5526.

**PTOT 5547 Occupation and Environmental Management Laboratory 1 credit.** Application of environmental modifications and adaptations within work, self care and recreational environments. Development, implementation and evaluation of environmental modifications to improve occupational performance. COREQ: PTOT 5527.

**PTOT 5548 Occupation with Children and Adolescents Laboratory 1 credit.** Laboratory exercise designed to apply evaluation and treatment techniques for children and adolescents specific to occupational performance dysfunction, adaptation and optimal function. COREQ: PTOT 5528.

**PTOT 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PTOT 6606 Clinical Therapeutic Exercise 3 credits.** Theoretical and evidence-based application of exercise for various pathological conditions. Aerobic conditioning, muscular strengthening, flexibility, balance, coordination, power and agility are discussed, demonstrated and evaluated. Specific exercise prescription, modes of exercise, and application for desired outcomes are emphasized. PREREQ: BIOL 5574 and 5586.

**PTOT 6608 Applied Pharmacology for Physical and Occupational Therapists 3 credits.** Study of the major drug groups, therapeutic implications and side effects. Musculoskeletal, cardiovascular, connective tissue and nervous system disorders are emphasized. PREREQ: BIOL 5574, BIOL 5586, PTOT 5502

**PTOT 6613 Physical Therapy Profession 2 credits.** Survey of current status of the physical therapy profession in health care systems. Professionalism, ethics, legal issues, valida-

tion of practice. Future projections and historical perspective.

**PTOT 6616 Professional Project 1-2 credits.** Individual in-depth study of treatment, administrative or education problem in physical or occupational therapy. Preparation and public presentation of a publishable is required. Repeatable to 6 credits. PREREQ: PTOT 5514. Graded S/U.

**PTOT 6617 Research Practicum 1-2 credits.** Faculty supervised clinical, basic or applied research project which may include review of literature preparation, proposal development, data collection and manuscript preparation. PREREQ: PTOT 5514. May be repeated up to 4 credits. Graded S/U.

**PTOT 6618 Practicum I 1-2 credits.** Supervised clinical experience in physical therapy (may be repeated up to four credits). PREREQ: PTOT 621, PTOT 641. Graded S/U.

**PTOT 6619 Practicum II 1-2 credits.** Supervised clinical experience in physical therapy (may be repeated up to four credits). PREREQ: PTOT 6618. Graded S/U.

**PTOT 6620 Clinical Procedures 2 credits.** Study and practice of theory and application of basic techniques of patient evaluation, handling, and treatment in physical therapy. COREQ: PTOT 5501 or PTOT 6640.

**PTOT 6621 Manual Evaluation and Treatment 2 credits.** Study and practice of theory and application of basic manual techniques of patient evaluation, handling and treatment in physical therapy. PREREQ: PTOT 6620. COREQ: PTOT 6641.

**PTOT 6622 Musculo-Skeletal System Management I 4 credits.** Physical therapy evaluation, treatment, and management of patients with muscle, skeletal, and connective tissue problems. Overview of orthopedic pathology. PREREQ: BIOL 5574, BIOL 5586, PTOT 6601, PTOT 6621. COREQ: PTOT 6642.

**PTOT 6623 Physical Agents 3 credits.** Study and practice of theory and application of the therapeutic uses of physical agents and electromagnetic energy in physical therapy. PREREQ: PTOT 6620, PTOT 6640. COREQ: PTOT 6643.

**PTOT 6624 Cardiac and Pulmonary Systems Management 5 credits.** Physical therapy management of persons with dysfunction of the cardiac and/or pulmonary systems and related pathologies. Management by other health professional team members. PREREQ: BIOL 5586.

**PTOT 6626 Neurological Systems Management 5 credits.** Physical therapy management of patients with central and peripheral neural and neuromuscular dysfunction. Survey of management by other health professionals. PREREQ: PTOT 5502, PTOT 6605. COREQ: PTOT 6646.

**PTOT 6631 Clinical Affiliation I 3 credits.** Application of physical therapy manual evaluation and treatment skills in acute and rehabilitation settings. PREREQ: BIOL 5574, BIOL 5586, PTOT 6621. Graded S/U.

**PTOT 6632 Clinical Affiliation II 3 credits.** Clinical management practicum related to orthopedics, sports medicine, and/or cardiopulmonary problems. PREREQ: PTOT 6622, PTOT 6623, PTOT 6624, PTOT 6631. Graded S/U.6

**PTOT 6640 Clinical Procedures Lab 1 credit.** Laboratory exercises designed to practice and enhance overall skills in the initial evaluation and treatment of patients. COREQ: PTOT 6620.

**PTOT 6641 Manual Evaluation and Treatment Lab 1 credit.** Laboratory exercises designed to introduce basic theoretic and applied concepts and skills of patient handling, evaluation and modalities. COREQ: PTOT 6621.

**PTOT 6642 Musculo-Skeletal System Management Lab 1 credit.** Designed to develop preclinical competency in the evaluation, treatment, and management of disorders of the musculoskeletal system. Emphasis on the trunk and lower extremities. COREQ: PTOT 6622.

**PTOT 6643 Physical Agents Laboratory 1 credit.** Designed to develop clinical competence in the use of physical agents in the treatment of patients with specific pathologies. PREREQ: PTOT 6620, PTOT 6640. COREQ: PTOT 6623.

**PTOT 6646 Neurological Systems Management Lab 1 credit.** Designed to develop preclinical competency in the evaluation, treatment, and management of the patient with neurological disorders including stroke, spinal cord injury, degenerative disease. COREQ: PTOT 6626.

**PTOT 6648 Graduate Special Topics 1-3 credits.** Individual or group critical analysis and study of a specific area of physical therapy patient management, administration, or research. PREREQ: 2ND-YEAR STUDENTS, AND/OR PERMISSION OF INSTRUCTOR. May be repeated.

**PTOT 6681 Theories and Resources to Guide Clinical Decision Making in Physical Therapy 3 credits.** Study and application of applying

evidence in physical therapy practice. The Guide to PT Practice, Physical Therapy differential diagnosis, and legal and ethical considerations will be addressed.

**PTOT 6682 Promoting Behavioral Change in Physical Therapist Practice 2 credits.** Study of the theories of learning, compliance, and behavior modification as related to the application of prevention and wellness in physical therapy practice. PREREQ: PTOT 6681.

**PTOT 6693 Contemporary Musculoskeletal System Management for Physical Therapists 2 credits.** Applying evidence and elements of accepted practice to PT management of patients across the lifespan with musculoskeletal diagnoses. PREREQ: PTOT 6682.

**PTOT 6694 Contemporary Cardiopulmonary System Management for Physical Therapists 2 credits.** Applying evidence and elements of accepted practice to PT management of patients across the lifespan with cardiac and/or pulmonary diagnoses. PREREQ: PTOT 6693.

**PTOT 6695 Contemporary Neurological System Management for Physical Therapists 2 credits.** Applying evidence and elements of accepted practice to PT management of patients across the lifespan with neurological diagnoses. PREREQ: PTOT 6694.

**PTOT 6696 Patient Case Seminar 2 credits.** Selection and development of a patient case with which the student has worked to demonstrate application of evidence and the Guide to Physical Therapist Practice to Physical Therapy practice. PREREQ: PTOT 6695. Graded S/U.

**PTOT 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PTOT 7701 Contemporary Multiple System Management for Physical Therapists 2 credits.** Applying evidence and accepted clinical practice to PT management of patients across the lifespan with diagnoses affecting multiple systems. PREREQ: PTOT 6696.

**PTOT 7705 Clinical Case Management 3 credits.** Advisor guided development and completion of a patient case study demonstrating the application of evidence for PT examination, diagnoses, medical management, treatment and discharge. Oral presentation required. PREREQ: PTOT 7701. Graded S/U.

**PTOT 7715 Physical Therapy Resource Management 3 credits.** Application of business and health care administration principles to the practice of physical therapy; resource management strategies with an emphasis on community service delivery. PREREQ: PTOT 6612, PTOT 6163, PTOT 6621, PTOT 6632.

**PTOT 7725 Multi-Systems Management 4 credits.** Physical therapy management of persons with problems affecting multiple systems; burns, wounds, amputations, neoplasms, metabolic disorders. PREREQ: PTOT 6621, PTOT 6622, PTOT 6623, PTOT 6624.

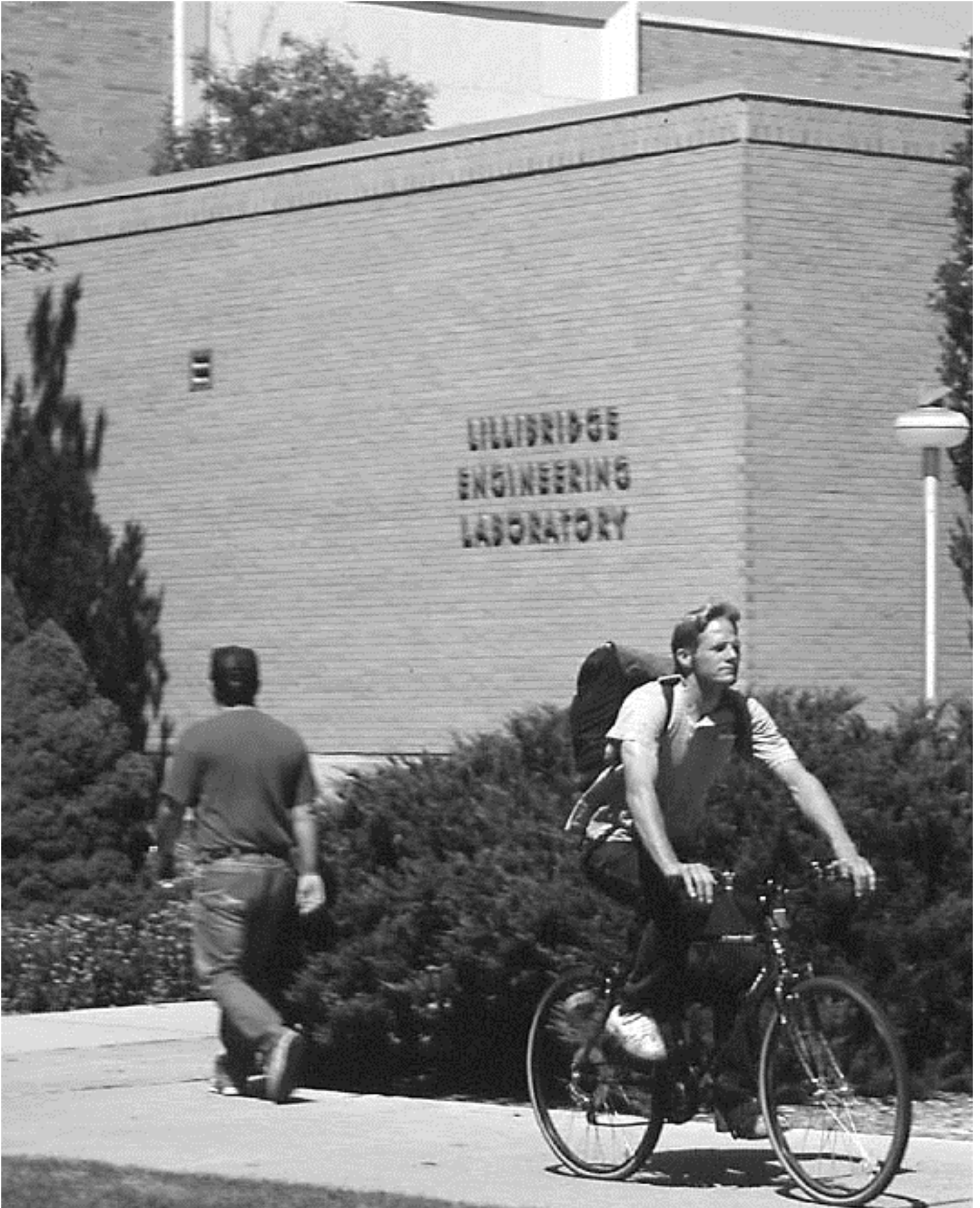
**PTOT 7727 Geriatric Management 1 credit.** Examination, evaluation and treatment of the elderly population with emphasis on the management of normal and pathological conditions. PREREQ: PTOT 6626, PTOT 6646. COREQ: PTOT 7728.

**PTOT 7728 Lifespan Development 4 credits.** Normal and abnormal development of neuromuscular, musculoskeletal, cardiopulmonary systems; cognitive/perceptual and psychosocial behavior associated with life through adolescence. Evaluation, program planning and treatment strategies are introduced. PREREQ: BIOL 5574, BIOL 5856. COREQ: PTOT 7727.

**PTOT 7733 Clinical Affiliation III 5 credits.** Clinical management practicum related to patients with orthopedic, neurological, and multisystem problems. PREREQ: PTOT 6626/PTOT 6646, AND PTOT 6632. Graded S/U.

**PTOT 7734 Clinical Affiliation IV 5 credits.** Clinical management practicum related to patients with orthopedic, neurological, cardiopulmonary, pediatric, and multisystem problems. PREREQ: PTOT 7733. Graded S/U.

**PTOT 7735 Clinical Externship 5 credits.** Clinical management experiences related to patient care, administration, or research in a variety of practice environments. PREREQ: PTOT 7734. Graded S/U.



# College of Science and Engineering

George Imel, Ph.D. Dean and Professor  
D. S. Naidu, Ph.D., Associate Dean and Professor  
David Rodgers, Associate Dean and Professor

## Department of Biological Sciences

Chair and Professor: Austin  
Professors: Anderson, Bowyer, Delehanty, Finney, Keeley, Meldrum, C. Peterson, Rodnick, Rose, Scalarone, Sheridan, R. Smith, Winston  
Associate Professors: Baxter, Bearden, Evilia, Groome, Hill, Kelchner, Magnuson, Pfau, Thomas, Williams  
Assistant Professors: Aho, Benson, Cretokos, Lohse, Loxterman, Pilarski, Reinhardt, Weber, Yang  
Lecturers: Abbruzzese, Black, Crandall, Frank, Shurley

## Doctor of Philosophy (Ph.D.) in Biology

The Doctor of Philosophy is a research degree granted for proven ability, independent investigation, and scholarly contribution in a specialized field. It is not granted solely on the completion of a certain number of credits, and there is no set credit requirement for this degree. The dissertation research must involve original and creative work. Credits for the dissertation and the research on which it is based should comprise a substantial portion of the program.

### Admission Requirements

For applicants who hold a M.S. degree, entrance into the Ph.D. program requires a minimum GPA of 3.0 for courses taken in the previous degree program, and scores in the 35th percentile or higher on the verbal and quantitative sections of the GRE.

For applicants who hold only a Bachelor's degree in biological sciences or a closely related discipline, entrance into the Ph.D. program requires a GPA of 3.0 or higher for all undergraduate work and scores in the 50th percentile or higher on the verbal and quantitative sections of the GRE.

Students for whom English is a second language who do not meet the minimum verbal

GRE score must meet the Graduate School minimal TOEFL score. Other exceptions to the verbal and quantitative GRE requirements will be granted only in exceptional circumstances.

All applicants must also submit scores for the GRE subject area test in Biology or in Biochemistry/Cell/Molecular Biology.

The application must be approved by a majority vote of the Graduate Programs Committee prior to formal acceptance by the Department. No student in the Department's Master's program will be permitted to advance to the Ph.D. program without approval of the Graduate Programs Committee. Application for advancement must include (1) a letter from the student that provides a rationale for the status change and (2) a letter of support from the major professor.

## Progressing Through the Ph.D. Program (10 Easy Steps)

### 1. Initial Evaluation

The purpose of this evaluation is to provide incoming students with guidance regarding coursework and other studies that will help them to be successful in their degree programs. The evaluation should take place by the end of the second full month in residence (October, for students entering in the fall).

The Evaluation Committee should consist of the major advisor and two other faculty members, at least one of whom is also a regular (i.e., tenure track or research) faculty member in the Department of Biological Sciences. Members of the Evaluation Committee should be chosen by the advisor and student, and may become part of the student's Advisory Committee.

The result of the Initial Evaluation should be the creation of an Initial Program of Study.

### 2. Initial Program of Study

Based on the results of the GRE Subject test, the student's transcripts, and the student's research interests, the Evaluation Committee should help the student draft an Initial Program of Study that lists coursework the student will take to meet the program requirements and support the student's research. The Initial Program of Study should indicate how the student will meet the requirement for exposure to three Core Areas (Cellular and Molecular Biology, Organismal Biology, and Ecology &

Evolution). A copy of the Initial Program of Study should be given to the Chair of the Graduate Programs Committee and then filed in the student's permanent file.

### 3. Core Areas

Students in the Ph.D. program are required to have some exposure to each of the following core areas:

- Cellular and Molecular Biology which can include cellular structure and function, genetics, and molecular biology
- Organismal Biology - which can include any of the '-ologies', organismal structure, function, development, growth, and diversity
- Ecology and Evolution - which can include population biology, conservation biology, evolutionary ecology, community ecology, population ecology, and behavior

Exposure to these areas can include undergraduate coursework, graduate coursework, or directed readings. The taxonomic focus of coursework may reflect the student's research focus. For example, a microbiologist could satisfy the first core area with coursework in microbial genetics, the second core area with coursework in microbiology, and the third core area with coursework in microbial evolution, whereas a mammalian physiologist could satisfy the first core area with coursework in population genetics, the second core area with coursework in comparative anatomy, and the third core area with coursework in vertebrate paleontology.

### 4. Advisory Committee

Ph.D. students should establish an advisory committee no later than the end of their second semester in residence. The Advisory Committee will consist of the major professor, at least three other members of the graduate faculty, and a Graduate Faculty Representative (GFR). The GFR is officially appointed by the Dean of the Graduate School, however, recommendations made by the Department are typically honored by the Graduate Dean. Because the primary role for GFR is to serve as a representative of the Graduate Faculty, the GFR does not have to be identified during the first year of the student's program. The Advisory Committee may include individuals from other departments or persons from outside the University who hold affiliate rank in the Department, but the majority of any committee must consist of regular departmental faculty.

Within the broad guidelines outlined in this document and the General Graduate Program

Requirements, it is the responsibility of the Advisory Committee to monitor and direct the student's progress and:

1. identify how the student will satisfy the requirement to have some background in each of the three core areas;
2. review the student's research proposal, conduct an oral examination following a public presentation of the research proposal, and determine if the student has passed that examination;
3. review and sign the student's Program of Study, ensuring that it meets the Graduate School requirements (i.e., total number of credits, number of 600-level credits, number of credits if a minor is part of the student's program);
4. conduct a comprehensive examination after the student has completed the majority of the coursework on the Program of Study; and
5. review the dissertation and conduct a rigorous examination of the candidate's research before approving and signing the dissertation.

### **5. Research Proposal**

All Ph.D. students are required to develop a research proposal that details how they will develop the research that will form the basis of their dissertation. The proposal should follow the guidelines for an NSF dissertation improvement grant or proposal to a comparable national funding source. The proposal will include: (1) a survey of the literature to develop a rationale for the research, (2) a statement of the problem(s) or hypothesis(es) to be addressed, (3) detailed descriptions of methods including the experimental design and planned statistical analyses, (4) preliminary data (optional, but strongly encouraged), (5) a time line, (6) a bibliography, and (7) a budget.

The student must present the proposal to the department during a one-hour seminar to be scheduled no later than the end of the third semester of residency. The proposal must be provided to all members of the Advisory Committee at least seven days before the seminar. After the seminar, the student will meet with the Advisory Committee for an oral defense of the proposal. The committee may ask to re-examine the student upon revision of the proposal if significant shortcomings are identified.

If the committee decides that the student is not able to demonstrate sufficient mastery of the research area, the committee may recommend that the student not complete the Ph.D. program, but consider alternative possibilities, such as switching to the M.S. program. Following approval of the proposal by the Advisory Committee, the proposal should be sub-

mitted to an appropriate agency for funding.

Once the student has successfully defended the research proposal, the student is advanced to candidacy.

### **6. Revised Program of Study**

Following the successful proposal defense, the student should submit to the Assistant Chair for Graduate Programs a Program of Study that has been approved and signed by the Advisory Committee. This form should indicate how the student will satisfy all of the degree coursework requirements. Subsequent substitutions for any courses on this Program of Study must be approved by the student's Advisory Committee.

### **7. Minor**

There is no requirement for Ph.D. candidates to have a minor, however a candidate may identify a minor that develops expertise in an area outside the major research focus. Courses to be applied to a minor must appear on the Final Program of Study for the minor to be noted on the transcript. The minor should consist of 9 or more credit hours that address a common theme. That theme may be in a subject area outside of Biology (e.g., Geosciences), or it may be an area within the Biological Sciences that is distinct from the candidate's primary research topic. For example, a microbiologist might develop a minor in ecology, a physiologist might develop a minor in environmental science, an ecologist might develop a minor in microbiology. In addition, any candidate may develop a minor in Biology Education by taking advantage of the existing Doctor of Arts in Biology curriculum. The minor in biology Education will normally consist of 4 credits of seminars (BIOS 6693 - Seminar in College Teaching and/or BIOS 6694 - Advanced Studies in College Teaching) and 5 credits of Supervised Teaching Internship (BIOS 7700). Students who pursue the minor in Biology Education are eligible for one year of D.A. Fellowship support.

### **8. Comprehensive Examination**

The student must pass a Comprehensive Examination intended to test his/her preparation for completing the Ph.D. degree program. The Comprehensive Examination should address at least two of the three core areas (see above). The extent to which these areas are addressed in the Comprehensive Examination will be determined by the Advisory Committee, and should reflect the student's area of research specialization. In addition to the core areas, the Comprehensive Examination should address the specific knowledge the Advisory Committee feels the student will need to successfully address the research that is the focus of the dissertation.

The Comprehensive Examination should be scheduled after the student has completed the majority (i.e., all but one or two classes) of the coursework for the degree program. At least three months prior to the examination, the student should meet with the Advisory Committee to identify the specific areas that will be covered and the committee member who will be responsible for writing questions for each area. If the student has a minor, then a portion of the comprehensive examination should focus on that minor. Students should meet individually with committee members to determine how best to prepare for the specific topics that will be covered by the examination. The examination must be partly written and partly oral. Both portions must be passed satisfactorily in order to complete the Comprehensive Examination requirements.

The written portion of the Comprehensive Examination generally will consist of eight sections (each meant to be completed in 3-4 hours). The form of the written portion is flexible. If it is of a 'closed book' type, it should not be less than the equivalent of three (8 hour-long) days nor more than five (8 hour-long) days of actual writing time. Normally the written exams will be completed within the span of one week. Evaluation of each section of the written examination is on a pass/fail basis. The student must earn a passing evaluation on at least 75% of the sections to pass the written portion of the comprehensive examination. Failed sections may be repeated once, at a time designated by the student's Advisory Committee, but within a year of the original examination. The completed and graded written portion of the Comprehensive Examination is to be placed in the student's departmental file.

The purpose of the oral portion of the examination is to provide an opportunity to clarify and explore further implications of the written examination as well as to present the student with new questions in the same general subject areas as those covered by the written exams. The oral portion should not be given until after the written examination has been evaluated by all of the committee members, but no later than two weeks after completion of the written portion. The orals must be passed by simple majority vote of the advisory committee. In case of failure, the student may be allowed to retake all or part of the oral examination at the discretion of his/her advisory committee. If the Graduate Faculty Representative (GFR) was chosen to provide specific expertise to support the student's graduate program, the GFR should participate in both the written and oral portions of the Comprehensive Examination.

### **9. Dissertation**

Every student working toward the Ph.D. degree must submit a dissertation embodying the results of original and creative research. The dissertation must demonstrate the student's ability in independent investigation and must be an original contribution to scientific knowledge. It must display mastery of the literature of the subject field and must demonstrate an organized, coherent development of ideas, with a clear exposition of results and creative discussion of the conclusions.

The form and style of the dissertation should comply with the format prescribed by the national- or international-level journal(s) in which the student intends to publish the material and must meet the requirements of "Instructions for Preparing Theses, Dissertations, D.A. Papers, and Professional Projects," which is available from the Graduate School. Within the framework of these constraints, however, the format of the dissertation can vary, ranging from a series of stand-alone chapters to a single, comprehensive unit. In the former case, a preface that explains the overall layout should be included. After the dissertation has been approved for format and content by the major professor, and at least two weeks before the date of the final examination, the student must deliver a copy of the dissertation to each member of the Advisory Committee.

### **10. Dissertation Defense**

The student's Advisory Committee, including the GFR, will conduct the final examination of the dissertation. The final defense must be completed at least two weeks before the date set for the commencement exercises at which the student expects to obtain a degree. Students are required to give a departmental seminar on the dissertation immediately preceding the final defense, and the student is required to publicize the seminar at least one week in advance (i.e., notice in the Departmental Newsletter and notices posted in the Life Sciences Building).

The examination is concerned primarily with the student's research as embodied in the dissertation, but it may be broader and extend over fields of study related to the dissertation. The final examination is entirely oral and is open to faculty invited by the advisor, Department Chair, or Dean of the Graduate School. Committee members may ask questions, and those visitors specifically invited to do so by mutual agreement of the student's Advisory Committee and the Dean of the Graduate School may also ask questions. A majority of the examining committee must approve the dissertation and the final defense.

## **Doctor of Philosophy (Ph.D.) in Microbiology**

The degree of Doctor of Philosophy is granted for proven ability, independent investigation, and scholarly attainment in a special field. Although it is primarily a research degree and is not granted solely on the completion of a certain number of credits, there are specific course requirements that must be met. The training of a Ph.D.-level Microbiologist is based on a strong foundation in Mathematics, Chemistry, Genetics, Molecular Biology, and Biochemistry in addition to extensive coursework in the various disciplines within the field of Microbiology. This base is built upon advanced course work in the major subdisciplines of Microbiology (Molecular Biology, Biochemistry and Physiology, Genetics, Biotechnology, Virology, Industrial and Environmental Microbiology, and Medical Microbiology) as the student focuses his/her area of interest.

### **Admission Requirements**

Application to the Ph.D. program in Microbiology requires (1) at least a 3.0 grade point average (GPA) for all upper division credits taken in the previous degree program, (2) scores in the 35th percentile or higher on the verbal and quantitative sections of the Graduate Record Exam (GRE), (3) submission of scores for the GRE Biology or Biochemistry subject area exam, and (4) completed application forms for the Graduate School and Department of Biological Sciences, including three letters of recommendation. Scores in the verbal, quantitative, and analytical sections of the GRE must be submitted before entrance can be considered. International students may be accepted without GRE scores, with the requirement that they take the GRE during their first semester in residence. Individuals for whom English is a second language must meet the Graduate School minimal TOEFL score.

Applicants who do not meet the minimum GPA and/or GRE requirements may be admitted under "Classified (w/PR)" status. The conditions of acceptance will be specified on the applicant's Approval for Admission to Graduate School form. In some cases, students may be required to retake the GRE during their first semester in residence. Students admitted under "Classified (w/PR)" status because of low/missing GRE scores will be transferred to "Classified" status if new GRE scores that meet the minimal requirement are submitted. Failure to meet the minimum GRE standards during the first year of residence may result in

expulsion from the program. Students under "Classified (w/PR)" status must petition the Graduate Programs Committee for transfer to "Classified" status after a year of graduate work and successful remediation of any deficiencies in coursework or GRE scores. This petition will include a recommendation from the student's Advisory Committee signed by the research advisor. Continuation in the Microbiology Ph.D. program is contingent upon approval of transfer to "Classified" status. In rare cases, the Graduate Programs Committee may grant approval for a student to remain on "Classified (w/PR)" status for a second year. Any student with "Classified (w/PR)" status who has not been approved for transfer to "Classified" status by the end of his/her second year will be dismissed from the program. Acceptance into the Microbiology Ph.D. program must be approved by the Microbiology Graduate Program committee.

For applicants who hold only a Bachelor's degree, acceptance into the Microbiology Ph.D. program requires a minimum of a 3.0 GPA for all undergraduate work, scores in the 50th percentile or higher on the verbal and quantitative sections of the GRE, and submission of scores for the GRE Biology or Biochemistry subject area exam. No waiver of GRE scores is allowed except in the case of students for whom English is a second language who receive a lower verbal GRE score; these individuals must meet the Graduate School minimal TOEFL score. The application must include three letters of recommendation. The application must be approved by the Departmental Microbiology Program Committee.

Students in the Microbiology or Biology M.S. program may be permitted to change to the Microbiology Ph.D. program with approval of the Microbiology Graduate Program Committee. Application for change must include 1) a letter from the student that provides a rationale for the status change and 2) a letter of support from the research advisor.

### **Prerequisites**

The following courses are recommended for the Microbiology Ph.D. program. It is expected that applicants to the program will have a broad background in Biology, and will have completed coursework at the undergraduate level in the following areas:

- 1 semester of Calculus (Calculus through Multivariable Calculus recommended)
- 1 year of General Chemistry
- 1 year of Organic Chemistry



- 1 year of Physics
- 1 semester of Quantitative Analysis, Analytical Chemistry, or Inorganic Chemistry
- 1 semester of Statistics or equivalent
- Genetics
- General Microbiology

The Microbiology Ph.D. program will be tailored to the requirements of the student's program of study (as determined by the student's Advisory Committee), and will include coursework to rectify any deficiencies as determined by the Microbiology Graduate Program Committee. Deficiencies will be made up in the first year of study.

### Graduate Coursework in the Microbiology Ph.D. program

The intent of the Microbiology Ph.D. program is to produce scientists with a broad background in the major sub-disciplines of Microbiology, while ensuring focused study in their major field of interest. The student's Graduate Advisory Committee will direct the student to specific course offerings within the Department and University to satisfy coursework guidelines. The three core areas in the Microbiology Ph.D. program are:

- Biochemistry, Genetics, Molecular Biology, and Physiology of Microorganisms
- Immunology, Virology, and Medical Microbiology
- Microbial Ecology and Applied, Industrial, and Environmental Microbiology

Students in the Microbiology Ph.D. program will take at least 30 credits of formal graduate coursework (at least 15 credits will be at the 6600-level). The following courses are NOT to be considered part of this 30 credits of formal graduate coursework: BIOL 5581-5582 Independent Problems; BIOL 6648 Graduate Problems; BIOL 6650 Thesis; BIOL 8850 Doctoral Dissertation. Six credits will consist of BIOL 6695 Graduate Seminar in Microbiology. Six credits of courses will be taken in each of the three Microbiology core areas (18 credits total). The remaining 6 credits will be taken in any one of the three core areas or in subject areas recommended by the student's Advisory Committee. It is expected that students in the Microbiology Ph.D. program will complete the majority of their coursework by the end of their 4th semester (or equivalent) in the program. Students in the Microbiology Ph.D. program may be required to take other

courses (as determined by recommendation of the student's Graduate Advisory Committee). The 6 credits of Graduate Seminar in Microbiology may be taken at any time during the student's residence in the Microbiology Ph.D. program, but it is recommended that the student start taking Graduate Seminar no later than their 5th semester (or equivalent) in the program. The specific course list for each student will be determined by the student's Graduate Advisory Committee based on the criteria outlined in this document. Students who have already received an M.S. degree may transfer 9 credits of graduate level work, providing a grade of "B" or higher was earned. Transfer of credits is subject to approval by the Graduate Programs Committee. Specific course requirements include:

BIOL 6695 Graduate Seminar in Microbiology	6 cr
Microbiology Core Area Courses (6 credits in each area)	18 cr
Advisory Committee recommended Courses	6 cr minimum

### Residency Requirements

The equivalent of at least four years of full-time study (minimum of 75 graduate credits) is required and the research upon which it is based should compose a substantial portion of the program and involve original work. Part of the work may be completed elsewhere with the approval of a student's Advisory Committee, but two consecutive regular semesters of full-time study must be taken in residence at this university.

### Advisory Committee

The student's Advisory Committee will consist of the graduate research advisor and (at least) three additional members of the graduate faculty who are chosen by the student in consultation with the research advisor. It is the student's responsibility to contact members of the faculty to ascertain their willingness to serve. The Advisory Committee may include individuals from other departments or persons from outside the University who hold affiliate rank in the Department, with the approval of the Dean of the Graduate School, but the majority of any committee must consist of regular departmental faculty.

The final member of the student's Advisory Committee is a Graduate Faculty Representative (GFR) from outside the Department who is appointed by the Dean of the Graduate School. The Dean will automatically appoint a GFR to participate in the defense of the dissertation if one has not been appointed before that time. However, it has been traditional for the GFR to be an active member of the Advisory Committee who participated in committee meetings and the Comprehensive Examination. In such cases, the student must submit a request in writing to the Dean of the Graduate

School that a particular individual be appointed. The GFR must be a member of the Graduate Faculty of Idaho State University.

### Comprehensive Examination and Research Proposal Seminar

Before submission of the final program of study, the student must pass a Comprehensive Examination intended to test his/her knowledge of the relevant sub-disciplines within the field of Microbiology that pertain to the dissertation research project(s). The student will be admitted to this examination when the student is considered by his/her Advisory Committee to be adequately prepared. This is to be interpreted as allowing the student to take the Comprehensive Exam, even though some courses remain to be taken for the completion of the student's program of study. The Comprehensive Examination should be taken following the 2nd semester (or equivalent) of residence in the Microbiology Ph.D. program, and prior to the end of the student's 5th semester (or equivalent) in the program. Several months (3 to 6) prior to the intended date for examination, the student should meet with his/her Advisory Committee to seek approval to schedule the exam. If approval is given, the student may at that time ascertain from the committee which topical areas will be covered and which committee member will be responsible for each. Students should meet individually with committee members to determine more specifically what materials will be pertinent and how to prepare for the exam. The examination will consist of a written and an oral portion, which will be administered during a closed session following the student's public Research Proposal Seminar. Both portions must be passed satisfactorily in order to complete the comprehensive requirements.

The written portion of the Comprehensive Exam should not be less than 25 hours nor more than 40 hours of actual writing time. Normally the written exams will be completed within the span of one week. The written portion of the Comprehensive Examination generally will involve the student applying the knowledge gained through graduate coursework and readings suggested by the Advisory Committee. The examination will consist of five sections, each meant to be answered by a five-hour essay. The specific topic areas covered will be determined by the student's Advisory Committee. Grading on the written portion will be on a Pass/Fail basis with four of the five sections graded satisfactory required for a Pass. If the student fails two or more sections of the written portion of the exam, the student's Advisory Committee will convene to determine if the student will be allowed to remain in the program. The student's Advisory Committee may recommend one of three

options: dismissal from the program; transfer from the Microbiology Ph.D. program to the Microbiology M.S. program; or re-examination of the failed sections of the written exam. Failed sections may be repeated once, at a time designated by the student's Advisory Committee, but within a year of the original examination. If a student has not passed all the written sections after repeating the failed sections once, that student will be dismissed from the program. The completed and graded written portion of the Comprehensive Exam is to be deposited in the student's department file.

Students pursuing the Microbiology Ph.D. are required to present a Seminar based on their Research Proposal to the Department of Biological Sciences prior to the end of their 5th semester (or equivalent) in the program. The seminar will be given during a scheduled meeting time of the Graduate Seminar in Microbiology (BIOL 6695) and will be considered part of the course requirements for that student. The purposes of Research Proposal Seminar is to assess the student's potential for graduate study at the doctoral level, to determine areas in which the student shows strength or weakness, and to assess the student's ability to assimilate, evaluate, and synthesize subject matter. Immediately after the seminar, the student will meet in closed session with his/her Advisory Committee to review and critique the Research Proposal Seminar and the written portion of the Comprehensive Exam. This will qualify as the oral portion of the Comprehensive Exam.

The purpose of the oral portion of the examination following the Research Proposal Seminar is to provide an opportunity to clarify and explore further implications of the written examination as well as to present the student with new questions in the same general subject areas as those covered by the written exams, but it can also cover other areas that are relevant to the student's graduate program. The oral portions should not be given until after the written examination has been evaluated by all of the committee members, but no later than four weeks after completion of the written portion. The student must pass the written portion of the Comprehensive Exam prior to taking the oral portion of the Comprehensive Exam. The oral exam must be passed by simple majority vote of the Advisory Committee. Once a student has passed both the written and oral portions of the Comprehensive Exam, the student will be admitted to Candidacy in the Microbiology Ph.D. program. When the student has passed both written and oral portions of the Comprehensive Exam, the Advisory Committee should finalize and approve the student's Final Program of Study. The Advisory Committee may recommend additional

coursework to strengthen the student's background in areas in which the student was considered weak. In case of failure, the student may be allowed to retake all or part of the oral examination at the discretion of his/her Advisory Committee. If a student fails the oral exam a second time, that student will be dismissed from the program.

### Doctoral Dissertation

Every student working toward the Microbiology Ph.D. degree must submit a dissertation embodying the results of original and creative research. The dissertation must demonstrate the student's ability in independent investigation and must be a contribution to scientific knowledge. It must display mastery of the literature of the subject field and must demonstrate an organized, coherent development of ideas, with a clear exposition of results and a creative discussion of the conclusions. Students may register for dissertation credit only after completion of all formal course work. After the dissertation, in substantially final form, has been approved for format and content by the research advisor, and not later than two weeks before the date of the final examination, the student must personally deliver a copy of the dissertation to each member of the Advisory Committee.

### Final Examination

The final examination of the dissertation will be conducted by the student's Advisory Committee including the GFR. Students are required to give a departmental seminar on the dissertation immediately preceding the final examination. The examination is concerned primarily with the student's research as embodied in the dissertation, but it may be broader and extend over fields of study related to the dissertation. Questions may be asked by committee members and those visitors specifically invited to do so by mutual agreement of the student's Advisory Committee and the Dean of the Graduate School. A majority of the examining committee must approve the dissertation and the final examination

## Doctor of Arts (D.A.) in Biology

The Doctor of Arts degree in Biological Sciences is granted for proven ability and scholarly attainment in biological science instruction. The program stresses preparation for undergraduate teaching at colleges and universities and the development of research abilities that complement instruction at the college level. The program is concerned with the development of the candidate as a biologist, a scholar, and a professional educator. The program is designed to provide the student with a broad

background in the biological sciences, the ability to conduct and interpret research, and excellent pedagogical skills.

### Goals

All D.A. students must demonstrate:

1. a broad background in the biological sciences and an understanding of scientific inquiry;
2. the ability to synthesize concepts of biology and to effectively communicate these concepts;
3. the ability to conduct, analyze, and critique research in biological sciences and biological sciences instruction;
4. the ability to integrate current biological and educational research into their teaching;
5. an understanding of the history and philosophy of science and the impact of contemporary science on society;
6. expertise with teaching strategies appropriate for a variety of teaching and learning environments, including undergraduate research;
7. strong content knowledge in three of the departmental core coursework areas and competency in the remaining three core areas;
8. a well-developed philosophy of education.

### Doctor of Arts Fellowships

Students admitted to the program with Fellowship Support can anticipate three years of support, contingent upon satisfactory performance toward their degree. Typically, provisions will be made for a fourth year of support, but the student and his/her major advisor must submit a letter to the departmental Graduate Programs Committee requesting an extension of support and provide a rationale and timeline toward completion of the degree.

### Master's Degree Requirement

All applicants for the program must have completed a Master's degree prior to entrance into the program. If a student enters the program without having completed a Master's-level thesis or research paper in biology or a related science, he/she must complete this requirement in addition to the degree requirements or design a dissertation project that incorporates biological research as a major component. This additional requirement may increase the length of time in the program and may limit the flexibility of the degree.

### Diagnostic Examination

Incoming D.A. students are required to take an oral diagnostic examination. The purpose of the examination is to assess the student's potential to become an effective instructor by

examining the depth of his/her background in biological science and communicative skills. The examination is meant to be primarily diagnostic, and the results are used by the student's Advisory Committee to help plan the Program of Study. The examination covers six core conceptual areas of biology (Cell Biology, Genetics, Ecology, Evolution, Physiology, Organismal Biology) and knowledge of pedagogy. The purpose of the oral examination is to validate the results of the Biology GRE and the coursework listed on the student's transcript, and to observe the student's oral communicative skills.

The oral examination is conducted no later than six weeks after the beginning of the first semester of the student's program (exception: for students taking the Biology subject GRE in November of their first semester, the oral exam may be delayed until the end of the student's first semester). The oral examining committee is appointed by the Chair of the Graduate Programs Committee. After completion of the examination, the oral examining committee will submit suggestions to the student and his/her Advisory Committee for planning the Program of Study. Normally, the student, in conjunction with the committee, will select three of the core areas to emphasize, however a student must demonstrate competency in the remaining three areas as well.

Although the diagnostic examination is used primarily for advising purposes, if the student's performance is generally unsatisfactory, the oral examining committee will select one of the following options: (1) the student may continue in the program but with certain specified additional requirements, (2) the student may take a second oral examination the following semester, or (3) the student will not continue in the program. If the performance on the second oral examination is unsatisfactory, the student will be dismissed from the program.

### Advisory Committee

Graduate programs in the Department of Biological Sciences are directed by Advisory Committees selected by the student, in consultation with their advisor. The committee will consist of at least four faculty members, plus a Graduate Faculty Representative (GFR). At least three faculty must be from the Department of Biological Sciences, and at least two committee members should have expertise in the core areas of coursework chosen by the student.

### Coursework Requirements

The D.A. degree program requires a minimum of 48 semester credits beyond the Master's

degree. A program of coursework is established jointly by the student and his/her committee. The program should reflect previous coursework, previous teaching experiences, results of the diagnostic examination, the interests and professional goals of the student, and the goals of the D.A. in Biological Sciences instruction as previously listed in this document. All D.A. students are required to take Advanced Studies in College Teaching (4 credits) and a minimum of two Seminars in College Teaching (4 credits). D.A. students are encouraged to participate in topical seminars, professional organizations, grant writing, and to submit their work to education and scientific journals.

### Internship Requirements

Internships are a very important part of the D.A. program. Each internship should be a rigorous, thoroughly planned pedagogical activity that provides an opportunity for development of skills in traditional and innovative teaching methods and for utilizing techniques, etc. developed during the program. Students must follow the Guidelines for the Supervised Teaching Internships. The internship requirement is flexible to accommodate the needs of each student.

Written proposals for each internship must be discussed and approved by the student's committee before the internship begins. Exact procedures for evaluating the internship will depend on the nature of what is done and where it occurs. However, evaluation is considered to be an integral and important part of the internship, and students must develop an evaluation system in concert with the internship supervisors. It is expected that this evaluation will at least include provisions for substantive feedback from students, the major advisor, committee members, and supervising faculty. Students must complete an internship report within one semester of teaching.

Typically, students will be expected to focus on coursework and their scholarly research during their first two semesters in residence, and not begin internships until after their second or third semester in the program. Internships must be completed prior to the last semester of residency. A minimum of 9 credits of internship are required, but no more than 16 can be counted toward the degree. A comprehensive report of each internship, including evaluation, must be submitted to the student's committee prior to the final seminar and examination. This comprehensive internship report should be prefaced by a Statement of Teaching Philosophy. A copy of this report will be retained separately in the student's departmental file unless it is part of the dissertation.

### Dissertation Proposal and Defense

During the first three semesters in residence, the student will prepare a written dissertation proposal. The dissertation can be designed to include multiple components such as:

- biological research;
- application of biological research to the classroom;
- pedagogical research related to biological sciences instruction at the college level;
- assessment of student learning;
- in-depth analysis and evaluation of internship teaching;
- multi-media or other curricular development, use, and evaluation;
- conducting research and involving undergraduates in such research, and evaluating the efficacy of such involvement.

The written proposal will include: (1) a survey of the literature to develop a rationale for the research, (2) a statement of the problem(s) or hypothesis(es) to be addressed, (3) detailed descriptions of methods including the experimental design and planned statistical analyses, (4) preliminary data (optional, but strongly encouraged), (5) a time line, (6) a bibliography, and (7) a budget (optional).

When the research proposal has been approved by the major professor and the remainder of the Advisory Committee, the student will prepare and present a one-hour seminar on the proposed research to the Department. This presentation will occur no later than the end of the student's third semester in residence. Immediately after the seminar, the student will be given an oral examination by his/her Advisory Committee. This examination will focus on the proposed research. The student's Advisory Committee will evaluate the student's performance and may (1) admit the student to further work toward the D.A., (2) recommend that the student revise the proposal and/or improve her/his background before attempting to continue graduate work, (3) recommend limitation of the program to the M.S. degree, or (4) in rare cases, recommend dismissal from the graduate program. In the event of the first two decisions, the committee will provide the student with specific recommendations or requirements. In the case of the second decision, the committee also will schedule a second evaluation after not less than one semester.

Once the student has successfully defended the research proposal, the student is advanced to candidacy.

### Comprehensive Examination

The comprehensive examination consists of a written and an oral portion. The written examination tests the student's knowledge of the core areas of biology and the topics covered in the education seminars. Depth and breadth of the examination on these topics should be commensurate with the recommendations from the diagnostic examining committee, and the three selected core areas as represented in the student's program of study. The oral examination assesses the student's capability to communicate answers effectively and areas of weakness indicated by the written examination.

Each member of the student's committee will submit a section of the examination on which the student will be expected to write for 4 to 6 hours. Each committee member will individually determine whether the student passed his/her section of the examination; the student must pass at least 75% of these sections. If the written examination is not passed, the committee may recommend that the student not proceed further in the program, or that the student re-take those portions of the written examination that were not passed.

The oral examination should be scheduled within two weeks of satisfactory completion of the written examination. Failure to pass the oral examination can result in the recommendation that the student not proceed further in the program, or that the oral examination should be re-taken at a later date. Failure to pass the comprehensive examination twice results in automatic termination from the program.

### Doctoral Dissertation

Every student working toward the D.A. degree must submit a dissertation embodying the results of original and creative research. The dissertation must demonstrate the student's ability in independent investigation and must be a contribution to scientific or science education knowledge. It must display mastery of the literature of the subject field and must demonstrate an organized, coherent development of ideas, with a clear exposition of results and creative discussion of the conclusions.

The form and style of the dissertation should comply with the format prescribed by the journal in which the student intends to publish the material and must meet the requirements of "Instructions for Preparing Theses, Disserta-

tions, D.A. Papers, and Professional Projects," which is available from the Graduate School. Within the framework of these constraints, however, the format of the dissertation can vary, ranging from a series of stand-alone chapters, to a single, comprehensive unit. In the former case, a preface that explains the overall layout should be included. After the dissertation has been approved for format and content by the major professor, and not later than two weeks before the date of the final examination, the student must deliver a copy of the dissertation to each member of the Advisory Committee (including the GFR).

### Dissertation Defense

The student's Advisory Committee, including the GFR, will conduct the final examination of the dissertation. The final defense must be completed at least two weeks before the date set for the commencement exercises at which the student expects to obtain a degree. Students are required to give a departmental seminar on the dissertation immediately preceding the final defense. The examination is concerned primarily with the student's research as embodied in the dissertation, but it will also include the Teaching Internships. A majority of the examining committee must approve the dissertation and the final defense.

## Master of Science (M.S.) in Biology

A program of study leading to the Master of Science (M.S.) Degree is designed to enable students to develop an advanced understanding of the biological sciences and the capability to teach or conduct biological research. Programs are flexible and can be tailored to satisfy the professional and personal needs of each student.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following department requirements. Acceptance to an M.S. program is contingent upon a biology faculty member agreeing to serve as the applicant's advisor. Students interested in pursuing an advanced degree in the biological sciences at Idaho State University are encouraged to contact the faculty member(s) with whom they wish to study, prior to making formal application to the department. Applicants must have at least a 3.0 GPA for all upper-division credits taken in the previous degree program. Scores on the verbal, quantitative, and analytical portions of the GRE must be submitted.

Certain courses are prerequisite for admission to the M.S. degree program, and any student who has not met these requirements through previous course work must take them as part of his/her M.S. program. These courses are:

1. One semester of calculus
2. One year of inorganic chemistry
3. One semester of organic chemistry
4. One semester of physics
5. Six additional credits in physics, chemistry, or mathematics that differ from those courses listed in 1-4 above

Note: Because these are undergraduate courses, these credits do not count toward the 30-credit hour requirement for the M.S. degree.

### General Requirements

A substantial, original research project is required that culminates in a written thesis and oral presentation of the findings at a Biological Sciences department seminar. A minimum of 30 credits (including research and thesis) are required in graduate courses and seminars that provide mastery in core conceptual areas in the biological sciences.

The core areas for the M.S. in Biology are:

1. genetics and evolution
2. animal or plant physiology
3. cell biology, biochemistry, or molecular biology, and
4. ecology or morphology

Students may gain expertise in the core areas through a variety of mechanisms, including graduate courses, seminars, special projects, or readings. Although there are no specific credit hour requirements for the core areas, it is expected that the total effort expended in each area would be at least equivalent to that required in a rigorous course in that subject area, and that any credits earned as part of the graduate program will be at the graduate level (i.e., at the 5500-level or above). The credit hours earned in such classes will count toward the 30-credit requirement for the degree.

The ability to utilize a research tool is required, which can be satisfied by taking classes in biometry, electron microscopy, or a related field outside the biological sciences, such as geology, engineering, economics, or computer science. Graduate credits that satisfy the tool requirement count toward the 30-credit requirement for the degree.

### Specific Requirements for the M.S. Degree

Of the required 30 credits for the M.S. degree, at least 15 credits must be earned at the 6600-level, which include:

BIOL 6648 Graduate Problems	1-4 cr
BIOL 6650 Thesis	1-6 cr
BIOL 6691 and 6692 Graduate Seminars	2 cr

In addition, all M.S. students must take a statistics course approved by their graduate committee.

Note: A student may take an unlimited number of credits of BIOL 6650 and BIOL 6648, although a maximum of only 6 credits of BIOL 6650 and 4 credits of BIOL 6648 may be counted toward the required 30 credit hours for the degree.

### Advisory Committee

The Advisory Committee consists of a minimum of three faculty members who are members of the Idaho State University graduate faculty. The student, in consultation with the major advisor, selects at least one additional faculty member from the Department of Biological Sciences. An additional faculty member from outside the Department of Biological Sciences, designated as the Graduate Faculty Representative (GFR), also must serve on the committee. The GFR is appointed by the Dean of the Graduate School, who is open to recommendations from the major advisor. The GFR need only participate in the thesis defense, but may be involved throughout the student's program. The initial committee meeting should be held during the first semester of the student's graduate program.

### Written Proposal, Proposal Seminar, and Proposal Defense

M.S. students are required to present a seminar on their proposed thesis research in the first year of their program. The purpose of this proposal seminar is to have each student develop and present formal statements of the objectives (hypotheses), design, and importance of their proposed research. Students must submit an abstract to the seminar organizer at least one week prior to their presentation. Students also must write a research proposal and have the proposal approved by the Advisory Committee by the end of the semester in which they present. This proposal will: (1) be at least 5 pages in length, with citations appended, (2) address comments that resulted from the seminar presentation, and (3) be retained in the student's departmental file.

### Thesis, Thesis Seminar, and Thesis Defense

Each M.S. applicant must submit a thesis embodying the results of original and creative research. The thesis must demonstrate the student's ability in scientific investigation. The thesis must include a comprehensive review of literature on the topic, and must demonstrate an organized, coherent develop-

ment of ideas, with a clear exposition of results and creative discussion of the conclusions. The form and style of the thesis should comply with the format prescribed by the national- or international-level journal in which the student intends to publish the material and must meet the requirements of "Instructions for Preparing Theses, Dissertations, D.A. Papers, and Professional Projects," which is available from the Graduate School. Within the framework of these constraints, however, the format of the thesis can vary in the number and arrangement of chapters.

Following completion of the written thesis, the student will present the research findings in a seminar. The thesis presentation will be followed by an oral defense conducted by the Advisory Committee. The student is responsible for scheduling the defense with the Graduate School and advertising the thesis seminar, with notices posted in the Life Sciences Building and in the Department newsletter, at least one week in advance of the seminar date. After the thesis has been approved for format and content by the major professor, and not later than two weeks before the date of the final examination, the student must deliver a copy of the thesis to each member of the Advisory Committee.

Please refer to [http://www.isu.edu/graduate/pdf/Thesis\\_Dissertation\\_Instructions.pdf](http://www.isu.edu/graduate/pdf/Thesis_Dissertation_Instructions.pdf) for the manual, Instructions for Preparing Theses, Dissertations, Doctor of Arts Papers, and Professional Projects, for thesis clearance instructions.

## Master of Science (M.S.) in Microbiology

The intent of the Microbiology M.S. program is to produce scientists with the ability to conduct independent research and to be fluent in the scientific literature. As a terminal degree, the Master of Science in Microbiology qualifies students for technical research positions in academia, industry and government research facilities. It also prepares students to progress into doctoral programs in Microbiology and related areas.

### Admissions

Acceptance to the Microbiology M.S. program requires that a faculty member agree to serve as the candidate's advisor. Candidates must have at least a 3.0 GPA for all upper division credits taken in the previous degree program. Scores in the verbal, quantitative, and analytical portions of the GRE must be submitted; scores in the 35th percentile or higher are required on the verbal and quantitative portions

of the GRE. If either the GPA or GRE requirement is not met, the Microbiology Graduate Programs Committee may choose to admit the candidate to "Classified (w/PR)" status.

### Prerequisites

It is expected that applicants to the program will have a broad scientific background, and will have completed coursework at the undergraduate level in the following areas:

- 1 semester of Calculus (Calculus through Multivariable Calculus recommended)
- 1 year of General Chemistry (+lab)
- 1 year of Organic Chemistry (+lab)
- 1 year of Physics (+lab)
- 1 semester of Quantitative Analysis, Analytical Chemistry, or Inorganic Chemistry (+lab)
- 1 semester of Statistics
- Genetics (lab recommended)
- General Microbiology (+lab)

The Microbiology M.S. program will be tailored to the requirements of the student's program of study (as determined by the student's Advisory Committee), and will include coursework to rectify any deficiencies as determined by the student's Advisory Committee.

Coursework taken at the undergraduate level to satisfy deficiencies does not count toward the graduate degree; however, such coursework must appear on the student's Planned Program of Study. Coursework taken at the undergraduate level to satisfy deficiencies must be taken for letter grades and the grades earned must be "C" or better.

### Graduate Coursework in the Microbiology M.S. program

The M.S. program requires a substantial, original research project that culminates in a thesis; a minimum of 30 credits (including research and thesis) earned in graduate courses and seminars and expertise in one or more conceptual areas of the major sub-disciplines of Microbiology. The student's Advisory Committee will direct the student to specific course offerings to satisfy the coursework guidelines.

The three core areas in the Microbiology M.S. program are:

- Biochemistry, Genetics, Molecular Biology, and Physiology of Microorganisms
- Immunology, Virology, and Medical Microbiology
- Microbial Ecology and Applied, Industrial, and Environmental Microbiology

Thirty total graduate credits approved by the Microbiology Graduate Programs Committee and the Graduate School are required to complete the Microbiology M.S. degree program. At least 15 of these credit hours must be earned at the 6600 level. Students must take a minimum of 3 credits of BIOL 6648 and 3 credits of BIOL 6650. During the second semester of their first year in the program, students in the Microbiology M.S. program will present their research proposal in a public forum as part of BIOL 6695 Graduate Seminar in Microbiology. Students in the Microbiology M.S. program will also take 2 additional credits of Graduate Seminar in Microbiology (BIOL 6695).

Course requirements include:

BIOL 6610 Principles of Molecular Biology	3 credits
BIOL 6648 Graduate Problems	minimum 3 credits
BIOL 6650 Thesis	minimum 3 credits
BIOL 6695 Graduate Seminar in Microbiology	3 credits
Other course work	6 credits

### Advisory Committee

The Advisory Committee consists of a minimum of three members of the Idaho State University Graduate Faculty, including a Graduate Faculty Representative (GFR). The student, in consultation with the major advisor, selects at least one additional faculty member with expertise related to the student's research area. At least one of the advisory committee must be a member of the Microbiology Graduate Programs Committee. The GFR is appointed by the Dean of the Graduate School, who is open to recommendations from the major advisor. The GFR need only participate in the thesis defense, but may be involved throughout the student's program. The initial committee meeting should be held during the first semester of the student's graduate program.

### Written Proposal, Proposal Seminar, and Proposal Defense

During the second semester of the first year in the program, Microbiology M.S. students must submit a research proposal to the student's Advisory committee two weeks prior to a formal seminar presentation of the proposed research. This proposal will: (1) be at least 5 pages in length, with citations appended, (2) be retained in the student's departmental file. Students will present a seminar on their proposed thesis research as part of BIOL 6695. At least one week prior to the seminar, students must submit an abstract to the seminar organizer. Immediately following the proposal seminar, the student will defend the proposal in a closed session with their Advisory Committee. A revised proposal addressing questions raised at the defense must be approved by the advisory committee by the end of the semester in which the seminar was given.

### Thesis, Thesis Seminar and Thesis Defense

Each Microbiology M.S. applicant must submit a thesis embodying the results of original and creative research. The thesis must demonstrate the student's ability in scientific investigation. The thesis must include a comprehensive review of the literature on the topic, and must demonstrate an organized, coherent development of ideas, with a clear exposition of results and creative discussion on the conclusions. The form and style of the thesis should comply with the format prescribed by the national or international-level journal in which the student intends to publish the material and must meet the requirements of "Instructions for Preparing Theses, Dissertations, D.A. Papers, and Professional Projects," which is available from the Graduate School. Within the framework of these constraints, however, the format of the thesis can vary in the number and arrangement of chapters. After the thesis has been approved for format and content by the major professor, and not later than two weeks before the date of the final examination, the student must deliver a copy of the thesis to each member of the advisory committee.

Following completion of the written thesis, the student will present the research findings in a public seminar. The thesis presentation will be followed by an oral defense conducted by the Advisory Committee. The student is responsible for scheduling the defense with the Graduate School and advertising the thesis seminar, with notices posted in the Life Sciences Building and in the Department newsletter, at least one week in advance of the seminar date. Please refer to [http://www.isu.edu/graduate/pdf/Thesis\\_Dissertation\\_Instructions.pdf](http://www.isu.edu/graduate/pdf/Thesis_Dissertation_Instructions.pdf) for the manual, Instructions for Preparing Theses, Dissertations, Doctor of Arts Papers, and Professional Projects, for thesis clearance instructions.

### Residency Requirements

The equivalent of at least two years of full-time study is required. Part of the work may be completed elsewhere with the approval of a student's Advisory Committee, but two consecutive regular semesters of full-time study must be taken in residence at this university.

## Bachelor of Science/ Master of Science

The goal of this option is to allow academically strong students to begin work towards an M.S. degree after completing the Junior year. This will allow students to complete an M.S. degree, as well as a B.S. degree, with only one additional year in school. This option is only

available to students who have demonstrated an interest in independent research before the end of the Junior year, who can meet the Biological Sciences GPA and GRE requirements for admission to the M.S. program, and who have worked with a member of the Graduate Faculty who has agreed to serve as the student's Graduate Advisor. After being accepted into the M.S. program, students who pursue this option will have to spend at least two summers doing research and/or coursework. Given its compressed timeline and academic intensity, this option is only available to students who have demonstrated a high level of academic ability.

The student will be required to complete all of the graduation requirements for a B.S. degree in the Department of Biological Sciences. That degree will be awarded when those requirements are met, typically at the end of the 4th year. In completing the graduation requirements for a B.S. degree, these students should have met all of the coursework requirements for admission to the M.S. program.

The student will be admitted Classified with Performance Requirements (w/PR) to the MS Program after completing the Junior year. Admission requires that the student meet the existing GPA requirement (at least 3.0 for the Sophomore and Junior years).

The M.S. degree will be awarded only after the student has completed all of the requirements for the M.S. program.

### Requirements

These requirements are for undergraduate students admitted to the BS/MS Option ONLY. BS/MS students are restricted to a maximum of six graduate-level credits until after completion of the B.S. degree.

Summer following Junior Year:

BIOL 5581 Independent Problems 2 cr

Spring Semester of Senior Year:

BIOL 6692 Seminar 1 cr

Other undergraduate and graduate credits, as required by the Department of Biological Sciences.

## Master of Natural Science (M.N.S.) in Biology

The Master of Natural Science (MNS) degree is designed to strengthen an individual's background in biological sciences for secondary school teaching or for work in nature interpretation or environmental education centers. The student must possess or be working toward a standard teaching certificate, or, under

exceptional circumstances, be employed or have specific career objectives that would not require teacher certification (as approved by the Graduate Programs Committee). This degree emphasizes subject matter and is a non-thesis program. It is not designed to prepare students for a doctoral program with a research emphasis or requirement. The degree is granted upon successful completion of a minimum of 30 graduate-level credits and satisfactory performance on a comprehensive written and oral examination.

## General Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following department requirements. The MNS degree is primarily a coursework degree and therefore differs from the MS degree in Biology in several important ways. It does not require course prerequisites for admission. To complete the program, MNS students: (1) need not demonstrate breadth through coursework in each of the Core Areas, (2) are exempt from the Experimental Design/Statistics requirement, and (3) do not complete a Thesis. MNS students must meet Admission, Residency, Transfer of Credit requirements, and minimum Performance Levels.

A minimum of 30 graduate credits is required to complete the MNS degree program. Courses numbered 5500 and above, and those completed with a grade of B or better, are the only courses which may be applied toward the degree. It is expected that the courses will enhance both the breadth and depth of the student's biological content knowledge. At least 20 of the credits must be taken in Biological Sciences. Biology Teaching Methods (BIOL 5513) is strongly recommended. A proposed plan of study should be submitted to, and approved by, the student's advisory committee by the end of the first semester.

## Advisory Committee

The student must select a major advisor, and, in consultation with the advisor, select at least one additional faculty member from the Department of Biological Sciences to serve on an advisory committee. Additionally, a Graduate Faculty Representative (GFR) from outside the Department of Biological Sciences must serve on the committee. The GFR is approved by the Graduate School, though students may recommend to the Dean of the Graduate School a faculty member from another department to serve as GFR. The initial committee meeting should be held in the first semester of the program. However, the GFR need only attend the final oral comprehensive examination.

## Written and Oral Comprehensive Examination

The comprehensive examination consists of a written and an oral portion. The written examination tests the student's knowledge of biological and educational topics commensurate with the student's program of study. The oral examination assesses the student's capability to communicate answers effectively to areas of weakness indicated by the written examination.

The written comprehensive examination must be completed no later than six weeks before the end of the student's last semester. Each member of the student's committee (excluding the GFR) will submit a section of the examination on which the student will be expected to write. The entire examination should be designed to require no more than 10 hours for completion. Each committee member will individually determine whether the student passed his/her section of the examination; the student must pass at least 75% of these sections. If the written examination is not passed, the committee may recommend that the student not proceed further in the program, or that the student re-take those portions of the written examination that were not passed.

The oral comprehensive examination should be scheduled within two weeks of satisfactory completion of the written examination, and no later than three weeks prior to the end of the semester. The oral examination will consist of questions posed by the student's advisory committee after they have reviewed the results of the written examination. Failure to pass the oral examination can result in the recommendation that the student not proceed further in the program, or that the oral examination be re-taken at a later date. Failure to pass the comprehensive examination twice results in automatic termination from the program.

## Biological Sciences Graduate Courses

**BIOL 5500 Oral Histology and Embryology 3 credits.** The microanatomy and formative processes of the teeth and their surrounding structures. COREQ: BIOL 5500L.

**BIOL 5500L Oral Histology and Embryology Lab 0 credits.** Assignments to apply principles from BIOL5500. COREQ: BIOL 5500.

**BIOL 5504 Plant Physiology 3 credits.** Study of plant physiological processes including water relations, mineral nutrition, photosynthesis, respiration, translocation of photosynthate, secondary compounds and phytohormones. Specific, evaluated graduate-

level activities and/or performances are identified in the course syllabus.

**BIOL 5504L Plant Physiology Lab 1 credit.** Assignments to apply principles from BIOL 5504.

**BIOL 5505 Plant Form and Function 3 credits.** Integrated studies of anatomical and physiological adaptations of plants to their natural environment. Data collection and analysis will be emphasized. PREREQ: BIOL 102 OR BIOL 2203. COREQ: BIOL 5505L.

**BIOL 5505L Plant Form and Function Lab 1 credit.** Assignments to apply principles from BIOL 5505. COREQ: BIOL 5505.

**BIOL 5506 Plant Diversity and Evolution 4 credits.** Study of the reproduction, structure, development, evolution, and classification of the fungi, algae, bryophytes, and vascular plants. Lectures, laboratories. PREREQ: BIOL 1101 AND BIOL 1102. COREQ: BIOL 5506L.

**BIOL 5506L Plant Diversity and Evolution 0 credits.** Assignments to apply principles from BIOL 5506. COREQ: BIOL 5506

**BIOL 5508 Plant Ecology 3 credits.** Major factors limiting plant growth and distribution with emphasis on adaptation and response at the individual, population, and community levels. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**BIOL 5508L Plant Ecology Lab 1 credit.** Assignments to apply principles from BIOL 5508. COREQ: BIOL 5508.

**BIOL 5512 Systematic Botany 4 credits.** Study of classification and evolution of flowering plants; techniques of phylogeny reconstruction based on molecular and morphological characters. Collection/identification of local flora. Field trips. PREREQ: BIOL 1101 AND BIOL 1102. COREQ: BIOL 5512L.

**BIOL 5512 Systematic Botany Lab 0 credits.** Assignments to apply principles from BIOL 5512. COREQ: BIOL 5512.

**BIOL 5513 Biology Teaching Methods 3 credits.** Planning, teaching and evaluating teaching activities. Practical experience in methods used in science classrooms and enhancing professional development. Required for secondary education major in biology. PREREQ 16 CREDIT HOURS OF BIOLOGY AND EDUC 3302, OR PERMISSION OF INSTRUCTOR.

**BIOL 5514 Graduate Teaching Assistant Seminar 2 credits.** Introduction to college science teaching, with an emphasis on inquiry-based methods in the laboratory setting. Topics include how people learn, classroom management, professional ethics, peer evaluation of teaching. Required for all new graduate Teaching Assistants. Graded S/U.

**BIOL 5515 Human Neurobiology 4 credits.** Cellular-to-organismal structure and function of the human central nervous system (CNS), and CNS pathologies. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5515L Human Neurobiology Lab 1 credit.** Detailed examination of the gross anatomy and pathways of the human central nervous system. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5516 Population Ecology 3 credits.** Introduces quantitative analysis of populations and communities, emphasizing demography, distribution, abundance, spatial and temporal dynamics, biodiversity, coexistence, and applications to conservation and land use decision-making. Includes data collection and analysis. PREREQ: BIOL 2209. COREQ: BIOL 5516L.

**BIOL 5516L Population Ecology 1 credits.** Assignments to apply principles from BIOL 5516. COREQ: BIOL 5516.

**BIOL 5517 Organic Evolution 3 credits.** An integrated study of evolution as a unifying concept in biology. An examination of patterns and processes that affect the origin and diversification of species through time. PREREQ: BIOL 3358.

**BIOL 5518 Ecological Topics 1 credit.** - Flexible use of seminars, lectures, and laboratory/field work dealing with current issues in ecology. Topic/emphasis varies. May be repeated until a maximum of 3 credits is earned. PREREQ: BIOL 2209 OR PERMISSION OF INSTRUCTOR.

**BIOL 5519 Mammalian Histology 4 credits.** Study of human animal tissues, including structural and functional characteristics of tissues and organs. PREREQ: BIOL 2206, BIOL 2207, OR BIOL 3303 OR BIOL 3301 AND BIOL 3302. COREQ: BIOL 5519L.

**BIOL 5519L Mammalian Histology 0 credits.** Assignments to apply principles from BIOL 5519. COREQ: BIOL 5519.

**BIOL 5520 Musculo-Skeletal Anatomy 2 credits.** Study of human body structure emphasizing muscular system and its relationship to axial and appendicular skeleton. Focus on extremities, thorax, and pelvis with applica-

tions toward normal, diseased and rehabilitative functions. PREREQ: BIOL 3301 AND BIOL 3302.

**BIOL 5521 Ecological Concepts 3 credits.** Major concepts in ecology in relation to environmental degradation, pollution, hazardous materials, and environmental management. Credit may not be used for a graduate degree in biology.

**BIOL 5523 General Parasitology 3 credits.** Study of the parasitic symBIOles of animals, plants and other organisms focusing on concepts, principles, and consequences of such interactions and the coevolutionary processes by which they are created. PREREQ: BIOL 1101 AND BIOL 1102.

**BIOL 5526 Herpetology 3 credits.** The biology of amphibians and reptiles: lecture topics include evolutionary history, functional morphology, physiological ecology, biogeography, reproductive, and population ecology. Laboratories and field trips cover systematic, natural history, and collecting/sampling techniques. PREREQ: BIOL 2209. COREQ: BIOL 5526L.

**BIOL 5526L Herpetology Lab 1 credit.** Assignments to apply principles from BIOL 5526. COREQ: BIOL 5526.

**BIOL 5527 Ichthyology 3 credits.** The - biology of fishes; lecture topics include evolutionary history, functional morphology, physiological ecology, and biogeography. Laboratory and weekend field trips cover identification, life history and collecting techniques. Emphasis on Idaho species. PREREQ: BIOL 2209. COREQ: BIOL 5527L.

**BIOL 5527L Ichthyology Lab 1 credit.** Assignments to apply principles from BIOL 5527. COREQ: BIOL 5527.

**BIOL 5528 Medical Parasitology and Entomology 3 credits.** Study of animal parasites, with an emphasis on protists, helminths and arthropods affecting human health and welfare by their presence or indirectly via pathogens they transmit. PREREQ: BIOL 1101 AND BIOL 1102. COREQ: BIOL 5528L.

**BIOL 5528L Medical Parasitology and Entomology 0 credits.** Assignments to apply principles from BIOL 5528. COREQ: BIOL 5528.

**BIOL 5529 Regional Anatomy and Histology 4 credits.** Regional approach to gross human anatomy emphasizing the use of projected materials and microscopic anatomy. Designed primarily for students in the Physician Assistant Program. PREREQ: BIOL 301, BIOL 302. COREQ: BIOL 5529L.

**BIOL 5529L Regional Anatomy and Histology 0 credits.** Assignments to apply principles from BIOL 5529. COREQ: BIOL 5529.

**BIOL 5531 General Entomology 3 credits.** Study of structure, development, classification, and life histories of insects, including ecological, economic and management considerations. An insect collection may be required. Field trips. PREREQ: BIOL 101 AND BIOL 102. COREQ: BIOL 5531L.

**BIOL 5531L General Entomology Lab 1 credit.** Assignments to apply principles from BIOL 5531. COREQ: BIOL 5531.

**BIOL 5532 Biochemistry 3 credits.** Comprehensive discussion/presentation of structure, - function and metabolism of biological macromolecules and their constituents, including energetics, regulation, and molecular biology, with emphasis on critical analysis of biochemical issues PREREQ: Organic Chemistry or Introduction to Biology OR PERMISSION OF INSTRUCTOR.

**BIOL 5533 Microbial Physiology 3 credits.** Comparative physiology of microorganisms, including structure/function, metabolic diversity, enzyme mechanisms of microbial metabolism, and physiology of extreme organisms. Lectures, Class Exercises. PREREQ: Microbiology OR PERMISSION OF INSTRUCTOR. COREQ: BIOL 5533L.

**BIOL 5533L Microbial Physiology Lab 1 credit.** Laboratory exercises in comparative physiology of microorganisms. COREQ: BIOL 5533.

**BIOL 5534 Microbial Diversity 3 credits.** Enrichment, cultivation, and isolation of prokaryotes from various metabolic groups and environments. Microorganisms will be identified using classical microbial techniques and modern molecular methodologies. PREREQ: Microbiology and BIOL 5533 OR PERMISSION OF INSTRUCTOR. COREQ: BIOL 5534L.

**BIOL 5534L Microbial Diversity Lab 1 credit.** Enrichment, cultivation and isolation of prokaryotes from various metabolic groups and environments. COREQ: BIOL 5534.

**BIOL 5535 Vertebrate Paleontology 4 - credits.** Phylogenetic history of the vertebrates outlined in the light of morphology, classification, evolution, paleoecology, and the significance of fossils. Field trips. Cross-listed as GEOL 5535. PREREQ: GEOL 5531 OR BIOL 3314 OR EQUIVALENT.

**BIOL 5537 Experimental Biochemistry 1**



**credit.** Laboratory course including both qualitative and quantitative experiments. Cross-listed as CHEM 5538. PREREQ or COREQ: BIOL 5532 or BIOL/CHEM 5545.

**BIOL 5538 Ornithology 4 credits.** Study of the origin, evolution, structure, habits, adaptations, distribution, and classification of birds. Field trips. PREREQ: BIOL 1101 AND BIOL 1102.

**BIOL 5539 Principles of Taphonomy 3 credits.** Effects of processes which modify organisms between death and the time the usually fossilized remains are studied. Emphasis on vertebrates. Cross-listed with ANTH 5539 and GEOL 5539. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5540 Human Gross Anatomy 4 - credits.** Comprehensive regional study of gross human anatomy with emphasis on the upper limb, thorax, abdomen, pelvis and perineum. Designed for the first year dental students and complements BIOL 5550. Lecture and laboratory. COREQ: BIOL 5540L.

**BIOL 5540L Human Gross Anatomy 0 credits.** Assignments to apply principles from BIOL 5540. COREQ: BIOL 5540.

**BIOL 5541 Mammalogy 3 credits.** General study of mammals including classification, identification, habits, ecology, economics, and techniques of study, with emphasis on North American forms. Field trips. PREREQ: BIOL 2209. COREQ: BIOL 5541L.

**BIOL 5541L Mammalogy Lab 1 credit.** Assignments to apply principles from BIOL 5541. COREQ: 5541.

**BIOL 5542 Plant-Animal Interactions 3 credits.** Coevolution of plant and animal form and function emphasizing pollination, herbivory, parasitism, frugivory/seed dispersal, and optimal foraging.

**BIOL 5543 Endocrinology 3 credits.** Study of the anatomy and physiology of the ductless glands and the properties and uses of natural and synthetic hormones. PREREQ: BIOL 3303.

**BIOL 5544 Cell and Molecular Biology 4 credits.** Fundamental principles of molecular biology: DNA replication, repair, and recombination, transcriptional and post-transcriptional regulation of gene expression, RNA metabolism, protein synthesis, targeting and turnover, post-translational modifications, signal transduction, regulation of the cell division cycle, and molecular genetics of development. Specific, evaluated graduate-level activities and/or performances are identified in the

course syllabus. PREREQ: Introductory Biology and Organic Chemistry. COREQ: BIOL 5544L

**BIOL 5544L Cell and Molecular Biology Laboratory 1 credit.** Laboratory techniques in molecular biology, including cloning, PCR and DNA sequencing. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus COREQ: BIOL 5544.

**BIOL 5545 Biochemistry I 3 credits.** Introduction to basic aspects of biochemical systems, including fundamental chemical and physical properties of biomolecules. Enzymology including allosterism, metabolic regulation, bioenergetics, and carbohydrate metabolism. PREREQ: Introduction to Biology and Organic Chemistry OR PERMISSION OF INSTRUCTOR.

**BIOL 5546 Selected Topics in Physiology 1 credit.** Selected topics in physiology for dental students: blood coagulation-complement-kinin systems, prostaglandin and related substances, vitamins, steroids, mucopolysaccharides, collagen and other extracellular matrix molecules and cyto-and molecular genetics.

**BIOL 5547 Biochemistry II 3 credits.** Functional continuation of 5545. Lipid, amino acid and nucleotide metabolism. Emphasis is on metabolic regulation, metabolic dysfunction, biochemical mechanism of hormone action, biochemical genetics, protein synthesis, and metabolic consequences of genetic defects. PREREQ: BIOL/CHEM 5545.

**BIOL 5548 Advanced Experimental Biochemistry 2 credits.** Advanced laboratory projects designed to emphasize techniques of qualitative and quantitative biochemical analysis. PREREQ: BIOL 5537/CHEM 5538. COREQ: BIOL/CHEM 5547.

**BIOL 5549 Human Physiology I 4 credits.** First of a two-course sequence. Physiology of the nervous, muscular, circulatory, respiratory, and excretory systems. PREREQ: BIOL 2202; CHEM 1111, CHEM L1111, CHEM 1112, CHEM L1112; COREQ: BIOL 5525.

**BIOL 5550 Head and Neck Anatomy 4 credits.** Comprehensive presentation of the anatomy of the head and neck as it applies to the practice of dentistry. Lecture and laboratory. COREQ: BIOL 5550L.

**BIOL 5550L Head and Neck Anatomy 0 credits.** Assignments to apply principles from BIOL 5550. COREQ: BIOL 5550.

**BIOL 5551 Immunology 3 credits.** Fundamental concepts of antibody-mediated and cell

-mediated mechanisms of immunity. In-vivo and in-vitro antigen-antibody interactions are discussed. PREREQ: Microbiology OR PERMISSION OF INSTRUCTOR.

**BIOL 5551L Immunology Laboratory 1 credit.** Selected laboratory experiments to accompany BIOL 5551 Immunology. PREREQ OR COREQ: BIOL 5551. OPEN TO NON-MAJORS BY SPECIAL PERMISSION.

**BIOL 5554 Advanced Immunology 3 credits.** Detailed study of selected areas of immunobiology. Course content will vary with current demand. Students will lead discussions and present current literature. PREREQ: BIOL 5551 AND PERMISSION OF INSTRUCTOR. COREQ: BIOL 5554L.

**BIOL 5555 Pathogenic Microbiology 3 credits.** How the medically important bacteria, viruses and fungi interact with the host to produce disease, including microbe characteristics, pathogenesis, pathological processes, prevention, and treatment methods. PREREQ: Microbiology OR PERMISSION OF INSTRUCTOR.

**BIOL 5555L Pathogenic Microbiology Laboratory 2 credits.** Will emphasize procedures for the isolation and identification of pathogenic bacteria. Clinical specimens will be provided for use in identification of unknowns. PREREQ OR COREQ: BIOL 5555.

**BIOL 5556 Human Physiology II 4 credits.** Physiology of gastrointestinal, endocrine, and reproductive systems. Includes studies of acid-base balance, peripheral circulation, shock, and temperature regulation. PREREQ: BIOL 5549 OR EQUIVALENT.

**BIOL 5559 Fish Ecology 3 credits.** Study of the behavior, habitat use, population dynamics, and management of freshwater fishes, especially salmon and trout. Laboratory and weekend field trips emphasize sampling techniques and data analysis. PREREQ: BIOL 2209, BIOL 3315, BIOL 5527. COREQ: BIOL 5559L.

**BIOL 5559L Fish Ecology Lab 1 credits.** Assignments to apply principles from BIOL 5559. COREQ: BIOL 5559.

**BIOL 5560 Neuroscience 4 credits.** Comprehensive presentation of the anatomy of the central nervous system, the brain and spinal cord. Combined lecture and laboratory demonstration. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5560L Neuroscience Lab 1 credits.** Detailed examination of the gross anatomy and pathways of the human central nervous

system. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5561 Advanced Genetics 3 credits.** Detailed and critical consideration of selected genetic topics with emphasis on recent advances. PREREQ: Genetics AND PERMISSION OF INSTRUCTOR.

**BIOL 5562 Freshwater Ecology 3 credits.** Study of the interaction of physical and biotic factors in aquatic communities. Field trips. PREREQ: BIOL 2209. COREQ: BIOL 5562L.

**BIOL 5562L Freshwater Ecology Lab 1 credit.** Assignments to apply principles from BIOL 5562. COREQ: BIOL 5562.

**BIOL 5563 Human Pathophysiology 4 credits.** The study of basic processes underlying diseases with an emphasis on correlating anatomical, functional, and biochemical alterations with clinical manifestations. Laboratory required. PREREQ: BIOL 3301 AND BIOL 3302, OR PERMISSION OF INSTRUCTOR. COREQ: BIOL 5563L.

**BIOL 5563L Human Pathophysiology 0 credits.** Assignments to apply principles from BIOL 5563. COREQ: BIOL 5563.

**BIOL 5564 Lectures in Human Physiology 4 credits.** Physiology of the nervous, muscular, circulatory, respiratory, and excretory systems. PREREQ: BIOL 3301, BIOL 3302, AND ONE YEAR OF COLLEGE CHEMISTRY.

**BIOL 5566 Medical Mycology 3 credits.** Lecture/laboratory course addressing medically important fungi. Taxonomy, clinical disease, pathogenesis, immunological diagnosis and laboratory identification of contaminants, opportunists, superficial, cutaneous, subcutaneous and systemic mycoses. PREREQ: Microbiology.

**BIOL 5568 Oral Microbiology 1 credit.** Study of microbiology of plaque, caries, periodontal disease, immunobiology of oral disease and control of microorganisms with antimicrobial agents. Four periods devoted to laboratory study of medically important oral microbes. PREREQ OR COREQ: BIOL 5555.

**BIOL 5569 Special Topics in Microbiology 1-4 credits.** Study of selected topics in microbiology. Course contents will vary with topics selected. May be repeated with departmental approval for non-repetitive course content. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5570 Cross-Sectional Anatomy 2 credits.** Applied regional anatomy as viewed in sectional planes, emphasizing topographic

relationships of organs and surface anatomy, with interpretation of correlated CT and MRI imaging. PREREQ: BIOL 3301 AND BIOL 3302.

**BIOL 5573 Applied and Environmental Microbiology 3 credits.** Concepts in applied microbiology and microbial ecology, including fermentation, biotechnology, and ecophysiology. COREQ: BIOL 5573L.

**BIOL 5573L Applied and Environmental Microbiology Lab 1 credit.** Laboratory exercises in applied and environmental microbiology. COREQ: BIOL 5573.

**BIOL 5574 Human Anatomy (Occupational Therapy/Physical Therapy) 5 credits.** Applied regional anatomy emphasizing the development, histology and gross anatomy of the musculoskeletal, peripheral nervous, and cardiopulmonary systems. Includes laboratory with cadaver dissection. PREREQ: PERMISSION OF INSTRUCTOR. COREQ: BIOL 5574L.

**BIOL 5574L Human Anatomy OT and PT Lab 0 credits.** Assignments to apply principles from BIOL 5574. COREQ: BIOL 5574.

**BIOL 5575 General Virology 3 credits.** Introduction to the general principles of virology through consideration of structure, genetics, replication and biochemistry of animal and bacterial viruses. PREREQ: COMPLETION OF 90 CREDITS.

**BIOL 5577 Bacterial Virology Laboratory 1 credit.** Designed to acquaint students with the techniques and experimental principles used in the study of bacterial viruses. Must be accompanied by BIOL 5575.

**BIOL 5578 Animal Virology Laboratory 1 credit.** Introduces tissue culture methods and other techniques employed in the study of animal viruses. Must be accompanied by BIOL 5575.

**BIOL 5579 Survey of Electron Microscopy 2 credits.** Introduction to the potentialities, theory, techniques, and limitations of electron microscopy. The field will be surveyed as a whole, but primary emphasis will be on biological applications. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5580 Mentored Research Alliance 2 credits.** Discovery research in life sciences conducted in a cooperative learning community that includes mentoring undergraduates. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. May be repeated. PREREQ: permission of the instructor.

**BIOL 5581-5582 Independent Problems 1-4 credits.** Individual problems will be assigned to students on the basis of interest and previous preparation. May be repeated. PREREQ: A MINIMUM OF TWO COURSES IN BIOLOGICAL SCIENCES AND PERMISSION OF INSTRUCTOR.

**BIOL 5586 Human Systemic Physiology 5 credits.** One semester human physiology course emphasizing the function and regulation of the muscular, skeletal, circulatory, respiratory, urinary, reproductive, and immune systems. PREREQ: CHEM 1111, CHEM L1111, CHEM 1112, CHEM L1112; BIOL 3301 AND BIOL 3302 OR EQUIVALENT. COREQ: BIOL 5586L.

**BIOL 5586L Human Systemic Physiology 0 credits.** Assignments to apply principles from BIOL 5586. COREQ: BIOL 5586.

**BIOL 5588 Advanced Radiobiology 3 credits.** An advanced-level class covering aspects of molecular radiobiology, teratogenesis, oncogenesis, and acute radiation illnesses. It also considers nonstochastic radiation effects and the epidemiology of radiation exposures. Cross-listed as PHYS 5588. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 5589 Field Ecology 4 credits.** An intensive field of study of at least one biogeographical region to increase students' knowledge of and skill with field sampling techniques, field-study design, data collection and analysis, and report preparation. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**BIOL 5595 Animal Behavior 4 credits.** Behavior of animals and the evolutionary mechanisms that dictate behavioral patterns. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: UPPER DIVISION STATUS OR GRADUATE STATUS.

**BIOL 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**BIOL 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**BIOL 6601 Advanced Animal Behavior 3**

**credits.** Behavior and social organization of animals with particular attention to the vertebrates. Lecture, laboratory, and field work. PREREQ: GRADUATE STANDING AND PERMISSION OF DEPARTMENT.

**BIOL 6602 Advanced Plant Physiology 3 credits.** Study of interrelationships of soil, water, and minerals in the nutrition of plants. PREREQ: BIOL 5504.

**BIOL 6603 Comparative Physiology 3 credits.** Study of the ways in which organisms meet their functional requirements. Lecture and laboratory. PREREQ: GRADUATE STANDING AND PERMISSION OF DEPARTMENT.

**BIOL 6604 Advanced Ecology of Streams and Rivers 3 credits.** Study of the ecology of streams; chemical, physical, and geological aspects in relation to biota. The production of organic matter in flowing water is emphasized, including the tracing of food chains and food webs and the construction of energy budgets. Field trips. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 6605 Biometry 4 credits.** Application of descriptive and analytical statistical methods to experimental design and biological research. PREREQ: MATH 1143 OR EQUIVALENT OR PERMISSION OF INSTRUCTOR.

**BIOL 6606 Scientific Writing 3 credits.** Review of basic principles of grammar, organization, style, and persuasive argument as applied to specific areas of scientific writing. Each student will write proposals, technical reports and review manuscripts, and reviews of proposals and manuscripts.

**BIOL 6607 Environmental Physiology 3 credits.** Study of the physiological mechanisms and interrelated behavioral patterns by which animals respond to environmental factors. PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR.

**BIOL 6608 Stable Isotopes in Environmental Science 4 credits.** Theory and use of stable isotopes in natural sciences, with an emphasis towards the fields of ecology, geology and archeology. Basic principals or stable isotope analysis and applications towards understanding cycles of C, N, S and water, food web analysis, and paleoclimate. Individual student laboratory projects developed and carried out.

**BIOL 6610 Principles of Molecular Biology 3 credits.** Introduction to subcellular biology and molecular genetics. DNA replication, cell division, the genetic code, transcription, translation, enzyme function, and control mecha-

nisms in procaryotic and eucaryotic cells. PREREQ OR COREQ: BIOL 5532.

**BIOL 6613 Biogeography 3 credits.** Discussion of patterns of distribution of species and their historical and ecological causes. Includes research project.

**BIOL 6614 Evolutionary Ecology 3 credits.** Evolutionary theory applied to ecological processes, including selection theory, ecological genetics, life-history evolution and coevolution. PREREQ: BIOL 2209, BIOL 3358, BIOL 5517.

**BIOL 6616 Advanced Community Ecology 4 credits.** Historical and contemporary concepts and methods in community ecology and its interface with other fields, including molecular biology, informatics, conservation, social sciences, and landscape and ecosystem ecology. Emphasizes quantitative models and data analysis.

**BIOL 6621 Advanced Methods in Microbiology 3 credits.** PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR.

**BIOL 6623 Soil and Ground Water Bioremediation 3 credits.** Theoretical and applied aspects of biological treatment for contaminated subsurface systems.

**BIOL 6624 Microbial Ecology 3 credits.** Ecological principles applied to microorganisms. PREREQ: GRADUATE STANDING AND A COURSE IN MICROBIOLOGY.

**BIOL 6628 Cytology and Cell Physiology 4 credits.** Advanced study of the functions and structural components of cells. Lecture and laboratory. PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR.

**BIOL 6629 Basic Concepts in Biology 3 credits.** Considerations of fundamental concepts of biology, their origin and development. PREREQ: PERMISSION OF INSTRUCTOR.

**BIOL 6631-6632 Advanced Systematic Botany 3 credits.** Classification of plants as it rests on morphological, chemical, ecological, and genetic bases. PREREQ: BIOL 5512.

**BIOL 6633 Advanced Microbial Physiology 3 credits.** Advanced topics in microbial physiology and biochemistry. PREREQ: BIOL 5532 AND PERMISSION OF INSTRUCTOR.

**BIOL 6634 Intermediary Metabolism 3 credits.** Theory, reactions, and methods pertinent to research in intermediary metabolism. PREREQ: BIOL 5532 AND PERMISSION

OF INSTRUCTOR.

**BIOL 6636 Experimental Intermediary - Metabolism 2 credits.** Must be accompanied by or preceded by BIOL 6634.

**BIOL 6648 Graduate Problems 1-9 credits per semester** (may be repeated). Thesis related research. PREREQ: GRADUATE STANDING AND PERMISSION OF INSTRUCTOR. Graded S/U.

**BIOL 6650 Thesis 1-6 credits.** Graded S/U.

**BIOL 6651 Advanced Studies in Ecology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with ecological relationships. May be repeated.

**BIOL 6652 Advanced Studies in Physiology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in physiology. May be repeated.

**BIOL 6653 Advanced Studies in Vertebrate Zoology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in vertebrate zoology.

**BIOL 6654 Advanced Studies in Invertebrate Zoology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in invertebrate zoology. May be repeated.

**BIOL 6655 Advanced Studies in Vertebrate Paleontology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in vertebrate paleontology. May be repeated.

**BIOL 6656 Advanced Studies in Systematic Biology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in systematic biology. May be repeated.

**BIOL 6657 Advanced Studies in Plant Biology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in plant biology. May be repeated.

**BIOL 6658 Advanced Studies in Limnology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in limnology. May be repeated.

**BIOL 6659 Advanced Studies in Genetics 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in genetics. May be repeated.

**BIOL 6660 Selected Topics in Biochemistry 3 credits.** Detailed study of selected areas of biochemistry. Course content will vary with

current demand. PREREQ: BIOL 5532 OR PERMISSION OF INSTRUCTOR.

**BIOL 6661 Advanced Studies in Environmental Physiology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in environmental physiology. May be repeated.

**BIOL 6662 Advanced Studies in Developmental Biology 2-6 credits.** Flexible use of seminars, lectures, and laboratory work dealing with problems in developmental biology. May be repeated.

**BIOL 6675 Advanced Bacterial Virology 3 credits.** Detailed study of selected areas of bacterial virology. Course content will vary with current demand. PREREQ: BIOL 5575 AND PERMISSION OF INSTRUCTOR.

**BIOL 6676 Advanced Animal Virology 3 credits.** Detailed study of selected areas of animal virology. Course content will vary with current demand. PREREQ: BIOL 5575 AND PERMISSION OF INSTRUCTOR.

**BIOL 6679 Electron Microscopy 5 credits.** - Introduction to uses of the electron microscope in biological research. Designed to develop proficiency in use and operation of the electron microscope, specimen preparation for electron microscopy, and photographic skills as applied to electron microscopy. In addition, students will develop a special project for individual study. Enrollment limited to students who have a demonstrated need to learn electron microscopy techniques. PREREQ: BIOL 5579, GRADUATE STANDING, AND PERMISSION OF INSTRUCTOR.

**BIOL 6687 Environmental Science and Pollutants 3 credits.** Structure and function of ecosystems, sources and characteristics of hazardous materials, mechanisms and pathways of pollutant transport and degradation, mechanisms of pollutant impact on ecosystems and human health. PREREQ: BIOL 5521, AN UNDERGRADUATE ECOLOGY COURSE, OR EQUIVALENT.

**BIOL 6691 Seminar 1 credit.** Review of current research and literature. May be repeated until a maximum of 4 credits is earned. Graded S/U.

**BIOL 6692 Seminar 1 credit.** Review of current research and literature. May be repeated until a maximum of 4 credits is earned. Graded S/U.

**BIOL 6693 Seminar in College Teaching 2 credit.** Review of current research and literature. Rotation of topics will include professional development, theory and practice of

science education, and current issues in biology instruction. May be repeated for up to 6 credits. Graded S/U.

**BIOL 6694 Advanced Study in College Teaching 2-6 credits.** Rotating topics on practical approaches to teaching college-level biology and conducting research in science education. May be repeated for up to 6 credits.

**BIOL 6695 Seminar in Microbiology 1-3 credits.** Review of current research and literature in Microbiology. May be repeated until 6 credits are earned. Graded S/U.

**BIOL 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**BIOL 7700 Supervised Teaching Internship variable to 9 credits** per semester. May be repeated. Graded S/U.

**BIOL 8850 Doctor's Dissertation variable credit.** May be repeated. Graded S/U.

## Department of Chemistry

Chair and Professor: DeJesus

Professors: Castle, Holman, Kalivas, Pak, Rodriguez, J. Rosentreter

Associate Professors: Davis, Evilia, Goss, Holland

Assistant Professors: Bennett

Instructor: Halpenny-Weathersby, Jolley

Senior Lecturers: Omar, R. Rosentreter

Assistant Lecturers: Quarder

## Master of Science in Chemistry

The M.S. program includes both thesis and non-thesis options.

### Thesis Option

The M.S. program, thesis option, requires a substantial, original research project that culminates in a thesis, a minimum of 30 credits (including thesis credit) earned in graduate courses and seminars.

### Non-Thesis Option

A non-thesis option exists in which students are required to take 15 credits of approved 6600-level chemistry courses, including CHEM 6601 (Seminar, 2 credits), and 15 credits of graduate electives.

## Goals

1. Graduates will attain a broad knowledge in the four major areas of Chemistry.
2. Graduates will conduct novel research in Chemistry.
3. Graduates will be prepared to continue their education in pursuit of a Ph.D.

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School (as listed on pages 7-9) in addition to department requirements.

In addition, applicants must have at least a 3.0 GPA for all upper-division credits taken in the previous degree program (a B.S. or a B.A. in Chemistry). Graduate Record Examination (GRE) scores must be reported, and the scores of two of the three sections must be in the 35th percentile or higher.

Several courses are prerequisite for the M.S. degree programs; any student who has not met these requirements through previous course work must take them as part of his/her M.S. program. These are: one semester of calculus, one year of physics, one semester of inorganic chemistry, one year of organic chemistry, one semester of analytical chemistry, and one year of physical chemistry. Because these are undergraduate course prerequisites, any credit earned in taking these courses does not count toward the 30 credit requirement for the M.S.

## General Requirements

The Master of Science in Chemistry (Thesis Option) requires a minimum of 30 total credits approved by the Department of Chemistry and the Graduate School. Required courses include three of the following:

CHEM 6609 Advanced Inorganic Chemistry	3 cr
CHEM 6630 Advanced Analytical Chemistry	3 cr
CHEM 6655 Advanced Physical Chemistry	3 cr
CHEM 6671 Advanced Organic Chemistry	3 cr
AND	
CHEM 6601 Seminar	2 cr(min)
CHEM 6650 Thesis	6-10 cr

## Combined BS/MS Program in Chemistry

1. Students will obtain a broad knowledge in the four major areas of Chemistry.
2. Graduates will conduct research in a narrow part of one of the above.
3. Graduates will be prepared to continue their education in pursuit of a Ph.D.

Students may be admitted to the program after having completed 64 credit hours. Application for admission must be made to the Chemistry Department. In addition, the student should

have completed the following courses or the equivalent:

CHEM 1111-1112 General Chemistry I & II	9 cr
CHEM 2211 Inorganic Chemistry I	2 cr
CHEM 2232 Quantitative Analysis	2 cr
CHEM 2234 Quantitative Analysis Laboratory	2 cr
CHEM 3301-3302 Organic Chemistry I & II	6 cr
CHEM 3303-3304 Organic Chemistry Laboratory I & II	2 cr
MATH 1170 Calculus I	4 cr
MATH 1175 Calculus II	4 cr
PHYS 2211-2212 Engineering Physics	8 cr
PHYS 2213-2214 Engineering Physics Laboratory	2 cr

### General Requirements (See the suggested schedule)

During the first semester each student is expected to select three faculty members to serve as his/her advisory committee subject to the approval of the Department Chair. In the second semester, each student will form his/her planned program of study with the research advisor, write a research overview of the project, apply and be admitted to the Graduate School. The student is expected to begin his/her research no later than the beginning of the first summer session. Thereafter, individual sections of the research paper will be required as students progress through the program.

The student must apply to, and meet all criteria for, admission to the Graduate School prior to their fourth year. Continuation in the program requires that the student maintain a minimum GPA of 3.0 from date of admission and annual approval of his/her committee. It will be recommended that students who are not making adequate progress discontinue the program.

The student must complete a total of 150 credit hours. This corresponds to 120 credit hours for the BS degree and 30 credit hours for the MS degree. The final course selection must be approved by the student's advisory committee. Students are required to have completed all general education requirements by the end of their second year in the combined BS/MS program. It is the intent that all students will finish within the period of 3 years after admission to the program. Successful completion of the program requires that the student write and defend a research paper embodying his/her research before his/her research committee.

### Suggested Schedule

The following schedule will show how a typical student might progress through the BS/MS program. Even though courses are listed as suggested, each student is required to meet all course requirements for the BS degree in chemistry (except independent problems CHEM 4481 and CHEM 4482). Each student is also required to complete all four advanced chemistry courses (CHEM 6609, CHEM 6630, CHEM 6655, and CHEM 6671). These courses are taken during the second and third years

of the program.

#### Third Year (Junior)

##### Fall/Spring

*CHEM 3331 Instrumental Analysis	2 cr
*CHEM 3334 Instrumental Analysis Laboratory	2 cr
*CHEM 3351 Physical Chemistry	3 cr
*CHEM 3352 Physical Chemistry	3 cr
*CHEM 3365	2 cr
*CHEM 3366	2 cr
MATH 2230 Linear Algebra	2 cr
MATH 3360 Differential Equations	3 cr
Electives	11 cr
TOTAL	30 cr

\*Must be completed by the end of the junior year.

##### Summer

CHEM 4485 Senior Research	6 cr
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#### Fourth Year (Senior)

##### Fall/Spring

BIOL 5532 Biochemistry	3 cr
CHEM 5507 Inorganic Chemistry II	2 cr
CHEM 5508 Preparative Inorganic Chemistry	1 cr
CHEM 5553 Modern Experimental Physical Chemistry	2 cr
CHEM 4485 Senior Research	2 cr
CHEM 5591 Seminar	1 cr
CHEM 6609 Advanced Inorganic Chemistry	3 cr
CHEM 6655 Advanced Physical Chemistry	3 cr
Electives	8 cr
TOTAL	25 cr

##### Summer

CHEM 6635 Master's Research	6 cr
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#### Fifth Year

##### Fall/Spring

CHEM 6630 Advanced Analytical Chemistry	3 cr
CHEM 6671 Advanced Organic Chemistry	3 cr
CHEM 6601 Seminar	2 cr
CHEM 6635 Master's Research	4 cr
Electives	13 cr
TOTAL	25 cr

## Master of Natural Science in Chemistry

The student must apply to, and meet all criteria for, admission to the Graduate School.

The Master of Natural Science (MNS) in Chemistry is designed primarily for teachers and prospective teachers who want to improve their understanding of the subject matter of chemistry. Emphasis is upon the subject matter and it is generally a non-thesis program. Individuals interested in this degree should hold a teaching certificate or be working towards one. The program of study will be determined in consultation with the student's advisor and committee. The program requires a minimum of at least 30 credits, 22 of which must be taken in residence. A final oral examination is required.

## Doctor of Philosophy in Engineering and Applied Science

A Ph.D. program in Engineering and Applied Science, administered through the School of Engineering, is available to Chemistry students. The complete program description is provided under the School of Engineering section of the Graduate Catalog.

### Chemistry Graduate Courses

**CHEM 5500 Practicum in Physical Science 2 credits.** Practical problems associated with - equipping, setting up, and operating laboratories in chemistry. PREREQ: PERMISSION OF INSTRUCTOR.

**CHEM 5507 Inorganic Chemistry II 2 credits.** Structure and reactivity of inorganic compounds including coordination compounds; acid-base chemistry and nonaqueous solvent systems; organometallic chemistry and other special topics of current interest. PREREQ: CHEM 2211, CHEM 3352, OR PERMISSION OF INSTRUCTOR.

**CHEM 5533 Environmental Chemistry 2 credits.** This course applies chemical principles and calculation to investigate environmental issues. Natural systems, environmental degradation and protection, and the methodology of chemical detection and monitoring. PREREQ: CHEM 2232 AND CHEM 2234, OR PERMISSION OF INSTRUCTOR.

**CHEM 5537 Environmental Chemistry Laboratory 1 credit.** This laboratory course utilizes both structured and self-designed field and classroom experiments to emphasize principles of environmental chemistry. COREQ: CHEM 5533, OR PERMISSION OF INSTRUCTOR.

**CHEM 5538 Experimental Biochemistry 1 credit.** Laboratory course including both qualitative and quantitative experiments. Cross-listed as BIOL 5538. PREREQ or COREQ: BIOL 5532 or BIOL/CHEM 5545

**CHEM 5545 Biochemistry I 3 credits.** Introduction to basic aspects of biochemical systems, including fundamental chemical and physical properties of biomolecules. Enzymology including allosterism, metabolic regulation, bioenergetics, and carbohydrate metabolism. Cross-listed as BIOL 5545. PREREQ: Introduction to Biology and Organic Chemistry OR PERMISSION OF INSTRUCTOR.

**CHEM 5547 Biochemistry II 3 credits.** Functional continuation of 5545. Lipid, amino

acid and nucleotide metabolism. Emphasis is on metabolic regulation, metabolic dysfunction, biochemical mechanism of hormone action, biochemical genetics, protein synthesis, and metabolic consequences of genetic defects. Cross-listed as BIOL 5547. PREREQ: BIOL/CHEM 5545

**CHEM 5548 Advanced Experimental Biochemistry 2 credits.** Advanced laboratory projects designed to emphasize techniques of qualitative and quantitative biochemical analysis. Cross-listed as BIOL 5548. PREREQ: BIOL 5537/CHEM 5538. COREQ: BIOL/CHEM 5547

**CHEM 5553 Modern Experimental Physical Chemistry 2 credits.** Magnetic, optical, and electrical properties of materials, calorimetry, voltammetry, optical and laser spectroscopic techniques. PREREQ: CHEM 3334 AND CHEM 3352.

**CHEM 5581-5582 Independent Problems in Chemistry 1-4 credits each.** Directed library and laboratory research. Courses may be repeated to a maximum of 6 credits. PREREQ: CHEM 3352.

**CHEM 5591 Seminar 1 credit.** A formal introduction to the chemical literature including electronic methods of literature searching. A detailed treatment of methods for presenting scientific seminars including a full-length student presentation on selected library or laboratory research. COREQ: CHEM 5581, 5582, 4485, OR PERMISSION OF INSTRUCTOR.

**CHEM 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**CHEM 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CHEM 6601 Seminar 1 credit.** Oral reports of current literature and research in chemistry. This course may be taken multiple times as determined by degree requirements. Graded S/U.

**CHEM 6609 Advanced Inorganic Chemistry 3 credits.** Synthesis, reactions, spectroscopic characterization methods, and application of transition metal complexes. Foci will vary and may include metal carbon bond trans-

formations, bioinorganic chemistry, or materials chemistry. PREREQ: Chem 5507 OR PERMISSION OF INSTRUCTOR.

**CHEM 6610 Special Topics in Chemistry 1-3 credits.** Detailed consideration of a limited phase of chemistry; course content will vary with current demand and with the instructor; may be repeated with departmental approval for non-repetitive course content.

**CHEM 6615 Neutron Activation Analysis 4 credits.** Theory and use of neutron activation methods for quantitative chemical analysis of natural and synthetic materials. Applications in geologic systems will be emphasized. Cross-listed as GEOL 6615, PHYS 6615. PREREQ: PERMISSION OF INSTRUCTOR.

**CHEM 6617 Environmental Geochemistry 3 credits.** Geochemistry of environmental systems. Emphasis given to low-temperature water-rock interactions, including sorption processes, retardation, reaction kinetics and reaction-mass transport modeling. Cross-listed as GEOL 6617. PREREQ: GEOL 5520, OR CHEM 3351 AND GEOL 1109.

**CHEM 6621 Organic Reactions 3 credits.** Advanced study of organic chemical reactions with emphasis on synthetic applications. PREREQ: CHEM 3302.

**CHEM 6625 Quantitative Geochemistry Lab 3 credits.** Applications of instrumental methods for geochemical analysis. Cross-listed as GEOL 6625.

**CHEM 6630 Advanced Analytical Chemistry 3 credits.** Advanced treatment of standards, sampling, special methods of analysis, and methods of separation. PREREQ: CHEM 3302, CHEM 3304, CHEM 3334 AND CHEM 3352, OR PERMISSION OF INSTRUCTOR.

**CHEM 6635 Master's Research 2-6 credits.** A continuation of CHEM 4435 to improve ability of students to solve chemical problems independently and pursue research at an advanced level. May be repeated for up to 12 credits. PREREQ: CHEM 4485.

**CHEM 6640 Research Techniques in Chemistry 2-6 credits.** Designed to improve the ability of students to solve chemical problems independently in the laboratory; special emphasis on development of manipulative skills, instrumental methods and supporting library research; nature of the projects dictated by students' needs; may be repeated with departmental approval for non-repetitive course content. Limit 12 credits.

**CHEM 6650 Thesis 1-10 credits.** Graded S/U.

**CHEM 6655 Advanced Physical Chemistry 3 credits.** Introductory material from quantum chemistry and statistical mechanics with applications in chemical thermodynamics. PREREQ: CHEM 3352, OR PERMISSION OF INSTRUCTOR.

**CHEM 6671 Advanced Organic Chemistry 3 credits.** Kinetics and mechanisms in organic reactions. PREREQ: CHEM 3302 AND CHEM 3352, OR PERMISSION OF INSTRUCTOR.

**CHEM 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CHEM 8850 Doctoral Dissertation (Ph.D. in Engineering and Applied Science) 1-12 credits.** Research toward and completion of the dissertation. May be repeated. Graded S/U.

## School of Engineering

Director and Professor of Electrical Engineering: D. Subbaram Naidu  
 Professor and Chair, Department of Civil and Environmental Engineering: Ebrahimpour  
 Professor and Chair, Department of Electrical Engineering: Mousavinezhad  
 Professor and Chair, Department of Mechanical Engineering: Schoen  
 Professor and Chair, Department of Nuclear Engineering & Health Physics: Brey  
 Professors: Gesell, Imel, Kunze, Leung, Lineberry, Sato, Stuffle  
 Associate Professors: Burgett, Chiu, Dunzik-Gougar, Ellis, Harris, Kantabutra, Perez, Wabrek, Williams  
 Assistant Professors: Savage, Sebastian, Sorensen, Zydek  
 Senior Lecturer: Mahar  
 Associate Lecturer: Hofle  
 Assistant Lecturer: Gansauge, Hart  
 Adjunct Faculty: Hunter, McJunkin, Pan, Pope, Renlund, Schultz, Walters, Gale  
 Affiliate Faculty: Ames, Lin, Maidana, Rieger, Suri

## Doctoral Programs

The graduate program in the School of Engineering offers the student a choice of two doctoral degrees. These interdisciplinary doctoral programs are administered by the School of Engineering and are available to students from engineering, computer science and the physical sciences.

## Doctor of Philosophy in Engineering and Applied Science

The program allows for a broad range of research topics in Engineering and Computer Science (Civil Engineering, Computer Science, Electrical Engineering, Environmental Engineering, Environmental Science and Management, Measurement and Control Engineering, Mechanical Engineering, and Nuclear Engineering including Health Physics), Chemistry (Biochemistry, Atmospheric, Environmental, Materials, Inorganic, Organic, Organometallic, and Physical Chemistry), Geosciences (Geology, Geophysics, Geochemistry, Environmental Geosciences), Mathematics (Applied Mathematics and Computational Mathematics), and Physics (Radiation Science, Accelerator Applications, and Applied Nuclear Physics).

## Doctor of Philosophy in Nuclear Science and Engineering

This program combines the atomic nuclear aspects of Engineering and Science. Research areas range from the more traditional nuclear engineering disciplines (reactor physics, thermal hydraulics, and reactor design) to cross-discipline topics in the fields of radiation detection and measurement, nuclear fuels, and materials development, nuclear fuel cycle systems studies and radioactive waste management.

For both doctoral programs:

### Goals

- Prepare graduates to conduct and disseminate independent scholarly research.
- Prepare graduates for careers in academia or industry.

### Objectives:

- Increase the knowledge of graduates in their specialized field: Chemistry, Engineering (all disciplines), Geosciences, Mathematics, and Physics.
- Enhance the ability of graduates to contribute to their chosen field.
- Enhance effective written and oral communication skills of graduates.

### Admission Requirements

All applicants must meet Idaho State University Graduate School admission requirements

for doctoral programs. Additionally, applicants must have attained a master's degree in engineering, physics, chemistry, geosciences, mathematics, or a closely related field. Applicants must submit a one-page (only) statement of research interests, a one-page (only) statement of career interests, a resume, and at least 3 letters of reference along with their applications. In some special cases, a student with exceptional undergraduate academic record and aptitude for research but without an M.S. degree may be directly admitted to the Ph.D. program with the approval of the Ph.D. program committee.

### General Requirements

The Ph.D. degree requires completion of at least 84 credits consisting of 30 credits for the M.S. degree, 18 credits of additional course work (at least 50% of the credits should be at 6000 level), 4 credits of graduate seminar and 32 credits of dissertation research. Six credits of core courses are required for each emphasis area. At least 9 of the 18 credits of course work must be in collateral areas as designated by the student's advisor. Additional dissertation research credits may be required by the student's dissertation committee.

### Program of Study

An advisory committee consisting of Idaho State University graduate faculty (a minimum of 2 from the student's parent department and 1 from other relevant department) will be formed for each student upon entry into the program. The committee will guide the student in establishing his or her program of course work and laboratory study based upon the student's background and research interest. The advisory committee has the responsibility of ensuring that the student has adequate knowledge to support research in his or her chosen area of interest.

At the end of the first year, the student will take an 8-hour written, comprehensive qualifying examination covering the relevant information within the scope of the research area. A student taking the comprehensive qualifying exam needs to be prepared to take an oral examination conducted by the student's Advisory Committee. The oral exam needs to focus primarily on material in the written exam that was not adequately answered. However, the Advisory Committee, at its discretion, may excuse a student from taking the oral examination if the student excels in the written examination. The student will be allowed two attempts to pass the comprehensive examination, and the second attempt must be within one-half year after the first attempt. The student will be admitted to candidacy upon passing the comprehensive qualifying examination.

A dissertation committee is formed with a minimum of 5 members consisting of a major professor, 2 members from the student's parent department, a member from other relevant department, and GFR. The major professor chairs the dissertation committee. Within six months of passing the comprehensive qualifying examination, the candidate, with guidance from the major professor, will satisfactorily complete an oral presentation and defense of a proposal for dissertation research to the Dissertation Committee. The research and dissertation preparation must be conducted under the close supervision of the committee and must include at least one full year of work performed under Idaho State University graduate faculty. The candidate can submit the final dissertation anytime after six months from the date of acceptance of the research proposal.

Dissertation approval requires a public presentation of the dissertation and a satisfactory oral defense to the Dissertation Committee. Doctoral oral examinations are open to all regular members of the faculty as observers. Further, oral presentations are open to the public until questioning by the Dissertation Committee begins.

## Masters Programs in Engineering

The graduate program in the School of Engineering offers the student a choice of the following majors for specialization at the master's level together with a breadth of courses to fit individual educational goals. The majors are:

1. Civil Engineering
2. Environmental Engineering
3. Environmental Science and Management
4. Measurement and Control Engineering
5. Mechanical Engineering
6. Nuclear Science and Engineering

### Goals

- Prepare graduates to have an advanced understanding and the ability to apply problem-solving skills in their chosen field of study.
- Prepare graduates to undertake doctoral study and/or to take challenging careers in teaching, research, and industry, for continued personal growth and contribution to the global competitiveness of the United States.

### Admission Requirements

The student must meet all criteria for admission and then apply to the Graduate School.

## General Requirements

With the assistance of the graduate faculty of the School of Engineering, the student shall select an initial advisor during the first semester of residence to help in planning a program of studies and research. The student must also complete a Plan of Study and form a complete advisory committee by the time six credits of course work have been completed.

Depending on the major and thesis or non-thesis option, 30 to 33 credit hours are required to complete M.S. degree (at least 50% of the credits should be at 6000 level). Approximately half of the credits are engineering and technical electives, subject to the approval of the student's advisory committee. Thesis or Special Project, required in each major, should consist of study and research that complements the course work selected. Depending on the major, each student may also be required to complete two semesters of seminar, an important component in developing research and communication skills.

## Master of Science in Civil Engineering

The M.S. program in Civil Engineering is designed to provide advanced study, both theoretically and experimentally, in structures, mechanics, finite element methods, water resources, and geotechnics. This program prepares the student for advanced placement in the civil engineering field in industry, research, or development areas. Additionally, this program provides a suitable base for entrance into a Ph.D. program in a field related to Civil Engineering. The program is offered both at the Pocatello and the Idaho Falls campuses, primarily through the use of telecommunications/distance learning, which includes partial in-class instruction.

### Goals

- Enhance the knowledge of graduates in the advanced concepts in Civil Engineering fields such as structures, mechanics, finite element methods, geotechnics, and water resources.
- Increase the ability of graduates to synthesize and apply these advanced concepts to develop realistic designs in fields related to civil engineering and to solve identified problems, and design strategies for implementing them safely, ethically, and effectively.
- Enhance the ability of graduates to communicate these concepts effectively both

in oral and written formats.

### Thesis, Non-Thesis options

- Thesis option (30 credits): 15 credits from the approved list of courses, 9 credits of electives from the approved list of electives, and 6 credits of thesis.
- Non-thesis option (33 credits): 21 credits from the approved list of courses, 9 credits of electives from the approved list of electives, and 3 credits of Special Project in the related field and a written report. After completion of the course work and special project, students are required to take an oral exam on their special project, and other courses from the student's approved M.S. program.

Note: For lists of approved courses and elective courses, student should see an advisor. The approved and elective courses may be changed with the approval of the advisor.

## Master of Science in Environmental Engineering

This program is designed to provide the student with advanced technical training in environmental engineering, with an emphasis on hazardous waste treatment and control. The program fills a need in industry and government for professionals with a broad understanding of the technical aspects of environmental issues. Students enrolled in the program are generally expected to have a sufficient background in mathematics and chemistry (a minimum of one year of general chemistry). Students with an insufficient background in engineering and math are required to make up the deficiencies according to the advice of their advisory committee (usually includes ME 3307, CE 3332, ME 3341).

### Goals

- Enhance the knowledge of graduates in the advanced concepts of environmental control and remediation, involving a significant fraction of the following: chemistry, water & waste water quality, air quality, radioactive material handling and disposal, environmental laws and regulations, global environmental issues, and cost benefit analyses.
- Increase the ability of graduates to synthesize and apply these advanced concepts to develop realistic environmental engineering designs and to solve identified problems, designing strategies for

implementing them safely, ethically, and effectively.

- Enhance the ability of graduates to communicate these concepts effectively both in oral and written formats.

### Thesis, Non-Thesis options

- Thesis option (30 credits): 15 credits from the approved list of courses, 9 credits of electives from the approved list of electives, and 6 credits of thesis.
- Non-thesis option (33 credits): 21 credits from the approved list of courses, 9 credits of electives from the approved list of electives, and 3 credits of Special Project in the related field and a written report. After completion of the course work and special project, students are required to take an oral exam on their special project, and other courses from the student's approved M.S. program.

Note: For lists of approved courses and elective courses, student should see an advisor. The approved and elective courses may be changed with the approval of the advisor.

## Master of Science in Environmental Science and Management

The Environmental Science and Management (ENSM) Program is an interdisciplinary program designed to allow students to combine courses in environmental engineering with related courses in an interdisciplinary area of emphasis. Interdisciplinary course work may come from a combination of courses from the following emphasis areas: Geosciences, Biological Sciences, Chemistry, Mathematics, Physics, Pharmaceutical Sciences, Political Science, and Business. Students may also choose Environmental Engineering as the academic emphasis; thus maintaining the entire program of study within the Department of Civil and Environmental Engineering. The ENSM program is jointly sponsored by the University of Idaho, and some of the courses are cross-listed. Students must complete at least ten credits in an interdisciplinary discipline (academic emphasis), and satisfy all departmental and Graduate School requirements.

Students entering the ENSM program are required to obtain interdisciplinary admission into the Department of Civil and Environmental Engineering and one other academic discipline (emphasis). Admission requirements



vary between academic units, and there may be departmental requirements beyond those of the Department of Civil and Environmental Engineering which the student must fulfill to gain departmental admission. At least 30 credits are required for the degree, of which at least 15 must be at the 6600 level. At least 10 credits must be completed within the academic emphasis, with the remainder of the course work representing ENSM course work. No more than 9 credits may be transferred from another university, with the exception of courses from the University of Idaho, which will be accepted as resident credits. Students must have successfully completed course work equivalent to Idaho State University's MATH 1160 (Brief Calculus) and Idaho State University's CHEM 1111/1112 (General Chemistry) with grades of "C" or better. Students with pre-requisite course deficiencies may be admitted as Classified with Performance Requirements with the understanding that these requirements must be satisfied prior to graduation, and such efforts may not necessarily count toward graduation. Classified with Performance Requirements (w/PR) admission into the ENSM program is the prerogative of individual departments.

Thesis and non-thesis options are available for the ENSM degree. For the thesis option, a maximum of ten thesis credits may be counted toward the degree. For the non-thesis option, a maximum of three "Special Project" credits may be counted toward the degree. These credits may apply toward the requirement of 15 credits at the 6600 level. There are program-wide and department-specific requirements for the thesis and non-thesis options, and students must create a program of study in conjunction with their advisory committee. Students will register for thesis credits or non-thesis project credits in the home department of the thesis/project advisor. Some departments' "Special Project" courses may have a different title and/or course number.

Within the framework of the basic degree requirements, an advisory committee is chosen to work with the student to create an individualized program of study. The advisory committee consists of two faculty advisors: one from the Department of Civil and Environmental Engineering (CEE), and one from the student's other academic discipline (emphasis). The student's major advisor provides direction to the student regarding all relevant aspects of the program. All courses selected for fulfillment of the program of study must be approved by the advisory committee. The initial program of study must be submitted to the ENSM program director no later than the second semester of enrollment. Changes in the initial program of study may only be made with the approval of the student's advisory

committee. The final program of study is submitted to the Graduate School for graduation clearance in accordance with Graduate School policy.

## Required Courses

The following courses are required for every student receiving the M.S. degree in Environmental Science and Management.

ENVE 5510 Introduction to Environmental Engineering	3cr
ENGR 6655* Environmental Topics Seminar and	1cr
ENGR 650** Thesis or	1-6cr
ENGR 6660** Special Project	3cr

\*Course must be completed two times in order to satisfy requirement. A student may choose a seminar other than ENGR 6655 offered in his/her interdisciplinary discipline with approval of the advisory committee.

\*\* Students will register for thesis or non-thesis "Special Project" credits in the home department of the thesis/non-thesis project advisor. Some departments' "Special Project" courses may have a different title and/or course number.

In addition, the following courses are required for students choosing chemistry, environmental engineering or mathematics as the second academic emphasis. Course work in other emphasis areas will be selected from elective course work with the approval of the advisory committee.

### Chemistry Emphasis

CHEM 5535 Environmental Chemistry	2cr
CHEM 5537 Environmental Chemistry Laboratory	2cr

### Environmental Engineering Emphasis

ENVE 5508 Water and Wastewater Quality	3cr
ENVE 5509 Water and Wastewater Laboratory	1cr
ENVE 5504 Environmental Risk Assessment	3cr

### Mathematics Emphasis

MATH 5521 Advanced Engineering Mathematics I	3cr
MATH 5522 Advanced Engineering Mathematics II	3cr
and	
MATH 5565 Partial Differential Equations or	3cr
MATH 6664 and MATH 6665 Applied Mathematics	6cr

### Elective Courses

Students will select a core of courses from the following list. (Students may select one or more courses not on this list, with the approval of the advisory committee, for the purpose of focusing students in a particular direction not covered by this abbreviated list.)

### Chemistry Electives

CHEM 5507 Inorganic Chemistry II	2cr
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CHEM 6601 Seminar	1cr
CHEM 6609 Advanced Inorganic Chemistry	3cr
CHEM 6630 Advanced Analytical Chemistry	3cr
CHEM 6621 Organic Reactions	3cr
CHEM 6655 Advanced Physical Chemistry	3cr
CHEM 6671 Advanced Organic Chemistry	3cr

### Environmental Engineering Electives

ENVE 5508 Water and Wastewater Quality	3cr
ENVE 5509 Water and Wastewater Quality Laboratory	1cr
ENVE 5530 Air Pollution and Solid Waste	3cr
ENVE 6610 Introduction to Radioactive Waste Management	3cr
ENVE 6611 Treatment Systems for Environmental Remediation	3cr
ENVE 6615 Water Quality Modeling and Control	3cr
ENVE 6617 Environmental Systems Engineering and Design	3cr
ENVE 6629 Physical and Chemical Treatment of Water and Wastewater	3cr
ENVE 6630 Air Pollution and Control	3cr
ENVG 6606 Environmental Law and Regulation	3cr
CE 5599 Open Channel Flow	3cr
CE 5535 Hydraulics Design	3cr
CE 5554 Basic Engineering Geol	3cr
CE 5555 Geologic Data Methods	3cr
NSEN 6618 Treatment of Low Level Radioactive Waste	3cr
NSEN 6619 Treatment of High Level Radioactive Waste	3cr

### Geosciences Electives

GEOL 5504 Advanced Geographic Information Systems	3cr
GEOL 5506 Environmental Geology	3cr
GEOL 5509 Remote Sensing	3cr
GEOL 5515 Quaternary Global Change	3cr
GEOL 5516 Global Environmental Change	3cr
GEOL 5520 Principles of Geochemistry	3cr
GEOL 5530 Principles of Hydrogeology	3cr
GEOL 5554 Basic Engineering Geology	3cr
GEOL 5583 Earthquake Engineering	3cr
GEOL 6602 Advanced Geomorphology	3cr
GEOL 6606 Geostatistical Spatial Data Analysis and Modeling	4cr
GEOL 6617 Environmental Geochemistry	3cr
GEOL 6625 Quantitative Geochemistry Laboratory	3cr
GEOL 6630 Advanced Hydrogeology	3cr

## Master of Science in Measurement and Control Engineering

The master's degree program in Measurement and Control Engineering is designed to provide advanced study (analytically, computationally, and experimentally) in measurements, modeling, simulation, adaptive, intelligent, nonlinear, optimal, robotics, and robust control. This program prepares the student for advanced placement in the measurement and control engineering field in industry, research, or development areas. Additionally, this program provides a suitable base for entrance into a Ph.D. program in a field related to Electrical or Mechanical Engineering. The program is offered both at the Pocatello and the Idaho Falls campuses, primarily through the use of telecommunications/distance learning, which includes partial in-class instruction.

## Goals

- Enhance the knowledge of graduates in advanced concepts of measurement, control, signal processing, engineering mathematics, computation and other related areas.
- Increase the ability of graduates to synthesize and apply these advanced concepts to develop realistic measurement and control engineering designs and to solve identified problems, designing strategies for implementing them safely, ethically, and effectively.
- Enhance the ability of graduates to communicate these concepts effectively both in oral and written formats.

## Required Courses (30 credits)

The following courses are required of every student receiving the M.S. Degree in Measurement and Control Engineering covered by the abbreviated list.

ENGR 5521 Advanced Engineering Mathematics I	3 cr
MCE 6642 Advanced Control Systems	3 cr
MCE 6643 Advanced Measurement Methods	3 cr
Approved Engineering Electives	6 cr
Approved Technical Electives	9 cr
ENGR 6650 Thesis	6 cr
Or	
One additional elective courses	3 cr
And	
ME 6660 Special Project*	3 cr

\*Students desiring to do the non-thesis option must have a minimum of two years industry experience. In place of the 6-credit thesis, the non-thesis option consists of a 3-credit Special Project in addition to a 3-credit course. At the completion of the Special Project, the student will be required to present an oral presentation/defense of the Project.

## Master of Science in Mechanical Engineering

The master's degree program in Mechanical Engineering is designed to provide advanced study, (analytically, computationally, and experimentally) in thermodynamics, fluids, heat transfer, energy systems, vibrations, engineering mechanics, and their associated measurement systems. This program prepares the student for advanced placement in the mechanical engineering field in industry, research, or development areas. Additionally, this program provides a suitable base for entrance into a Ph.D. program in a field related to Mechanical Engineering. The program is offered both at the Pocatello and Idaho Falls campuses, primarily through the use of telecommunications/distance learning, which includes partial in-class instruction.

## Goals

- Enhance the knowledge of graduates in advanced concepts of thermodynamics, fluids, heat transfer, energy systems, vibrations, engineering mechanics, measurements, and engineering mathematics.
- Increase the ability of graduates to synthesize and apply these advanced concepts to develop realistic mechanical engineering designs implementing them safely, ethically, and effectively.
- Enhance the ability of graduates to communicate these concepts effectively both in oral and written forms.

## Required Courses (30 credits)

3 credits (1 course) from the following list:

ME 6607 Advanced Thermodynamics	3 cr
ME 6635 Transport Phenomena	3 cr
ME 6676 Conduction Heat Transfer	3 cr

3 credits (1 course) from the following list:

ME 6640 Advanced Vibrations	3 cr
ME 6644 Advanced Kinematic Design	3 cr
ME/CE 6665 Finite Element Methods	3 cr

6 credits (2 courses) from the following list of Math courses:

MATH 5506 Advanced Linear Algebra	3 cr
MATH 5521 Advanced Engineering Mathematics I	3 cr
MATH 5522 Advanced Engineering Mathematics II	3 cr
MATH 5542 Introduction to Numerical Analysis	3 cr
MATH 5565 Partial Differential Equations	3 cr

12 credits (4 courses) of Approved Electives

Students are encouraged to work with their advisor to determine appropriate electives that fit within their area of focus

ME 6650 Thesis	6 cr
Or	
One additional elective courses	3 cr
And	
ME 6660 Special Project*	3 cr

\*Students desiring to do the non-thesis option must have a minimum of two years industry experience. In place of the 6-credit thesis, the non-thesis option consists of a 3-credit Special Project in addition to a 3-credit course. At the completion of the Special Project, the student will be required to present an oral presentation/defense of the Project.

## Department of Nuclear Engineering and Health Physics

## Master of Science in Nuclear Science and Engineering

The master's degree program in Nuclear Science and Engineering prepares the student for

advanced placement in the nuclear industry in commercial, research, or development areas. It provides in-depth studies and advanced design concepts in several areas of modern nuclear science and engineering. It is also an excellent program of study for entering the Ph.D. program in Nuclear Science and Engineering.

## Goals

- Enhance the knowledge of graduates in the physics and engineering of nuclear reactors, the nuclear fuel cycle, and other aspects of the study of nuclear engineering. At Idaho State University, while our emphasis is on advanced reactors and the science and technology of nuclear fuel recycling, we allow the flexibility to build programs on other aspects, which can include systems studies and simulations including policy aspects, radiation shielding and detection, medical applications of radiation, and the economics and safety of all of these applications.
- Increase the ability of graduates to synthesize and apply these advanced concepts to develop realistic nuclear engineering designs and to solve identified problems, designing strategies for implementing them safely, ethically, and effectively.
- Enhance the ability of graduates to communicate these concepts effectively both in oral and written formats.

## Required Courses

12 credits from the following list:

NE 5521 Mathematical Methods for Nuclear Engineers	3 cr
OR	
PHYS 6602 Theoretical Methods of Physics	3 cr
NE 5545 Reactor Physics	3 cr
NE 5546 Nuclear Fuel Cycle System Analysis	3 cr
NSEN 6684-6685 Nuclear Engineering Basics	6 cr
NSEN 6601 Nuclear Engineering Experiments	3 cr
NSEN 6608 Radiation Transport	3 cr
NSEN 6609 Radiation Detection	3 cr
NSEN 6618 Radioactive Waste Management	3 cr
NSEN 6619 Nuclear Waste Immobilization	3 cr

12 credits of Engineering or Physics courses approved by the major advisor

NSEN 6650 Thesis	6 cr
ENGR 6651 Seminar	2 cr
Total credits:	32 cr

## Certificate Program in Applied Nuclear Energy

This program provides BS/BA graduates who do not have recent experience or education in the nuclear energy field with historical insights, information on basic concepts, regula-

tory requirements, and economic and environmental considerations. This program is not intended to lead to M.S. and Ph.D. programs in the areas of Nuclear Science and Engineering. The Certificate is granted upon completion of fourteen (14) credit hours of class work, consisting of nine credit hours of required courses, a three-credit elective course and participation in two semesters of a one-credit graduate seminar. Up to six credits of appropriate graduate course work taken at another university may be applied toward the Certificate program subject to approval by the student's Certificate Committee. With appropriate pre-planning, some of these credits could be applied to a master's degree.

### Admission Requirements

The student must apply to, and meet all criteria for admission to the Graduate School. GRE scores are not required if an earned grade point average of at least 3.0 or higher is required for all upper division credits taken at the undergraduate level, regardless of the institution at which the credits were earned.

### Required courses (8 credits):

NSEN 6615 Introduction to Practical Nuclear Engineering	3 cr
NSEN 6617 Applications in Nuclear Energy	3 cr
ENGR 6651 Seminar	2 cr
One of the following four courses (3 credits):	
ENGR 6606 Environmental Law and Regulation	3 cr
PHYS 6610 Radiation Regulations	3 cr
NSEN 6618 Treatment of Low Level Radioactive Waste	3 cr
NSEN 6619 Treatment of High Level Radioactive Waste	3 cr
Approved NE, NSEN, ENGR, ENVE, or PHYS 55xx/66xx elective course	3 cr

## Master of Science (Health Physics Emphasis):

The Department of Nuclear Engineering and Health Physics additionally offers the M.S. option in Health Physics. Health physics, an applied science, is concerned with the protection of humans and their environment from the possible harmful effects of radiation while providing for its beneficial uses. It is a multi-disciplined profession that incorporates aspects of both the physical and biological sciences. The Master of Science (MS) program in Health Physics is accredited by the Applied Sciences Accreditation Commission of ABET, <http://www.abet.org>. The Idaho State University Health Physics programmatic educational objectives have been developed in close collaboration of faculty and the Idaho State University Health Physics Program Advisory Board.

The educational objectives of the ISU Health

Physics program are to produce Health Physicists with

- 1) broad, fundamental technical knowledge,
- 2) written and verbal communication skills
- 3) professional judgment and capability to think critically
- 4) practical experience in solving applied health-physics problems
- 5) the ability to work independently
- 6) a professional ethic

of magnitude sufficient for them to productively and successfully work in a variety of health physics settings. The graduate program has two additional educational objectives:

- 1) An ability to conduct research
- 2) Professional tools and experience above that expected for the baccalaureate program.

The ISU Health Physics Program is in a state of transition from the Department of Physics to the newly named Department of Nuclear Engineering and Health Physics. This process

Students may enter the M.S. program in Health Physics from several undergraduate majors including health physics, physics, chemistry, biology, and other science or engineering majors. Additional course work to correct deficiencies may be necessary.

### Admission Requirements

For admission, the student must apply to, and meet all criteria for, admission to the Graduate School, including a baccalaureate degree in a physical or biological science or engineering.

### General Requirements

The basic program requirements are 33 credits, of which 15 credits must be at the 6600-course level. Six of the eighteen required credits may be thesis. The normal core program is listed below. Students who are prepared with some education and experience in health physics will likely not need all of the elective health physics courses. Therefore, the student's program will be determined in consultation with the student's advisor and committee and can include electives to meet his/her needs. An oral examination in defense of the thesis is required for the thesis option.

## Thesis Option in Engineering Master's Programs

All students entering with less than two years of industrial experience as determined by the School of Engineering are required to complete six credits of thesis in their related field. Students who are planning to continue their education beyond the master level are strongly encouraged to choose this option. After the

completion of the course work and the thesis, an oral defense of the thesis will be required. No more than six credits of Thesis will be allowed on the student's final Program of Study.

ENGR 6650 Thesis

1-9 cr

## Non-Thesis Option in Engineering Master's Programs

All students entering with a minimum of two years industrial experience in the related area as determined by the School of Engineering are eligible to choose this option. In the non-thesis program students will be required to take an additional 3-credit course, to complete a 3-credit Special Project (ENGR 6660) in the related field and submit a written report. After completion of the course work and the Special Project, students are required to take a two-hour oral exam on their Special Project and other courses in the MS program. No more than three credits of special Project will be allowed on the student's final Program of Study.

ENGR 6660 Special Project

1-9 cr

## Engineering Graduate Courses

**ENGR 5516 Applied Engineering Methods 3 credits.** Applied discrete and continuous probability, random variables, probability distributions, sampling, data description, parameter estimation, hypothesis testing, inference, correlation, and linear and multiple regression. PREREQ: MATH 1170.

**ENGR 5560 Engineering Cost Estimating 3 credits.** Introduction to design/construction processes, planning, contracts, procurement, plans/specifications, productivity analyses, safety, cost estimating, scheduling and environmental considerations. Use of data from actual construction projects. PREREQ: ENGR 3360 OR PERMISSION OF INSTRUCTOR.

**ENGR 5578 Probabilistic Risk Assessment 3 credits.** Probabilistic methods applied to analysis and design. Setting probabilistic design objectives and calculating probabilistic performance emphasized. Cross-listed as NE 5578. PREREQ: ENGR 3364, MATH 3360 AND SENIOR STANDING IN ENGINEERING.

**ENGR 5591 Seminar in Engineering 1 credit.** A series of lectures on current topics in the literature by participants or guest lecturers chosen from industry. PREREQ: PERMISSION OF INSTRUCTOR.

**ENGR 5593 Human Factors in Engineering 3 credits.** Overview of the discipline of human factors engineering, including design of information displays, controls, workspace, and human performance. Relationship of engineering to corporate issues such as R&D, maintenance, training, operations, safety.

**ENGR 5501 Methods of Engineering 3 credits.** Introduction to fundamental concepts of engineering related to hazardous waste management. Not counted toward graduation. PREREQ: PHYS 111.

**ENGR 5510 Introduction to Environmental Engineering 3 credits.** Introduction to physical, chemical, and biological principles of solid and hazardous waste management, water and wastewater treatment, air pollutant control, and national environmental regulation. PREREQ: CHEM 1112 AND ENGR 3309, OR PERMISSION OF INSTRUCTOR.

**ENGR 5570 Survey of Hazardous Waste Management Problems 3 credits.** Environmental, technical, political and economic aspects of hazardous waste management. Credit not given if UI ChE 5570 or ISU ENVE 6607 taken. PREREQ: ENGR 5501 OR EQUIVALENT.

**ENGR 5572 Waste Treatment Technologies 3 credits.** Procedures for characterization of hazardous waste sites, identification and application of physical, chemical, biological and thermal treatment. PREREQ: PERMISSION OF INSTRUCTOR.

**ENGR 5589 Principles of Hazardous Waste Site Remediation 3 credits.** Restoration technologies for waste sites. Site characterization and clean-up methods for chemical, radioactive, mixed wastes in soils and water. Practical methodologies. Credit not granted if ENVE 6614 taken. PREREQ: ENGR 5570 OR ENVE 6607.

**ENGR 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ENGR 6606 Environmental Law and Regulations 3 credits.** Federal, state, local environmental regulations addressing environmental impact assessment; water and air pollution control, hazardous waste, resource recovery, reuses, toxic substances, occupational safety and health, radiation, siting, auditing, liability. Cross-listed with POLS 6606. PREREQ: PERMISSION OF INSTRUCTOR.

**ENGR 6607 Hazardous Waste Management 3 credits.** Management of hazardous and solid wastes, emphasis on CERCLA (Superfund) process for cleaning of uncontrolled hazardous waste sites and RECRA process for industrial treatment, storage, disposal facilities. PREREQ: MATH 5508.

**ENGR 6650 Thesis 1-9 credits.** Thesis research must be approved by the student's advisory committee. Six credits may be used to satisfy the research requirements for the degree. Graded S/U.

**ENGR 6651 Seminar 1 credit.** Current topics in engineering. Invited speakers will be used when possible. Students presentations required. May be taken a maximum of four times. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

**ENGR 6652 Special Problems 1-3 credits.** Special experimental, computational, or theoretical investigation leading to development of proficiency in some area of engineering. Formal report required. PREREQ: PRIOR PROJECT APPROVAL REQUIRED BY AN ENGINEERING FACULTY. May be graded S/U. May be repeated.

**ENGR 6655 Environmental Topics Seminar 1 credit.** Environmental engineering and science topics related to hazardous waste characterization, cleanup, regulations. Includes case histories and presentations by graduate students and visiting speakers. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

**ENGR 6660 Special Project 1-9 credits.** A significant project, involving engineering applications, toward the completion of M.S. program with non-thesis option. Includes a report and oral examination. Graded S/U.

**ENGR 6670 Industrial Practice 1 credit.** Work in an approved, supervised, engineering and/or computer science position. Students will submit a report, inclusive of hours logged, to the instructor with a written narrative focusing on the accomplishments and learning gained through the work performed. May be repeated. Not counted towards graduation requirements. PREREQ: Instructor approval.

**ENGR 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ENGR 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Civil Engineering Graduate Courses

**CE 5506 Green and Sustainable Engineering 3 credit.** Study of green engineering and sustainability, topics focused on design of processes to advance sustainability, manufacturing and disposal alternatives, energy and material life-cycle assessment, and environmental law and related issues. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: CHEM 1111.

**CE 5524 Open Channel Flow 3 credits.** Application of the principles of fluid mechanics to flow in open channels—natural and manmade. Topics include uniform flow, flow resistance, gradually varied flow, flow transitions, unsteady flow, and hydraulic structures (culverts, weirs, etc.) used in open channel control. Computer applications will be used in the analysis of open channel systems. PREREQ: CE 3341 or equivalent or permission of instructor. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**CE 5525 Water Resources 3 credits.** Overview of the general field of water resources engineering. Course topics covered in other courses such as CE 3351—Engineering Hydrology, CE 4435/5535—Hydraulic Design and CE 4424/5524 Open Channel Flow will be limited. The course is structured to give students a background in the diverse field of water resources and help prepare them for future careers in water supply, wastewater, floodplain, storm water and groundwater management. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**CE 5531 Advanced Mechanics of Solids 3 credits.** An introduction to elasticity, plasticity, and energy foundations, stability, plates. PREREQ: ENGR 3350 AND MATH 3360.

**CE 5534 Geotechnical Design 3 credits.** Application of soil mechanics to design of foundations, retaining wall, stable slopes, buried conduits and pavement structures. Computer methods utilized. PREREQ: ENGR 3350, AND CE 3332.

**CE 5535 Hydraulic Design 3 credits.** Hydraulic design of water control and transport structures, pipelines, and distribution systems.

Computer methods utilized. PREREQ: CE/ME 3341.

**CE 5536 Transportation Engineering 3 credits.** Fundamentals of earthwork, route location, drainage, and pavement materials with application to geometric and pavement design of highways, streets and rural roads. PREREQ: ENGR 2223; CE 3301 OR 3302. COREQ: CE 3332.

**CE 5537 Geotechnical Engineering Laboratory 1 credits.** Field and laboratory work on site investigation, soil sampling classification and testing. Evaluation of soil properties. Design of experiment. PREREQ: CE 3332.

**CE 5554 Basic Engineering Geology 3 credits.** Geology applied to civil engineering projects; rock engineering classification systems and geotechnical parameters such as joint set orientation; ground behavior and underground construction. Preparation of baseline geotechnical reports. Cross-listed as GEOL 5554. COREQ: GEOL 3314 OR CE 3332.

**CE 5555 Geologic Data Methods 3 credits.** Geotechnical investigations for civil works projects. Geologic mapping for civil engineering purposes. Development of engineering geologic profiles. Core logging. Preparation of Geotechnical Data Reports for civil works projects. Cross-listed as GEOL 5555. PREREQ: CE 5554.

**CE 5561 Project Management 3 credits.** Knowledge, techniques and tools for management of civil, electrical, mechanical and environmental engineering projects and firms. Topics include contract organization/interpretation; project responsibility/authority; cost estimating; scheduling; quality control; construction safety; environmental requirements and project closeout. Examples from actual construction projects used as teaching aid. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: CE 3360 or CE 3361.

**CE 5562 Design of Steel Structures 3 credits.** Design of steel members and connections with emphasis on the AISC specifications. PREREQ: CE 3362.

**CE 5564 Design of Concrete Structures 3 credits.** Design of reinforced concrete beams, columns, and slabs. Introduction to prestressing. PREREQ: CE 3362.

**CE 5565 Prestressed Concrete Structures 3 credits.** Basic concepts in prestressed concrete design, full versus partial prestressing, flexural design, ultimate load design, beams with constant and variable tendon eccentricity, design

of reinforcement for shear and torsion. PREREQ: CE 5564.

**CE 5566 Design of Wood Structures 3 credits.** Design of solid and laminated wood members and connections. Includes the design of wooden diaphragms for resisting lateral loads. PREREQ: CE 3362.

**CE 5567 Structural Engineering Laboratory 1 credit.** Measurement of stresses and load distribution through concrete, steel and wood components and structures. Design of experiment. PREREQ: CE 3362.

**CE 5568 Behavior of Composite Materials 3 credits.** Macro and micromechanical behavior of laminae and laminates; bending, buckling and vibration of laminated beams and plates. Cross-listed as ME 5568. PREREQ: ENGR 3350 AND MATH 2230.

**CE 5575 Essentials of Geomechanics 3 credits.** Essentials of rock fracture relevant to geological engineering including stress and strain, properties and classification of rock masses, rock fracture mechanisms. Cross-listed as GEOL 5575. PREREQ: GEOL 4421 OR ENGR 3350.

**CE 5576 Engineering Geology Project 1 credits.** Team projects studying actual problems in engineering geology. Cross-listed as GEOL 5576. PREREQ: GEOL 5554 OR CE 5554.

**CE 5580 Earthquake Engineering 3 credits.** Topics include: mechanism and characterization of earthquakes; seismic risk analysis; site and structural response; applications from points of view of engineer and geologist. PREREQ: GEOL 3313 or CE 3332, OR PERMISSION OF INSTRUCTOR.

**CE 5599 1-6 credits. This is an experimental course.** The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CE 6650 Thesis 1 - 6 credits.** Thesis research must be approved by the student's advisory committee. Total of six credits are required to satisfy the research requirements for the degree. May be repeated. Graded S/U.

**CE 6652 Advanced Topics 3 credits.** Advanced topics in Civil Engineering and related fields, depending upon the interest of students and faculty. May be repeated for credit when topics vary. PREREQ: PERMISSION OF INSTRUCTOR.

**CE 6660 Special Project 1-3 credits.** A sig-

nificant project, involving engineering applications, toward the completion of M.S. program with non-thesis option. Includes a report and oral examination. Total of three credits may be used to satisfy the degree requirement. May be repeated. Graded S/U.

**CE 6664 Dynamics of Structures 3 credits.** Evaluation of response of structures subjected to dynamic forces including earthquake-induced forces and deformations. Applications include single- and multi-degree of freedom systems, and continuous systems. PREREQ: CE/ME 5540 OR PERMISSION OF INSTRUCTOR.

**CE 6665 Finite Element Methods 3 credits.** Introduction to finite element methods applied to linear one- and two-dimensional problems. Application of the concept to specific problems in various fields of engineering and applied sciences. Cross-listed as ME 6665. PREREQ: ENGR/CE/ME 3350 AND MATH 3360.

**CE 6667 Structures and Mechanics Laboratory 3 credits.** Strain gauge installation and circuitry. Strain measurements and analysis of variety of structural and mechanical systems. Dynamic measurements of various structures. PREREQ: CE 5531 OR PERMISSION OF INSTRUCTOR.

**CE 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CE 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Computer Science Graduate Courses

**CS 5520 Computer Security and Cryptography 3 credits.** Public key and private key cryptography, key distribution, cryptographic protocols, requisite mathematics and selected topics in the development of security and cryptography. PREREQ: CS 3385.

**CS 5542 GUI Development 3 credits.** Planning and construction of Graphical User Interfaces and essential software engineering concepts. Includes the use of a modern toolkit language. COREQ: CS 3385.

**CS 5544 Image and Audio Processing 3 credits.** Image/audio acquisition, quantization,

spatial and spectral filters, sharpening, smoothing, restoration, compression, segmentation, Fourier and Wavelet transforms. PREREQ: CS 2287, MATH 3352, MATH 3630.

**CS 5545 Data Compression 3 credits.** A survey of modern techniques of data compression, both lossy and loss-less, and encryption. COREQ: CS 3386.

**CS 5551 Theory and Implementation 3 credits.** Data models, relational algebra, SQL, data storage, index structures, query compilation and execution, concurrency control. PREREQ: CS 2263, CS 3385. COREQ: CS 3386.

**CS 5560 Comparative Programming Languages 3 credits.** Design of historical and contemporary programming languages, concentrating on promoting understanding of structural organization, data structures and typing, name structures, and control structures. PREREQ: CS 3385. COREQ:

**CS 5570 Parallel Processing 3 credits.** Topics in high performance computing: parallel architectures, SIMD, MIMD, SMP, NUMA models, message passing, cache coherency issues, MPI, PVM, parallel programming languages, the Beowulf cluster approach, applications. COREQ: CS 3386.

**CS 5577 Operating Systems 3 credits.** Processes description and control, threads, concurrency, memory management scheduling, I/O and files, distributed systems, security, networking. PREREQ: CS 2263.

**CS 5580 Theory of Computation 3 credits.** Finite representations of languages, deterministic and nondeterministic finite automata, context free languages, regular languages, parsing, Turing Machines, Church's Thesis, uncomputability, computational complexity classes. COREQ: CS 3386.

**CS 5581 Compilers and Lexical Analysis 3 credits.** Covers lexical analysis, syntax analysis, top-down, bottom-up, and LR parsing, syntax directed translation, type checking, code generation and optimization, and writing a compiler. COREQ: CS 3386.

**CS 5587 Topics in Computer Science 3 credits.** Selected topics in Computer Science will be chosen depending on the instructor's interests. PREREQ: CS 3386.

**CS 5591 Ethical and Societal Issues in Computer Science 3 credits.** Investigates various ethical issues arising in the profession, ranging from research to commercial settings. The societal impacts of computing and its prevalence in all aspects of the modern world are investigated. Seminar format: students will

read papers, make oral presentations, conduct class discussion, and submit written reports.

**CS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CS 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**CS 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Electrical Engineering Graduate Courses

**EE 5513 Techniques of Computer-Aided Circuit Analysis and Design 3 credits.** Automatic formulation of equations and fundamental programming techniques pertinent to computer-aided circuit analysis, design, modeling. May include sensitivity calculations, system analogies, optimization. PREREQ: ENGR 3340, 3342.

**EE 5516 Applied Engineering Methods 3 credits.** Applied discrete and continuous probability, random variables, probability distributions, sampling, data description, parameter estimation, hypothesis testing, inference, correlation and linear and multiple regression.

**EE 5517 Probabilistic Signals and Systems 3 credits.** Introductory probability theory. Density functions, moments, random variables. Normal, exponential distributions, Estimation of mean and variance. Correlation, spectral density. Random processes, response of linear systems to random inputs. PREREQ: EE 3345.

**EE 5518 Communication Systems 3 credits.** Basic principles of analysis and design of modern analog and digital communication systems, including transmission and reception. PREREQ: EE 3329 AND EE 3345.

**EE 5525 Mechatronics 3 credits.** Basic kinematics, sensors, actuators, measurements, electronics, microprocessors, programmable logic controllers, feedback control, robotics and intelligent manufacturing. Cross-listed as ME 5525. PREREQ: ENGR 3340, ENGR 3342, MATH 3360.

**EE 5526 Computer Architecture and Organization 3 credits.** Design, implementation, and performance evaluation of modern computer systems; instruction sets; datapath and control optimization; single-cycle, multiple-cycle, and pipelined processors; hazard detection and resolution; memory hierarchies; peripheral devices. PREREQ: EE 2274 and EE 2275 or EQUIVALENT.

**EE 5527 Embedded Systems Engineering 2 credits.** Integration of algorithms, software and hardware to design real-time and embedded systems for signal processing and control. PREREQ: CS 5575. COREQ: EE 5527L.

**EE 5527L Embedded Systems Engineering Laboratory 1 credit.** Lab activities include the complete process of design and implementation of embedded signal processing and control systems through the integration of algorithms, software, and hardware. COREQ: EE 5527.

**EE 5529 Advanced Electronics 2 credits.** Introduction to operational amplifiers and their applications, current mirrors, active loads, differential amplifiers, feedback and stability, filters, oscillators, Schmitt triggers, power amplifiers and voltage regulators. PREREQ: EE 3329, 3345. COREQ: EE 5529L.

**EE 5529L Advanced Electronics Laboratory 1 credit.** Laboratory course emphasizing transistor biasing, amplifiers and other basic analog circuit designs. COREQ: EE 5529.

**EE 5532 Introduction to VLSI Design 3 credits.** Photolithography, CMOS fabrication, MOSFET operation, CMOS passive elements, design rules and layout, CAD tools for IC design, invertors, static logic and transmission gates, dynamic logic. PREREQ: EE 3329.

**EE 5533 Mixed Signal Design 3 credits.** Analog IC design. Passive components, parasitic elements, component matching, IC layout techniques, amplifiers, current sources, comparators, op amps, noise, switched capacitor circuits. Includes lab work using design tools. PREREQ: EE g532.

**EE 5572 Electrical Machines and Power 3 credits.** Theory and application of electrical machinery and transformers. Power and energy relationships in power systems, transmission lines, network solutions and symmetrical components. Includes 1-credit laboratory component. PREREQ: ENGR 3340, ENGR 3332, MATH 3360.

**EE 5572L Electrical Machines and Power Laboratory 1 credit.** Laboratory course emphasizing an experimental study of the funda-

mental physical phenomena and characteristics of transformers, induction motors, synchronous and direct current machines. COREQ: EE 5572.

**EE 5573 Automatic Control Systems 3 - credits.** Study of continuous-time and control systems using both frequency-domain and state-space techniques; topics include design methodology, performance specifications, analysis and design techniques. PREREQ: EE 3345 OR ME 5505.

**EE 5574 Advanced Circuit Theory 3 credits.** Methods of analog electrical circuit analysis and synthesis. Topics include signal flow graphs, multi-port networks, simulation techniques, and topological methods for formulation of network equations. PREREQ: ENGR 3340.

**EE 5575 Digital Signal Processing 3 credits.** Design of recursive and non-recursive digital filters; frequency-domain analysis, fast Fourier transform techniques, spectral analysis; applications. Includes 1-credit laboratory component. PREREQ: EE 3345.

**EE 5576 Semiconductor Processing and Fabrication 3 credits.** Silicon semiconductor processing and basic integrated circuit fabrication. Physics, chemistry and technology in basic processing steps in production of integrated circuits. PREREQ: PHYS 2211-2212 AND MATH 1170 OR EQUIVALENT.

**EE 5578 Semiconductor Devices 3 credits.** Operating principles of basic building blocks of modern silicon-based semiconductor devices to include p-n junctions, field effect transistors and bipolar junction transistors. PREREQ: PHYS 2212 OR EQUIVALENT.

**EE 5579 Advanced Semiconductor Devices 3 credits.** Review of semiconductor band theory. Opto-electronics, quantum mechanics, heterojunctions, power and microwave semiconductor devices. PREREQ: EE 5578 OR EQUIVALENT.

**EE 5582 Principles of Power Electronics 3 credits.** Introduction to steady state converter modeling and analysis. Principles of converter dynamics and control including controller design. PREREQ: EE 3329. COREQ: EE 5573.

**EE 5584 Signal Processing Laboratory 1 credit.** Design finite and infinite response digital filters in digital signal processing system applications. COREQ: EE 5575.

**EE 5592 Digital Control Systems 3 credits.** Design of advanced control algorithms; topics include: observers and state estimation, linear

quadratic regulator, frequency-domain techniques for robust control, and an introduction to multivariable and nonlinear control. PREREQ: ENGR 5573.

**EE 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EE 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**EE 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Environmental Engineering Graduate Courses

**ENVE 5504 Environmental Risk Assessment 3 credits.** Quantitative and qualitative approaches to characterizing and controlling contaminant pathways. Risk assessment requirements and implications in superfund projects for engineers working on remediation. PREREQ: BIOL 5521 AND ENGR 5501 IF REQUIRED BY HWM.

**ENVE 5508 Water and Waste Water Quality 3 credits.** Principles of chemistry in applications to water and waste water treatment systems for water quality control and reuse. PREREQ: CHEM 1111, CHEM L1111, CHEM 1112, CHEM L1112.

**ENVE 5509 Water and Waste Water Lab 1 credit.** Fundamental analytical procedures for measurement of water and wastewater quality. Introduction to materials and protocols associated with general environmental analytical techniques. COREQ: ENGR 5508.

**ENVE 5510 Introduction to Environmental Engineering 3 credits.** Introduction to physical, chemical, and biological principles of solid and hazardous waste management, water and waste water treatment, air pollution control, and national environmental regulation. PREREQ: ENVE 5508 OR EQUIVALENT.

**ENVE 5530 Air Pollution and Solid Waste 3 credits.** Sources, characteristics, regulations, and effects of air pollution and solid waste on environmental quality; analysis and design of control systems, including the recovery of

resources from solid waste. PREREQ: PERMISSION OF INSTRUCTOR.

**ENVE 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ENVE 6610 Introduction to Radioactive Waste Management 3 credits.** Principles and practices of radioactive waste storage, transportation and disposal. Evolution of government regulations and current solutions developed in response to the regulations. PREREQ: ENGR 5501.

**ENVE 6611 Treatment Systems for Environmental Engineering 3 credits.** Fundamental principles and processes for physical, chemical, and biological treatment of wastes including mixing, flocculation, sedimentation, stripping, aeration, sorption and leaching. Some experiments required. PREREQ: ENVE 5510.

**ENVE 6615 Water Quality Modeling and Control 3 credits.** Fundamental principles for mathematical modeling and analysis of environmental contaminant's fate and transport in lakes, rivers, estuaries, and groundwater. PREREQ: ENVE 5510.

**ENVE 6616 Biological Treatment of Wastewater 3 credits.** Fundamental principles, design, and operation of aerobic and anaerobic biological waste treatment processes. PREREQ: ENVE 5510.

**ENVE 6617 Environmental Systems Engineering and Design 3 credits.** Application of physical, chemical, and biological operations and processes to the design of water, waste water, and industrial waste treatment systems. PREREQ: ENVE 5510 OR PREVIOUS DESIGN EXPERIENCE.

**ENVE 6629 Physical and Chemical Treatment of Water and Waste Water 3 credits.** Fundamental principles, design and operations of physical and chemical water and waste water treatment processes. Removal of hazardous materials emphasized. PREREQ: ENVE 5510.

**ENVE 6630 Air Pollution and Control 3 credits.** An introductory air pollution course. Regulations, atmospheric dispersion models, control of emissions and sources and human health effects are emphasized. PREREQ: ENVE 5510.

**ENVE 6650 Thesis 1-6 credits.** Thesis re-

search must be approved by the student's advisory committee. Total of six credits are required to satisfy the research requirements for the degree. May be repeated. Graded S/U.

**ENVE 6652 Advanced Topics 3 credits.** Advanced topics in Environmental engineering and related fields, depending upon the interest of students and faculty. May be repeated for credit when topics vary. PREREQ: PERMISSION OF INSTRUCTOR.

**ENVE 6660 Special Project 1-3 credits.** A significant project, involving engineering applications, toward the completion of M.S. program with non-thesis option. Includes a report and oral examination. Total of three credits may be used to satisfy the degree requirement. May be repeated. Graded S/U.

**ENVE 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ENVE 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Health Physics Graduate Courses

(See page 191 for Health Physics courses)

## Measurement and Control Engineering Graduate Courses

**MCE 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MCE 6640 System Modeling, Identification and Simulation 3 credits.** Model development, off-line and on-line identification methods for engineering systems, diagnostic tests and model validation and analog and digital simulation methods. PREREQ: EE 5573.

**MCE 6642 Advanced Control Systems 3 credits.** State space analysis and design to include stability, controllability, observability, realizations, state feedback and estimation. PREREQ: EE/ME 5573 OR EQUIVALENT.

**MCE 6643 Advanced Measurement Methods 3 credits.** Instrumentation systems used in detection and signal conditioning of thermal-hydraulic process variables, radiation including lasers, and electrical and mechanical properties of materials. PREREQ: ME 5505 OR EQUIVALENT.

**MCE 6644 Measurements and Controls Laboratory 3 credits.** Work with measuring systems for a variety of process variables. Investigation of characteristics of various process control components and systems. Transient and stationary conditions will be included. PREREQ: MCE 6642 AND MCE 6643 OR EQUIVALENT.

**MCE 6645 Advanced Control Theory and Applications 3 credits.** Topics selected from advanced control theory and applications, depending upon the interest of students and faculty. May be repeated for credit when topics vary. PREREQ: MCE 6642 OR PERMISSION OF INSTRUCTOR.

**MCE 6646 Intelligent Control Systems 4 - credits.** Analysis and design of systems using intelligent techniques such as neural networks, fuzzy logic, genetic algorithms, and artificial intelligence. PREREQ: PERMISSION OF INSTRUCTOR.

**MCE 6647 Nonlinear Control Systems 3 credits.** Phase plane analysis. Lyapunov stability. Describing functions. Singular perturbation and feedback linearization. PREREQ: MCE 6642 OR PERMISSION OF INSTRUCTOR.

**MCE 6649 Robotics and Automation 3 credits.** Robotic manipulator kinematics, dynamics, trajectory planning, sensors, programming and control. The application concepts of robotics in industry will be briefly introduced. PREREQ: MCE 6642.

**MCE 6650 Thesis 1-9 credits.** Thesis research must be approved by the student's advisory committee. Six credits may be used to satisfy the research requirements for the degree. Graded S/U.

**MCE 6652 Special Problems 1-3 credits.** Special experimental, computational, or theoretical investigation leading to development of proficiency in some area of engineering. Formal report required. PREREQ: PRIORITY PROJECT APPROVAL REQUIRED BY AN ENGINEERING FACULTY. May be graded S/U. May be repeated.

**MCE 6653 Optimal Control Systems 3 credits.** Performance index. Calculus of variations, Pontryagin maximum principle. Linear quadratic regulator. Time and fuel optimal

control. Linear quadratic Gaussian problem. Kalman Filter. H optimal control. Industrial applications. PREREQ: MCE 6642 OR PERMISSION OF INSTRUCTOR.

**MCE 6654 Adaptive Control Systems 3 credits.** Real-time parameter estimation. Deterministic, stochastic, and predictive self-tuning regulators. Model reference adaptive systems. Auto tuning. Stochastic adaptive control. Properties of adaptive systems. PREREQ: MCE 6642 OR PERMISSION OF INSTRUCTOR.

**MCE 6656 Robust Control Systems 3 credits.** Analyze and design basic robust controllers using methods for robustness investigation such as  $v$ -analysis and H 4 control algorithms. PREREQ: MCE 6642 OR PERMISSION OF INSTRUCTOR.

**MCE 6660 Special Project 1-9 credits.** A significant project, involving engineering applications, toward the completion of M.S. program with non-thesis option. Includes a report and oral examination. Graded S/U. May be repeated.

**MCE 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MCE 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Mechanical Engineering Graduate Courses

**ME 5505 Measurement Systems Design 3 credits.** Introduction to instrumentation systems analysis and design, including: statistical analysis, system modeling, actuators, transducers, sensor systems, signal transmission, data acquisition, and signal conditioning. PREREQ: ENGR 3340, ENGR 3342 AND MATH 3360.

**ME 5506 Measurement Systems Laboratory 1 credit.** Principles of measurement, measurement standards and accuracy, detectors and transducers, digital data acquisition principles, signal conditioning systems and readout devices, statistical concepts in measurement, experimental investigation of engineering systems. COREQ: ME 5505.



**ME 5515 Model Theory 3 credits.** Theory of design and texting of scaled system models. Dimensional analysis with application to physical models. True and distorted models, linear and non-linear models, and analogies. Laboratory work required. PREREQ: ME 3341 AND CE/ME 3350.

**ME 5525 Mechatronics 3 credits.** Basic kinematics, sensors, actuators, measurements, -electronics, microprocessors, programmable logic controllers, feedback control, robotics and intelligent manufacturing. Cross-listed as EE 5525. PREREQ: ENGR 3340, ENGR 3342, MATH 3360.

**ME 5540 Vibration Analysis 3 credits.** Free vibration and forced response of single and multiple degree of freedom systems, normal modes, random vibrations, discrete, lumped mass, and continuous systems. Vibration control techniques. PREREQ: MATH 3360 PRE-REQ OR COREQ: ME 3323.

**ME 5551 Compressible Fluid Flow 3 credits.** Fundamentals of compressible flow and gas dynamics, development of basic principles, practical applications. Techniques developed for isentropic friction, heat addition, isothermal flow, shock wave analysis, propagation, expansion waves, reflection waves. PREREQ: ME 3307 AND CE/ME 3341.

**ME 5573 Mechanical Control Systems 3 credits.** Discrete and continuous time control system design, signal processing, embedded systems. PREREQ: ME 2220, EE 2240, and MATH 3360, or Equivalent.

**ME 5568 Behavior of Composite Materials 3 credits.** Macro and micromechanical behavior of laminae and laminates; bending, buckling and vibration of laminated beams and plates. Cross-listed as CE 5568. PREREQ: ENGR 3350 AND MATH 2230.

**ME 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ME 6607 Advanced Thermodynamics 3 credits.** Thermodynamic property relationships, gas mixtures, thermodynamic optimization, irreversible thermodynamics, structural theory, applications towards solar power, power generation, and refrigeration systems. PREREQ: ME 4416, MATH 3360.

**ME 6635 Transport Phenomena 3 credits.** Systematic and parallel treatment of heat transfer, mass transfer, and momentum transfer (viscous flow). PREREQ: Heat Transfer

(ME 4476), Fluid Mechanics (ME 3341), Differential Equations (MATH 3360). RECOMMENDED: Advanced Engineering Math (ENGR/MATH 5521).

**ME 6640 Advanced Vibrations 3 credits.** Vibrational theory of continuous, multiple-degree-of-freedom systems, and random vibrations. Use of advanced numeric techniques. PREREQ: ME 5540. COREQ: ENGR/MATH 5521.

**ME 6644 Advanced Kinematic Design 3 credits.** Application of kinematic synthesis theory to the design of planar and spatial articulated systems. Finite-position precision synthesis, trajectory and workspace optimization and motion analysis for planar, spherical and spatial open and closed-loop chains. PREREQ: MATH2240 and ME3320.

**ME 6650 Thesis 1-9 credits.** Thesis research must be approved by the student's advisory committee. Six credits may be used to satisfy the research requirements for the degree. Graded S/U.

**ME 6652 Special Problems 1-3 credits.** Special experimental, computational, or theoretical investigation leading to development of proficiency in some area of engineering. Formal report required. PREREQ: PRIO PROJECT APPROVAL REQUIRED BY AN ENGINEERING FACULTY. May be graded S/U. May be repeated.

**ME 6660 Special Project 1-9 credits.** A significant project, involving engineering applications, toward the completion of M.S. program with non-thesis option. Includes a report and oral examination. Graded S/U. May be repeated.

**ME 6665 Finite Element Methods 3 credits.** Introduction to finite element methods applied to linear one- and two-dimensional problems. Application of the concept to specific problems in various fields of engineering and applied sciences. Cross-listed as CE 6665. PREREQ: ENGR 3350 AND MATH 3360.

**ME 6676 Conduction Heat Transfer 3 credits.** Single and multiple dimension steady and unsteady conduction heat transfer. Non-constant thermal conductivity. Emphasis on problem formulation, analytical solutions, and numerical techniques. PREREQ: ME 4476. CO-REQ: MATH 5521.

**ME 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**ME 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Nuclear Engineering Graduate Courses

**NE 5519 Energy Systems and Nuclear Power, Energy and Nuclear Power 3 credits.** Fundamentals of conventional and renewable energy systems. Energy sources, distribution, use and environmental effects. Nuclear power plant "balance of plant" design. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: ME 3307 and MATH 3360 or instructor permission.

**NE 5521 Mathematical Methods in Nuclear Engineering 3 credits.** First and second order ordinary differential equations (ODEs), generalization to systems of ODEs, Laplace transforms, series solutions to second order ODEs, special functions and Sturm-Liouville systems; partial differential equations by separation of variables. Examples will emphasize practical problems of interest to nuclear engineers. PHYS 6602 may be substituted for this course. PREREQ: MATH 3360.

**NE 5543 Thermal Fluids Laboratory 1 credit.** Measurement of thermal and fluid properties, experiments on fluid flow and heat transfer systems. Cross-listed as ME 5543. PREREQ: CE/ME/NE 3341 AND ME/NE 5576.

**NE 5545 Reactor Physics 3 credits.** Neutron balance equations in reacting systems, diffusion and diffusion-perturbation theory, introductory reactor kinetics, the multi-group energy approach, neutron slowing down and thermalization, introductory concepts in reactor systems. PREREQ: NE 3302 or NSEN 6685, NE 5521 OR EQUIVALENT.

**NE 5546 Nuclear Fuel Cycle Systems 3 credits.** Uranium mining, milling, conversion; enrichment technology including cascade analysis; fuel fabrication, criticality safety in the nuclear fuel cycle, introduction to ORIGEN and Monte-Carlo methods and codes, reactor fuel management, waste management (LLW, HLW, TRU waste). PREREQ: NE 3302 or NSEN 6684 OR EQUIVALENT.

**NE 5548 Design, Control and Use of Radiation Systems 3 credits.** Generation detection and measurement systems design for control and use of neutrons and gamma rays in industrial and medical applications. Radiation pro-

tection, regulations, environmental and economic considerations. COREQ: ENGR 5545.

**NE 5551 Nuclear Seminar 1 credit.** Create new course NE 5551 as sister to existing course NE 4451 to accommodate graduate students in NSEN and HPHY programs.

**NE 5558 Monte Carlo Methods and Applications 3 credits.** Basics of the application of stochastic methods to calculate the transport of neutrons, photons, and other sub-atomic particles. Includes introduction to the MCNP code, and sample application problems in both nuclear reactor design and in applications such as radiation beams used for cancer therapy.

**NE 5576 Heat Transfer 3 credits.** Principles and engineering applications of heat transfer. Analysis of conduction, convection and radiation heat transfer. Design of heat exchangers. PREREQ: ME 3341.

**NE 5578 Reliability and Risk Assessment 3 credits.** Methods of evaluating process and equipment reliability. Probabilistic methods applied to analysis and design. Setting probabilistic design objectives and calculating probabilistic performance. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQS: MATH 3360 and EE 4416 or permission of instructor.

**NE 5587 Medical Applications in Engineering and Physics 3 credits.** Applications of engineering and physics, principles, particularly nuclear science, to medicine. Covers radioisotopes, x-ray imaging, magnetic resonance and ultrasound imaging, radiation protection, codes and standards. PREREQ: MATH 3360 AND PHYS 2212.

**NE 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NE 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NE 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Nuclear Science and Engineering Graduate Courses

**NSEN 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NSEN 6601 Nuclear Engineering Experiments 3 credits.** Experimental verification of theoretical models will be stressed. Kinetic behavior, neutron spatial distribution, perturbation, and other characteristic equations will be investigated. PREREQ: NE 5545 OR EQUIVALENT.

**NSEN 6603 Thermal Hydraulics 3 credits.** Advanced studies of both fluid flow and heat transfer in nuclear reactor cores. Conservation equations, constitutive relations, formulation and solution approaches for complete equation set. PREREQ: CE/ME/NE 3341, ME 5576.

**NSEN 6604 Dynamic Behavior of Nuclear Systems 3 credits.** Kinetic behavior of nuclear reactors including feedback effects of power transients, fuel burn up, coolant perturbations, etc. Mathematical models developed to predict both short and long term behavior. PREREQ: NE 5545.

**NSEN 6605 Nuclear Reactor Design 3 credits.** Detailed treatment of current, advanced nuclear power reactor designs. Emphasis on the inherent and engineered safety features and on advantages and disadvantages of each design. PREREQ: NE 5545.

**NSEN 6608 Radiation Transport 3 credits.** Advanced treatment of radiation transport and shielding concepts; interaction and attenuation of neutral particles, including photons. Use of deterministic and Monte-Carlo computer codes. PREREQ: NE 5521 or EQUIVALENT.

**NSEN 6609 Radiation Detection, Measurements, and Applications 3 credits.** Advanced treatment of radiation detectors measurement techniques, data acquisition, and signal processing. Emphasis on applications in science, industry and medicine. PREREQ: NE 5545.

**NSEN 6615 Introduction to Practical Nuclear Engineering 3 credits.** Basic concepts of nuclear reactor physics. Present nuclear plant descriptions. Evaluation of fossil, nuclear plant environmental impacts, cycle and overall efficiencies and economics. PREREQ: PERMISSION OF INSTRUCTOR.

**NSEN 6616 Special Applications of Nuclear**

**Energy 3 credits.** Isotopic power systems for remote applications, nuclear propulsion for space vehicles, process heat and space heat reactors, maritime nuclear power plants, medical and industrial applications of nuclear radiation. PREREQ: PERMISSION OF INSTRUCTOR.

**NSEN 6617 Applications of Nuclear Energy 3 credits.** Continued study of nuclear power plant design, operation, and safety analysis of present plants, proposed future concepts. Examination of biological effects of radiation and nuclear medicine, food irradiation and waste heat applications. PREREQ: NSEN 6615.

**NSEN 6618 Radioactive Waste Management 3 credits.** Overview of historical, legal, political and social aspects radioactive waste management; radwaste across the nuclear fuel cycle; waste definition and classification, treatment and disposal; design and assessment of repositories and radionuclide migration. PREREQ: NSEN 6684, NSEN 6685 or EQUIVALENT.

**NSEN 6619 Materials Science of Radwaste 3 credits.** Materials chemistry and fabrication of waste glasses, ceramics and cements; waste form development and characterization; waste form degradation, radionuclide release and migration. PREREQ: ENGR 3350, NE 5546 or EQUIVALENT.

**NSEN 6620 Radiation Health Physics and Safety 3 credits.** Advanced health physics methods applied to nuclear plants. Radiation safety regulations and ALARA concept. Application of shielding codes to achieve compliance. PREREQ: PHYS 5532 OR EQUIVALENT.

**NSEN 6625 Two-Phase Flow 3 credits.** Fundamentals of two-phase flow. Traditional models. Derivation and examination of conservation equations. Investigation of two-phase flow regimes. PREREQ: NSEN 6603.

**NSEN 6631 Computational Transport Theory 3 credits.** Study of advanced theories used in the calculation of nuclear reactor parameters including such topics as the Boltzman transport equation with energy and space dependence, multi-group, multi-region diffusion for reflected systems, perturbation theory, etc. Special emphasis will be given to the application of digital computers in nuclear reactor design problems. PREREQ: NSEN 6608.

**NSEN 6678 Probabilistic Risk Assessment 3 credits.** Probabilistic methods applied to analysis and design. Setting probabilistic design objectives and calculating probabilistic performance emphasized. PREREQ: NSEN 6605

**NSEN 6684-6685 Nuclear Engineering Basics 3 credits.** For BS physical science graduates with little or no nuclear background. Lecture, laboratory each semester. Nuclear science; reactor physics, kinetics and thermal hydraulics; nuclear fuel cycle. PREREQ: PERMISSION OF NE DEPARTMENT CHAIR

**NSEN 6686 Modeling, Experimentation, and Validation 3 credits.** 2 week summer course. Provides early career nuclear engineers with advanced studies in integrated modeling, experimentation, and validation. The course emphasis rotates yearly among thermal-hydraulics, reactor physics, fuels and materials, and simulations. PREREQ: PERMISSION OF NE DEPARTMENT CHAIR

**NSEN 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**NSEN 8850 Doctoral Dissertation variable credits.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Engineering and Applied Science Doctoral Graduate Courses

**EAS 8850 Doctoral Dissertation variable credit.** Research toward completion of the dissertation for the Ph.D. in Engineering and Applied Science. Graded S/U. May be repeated.

## Department of Geosciences

Chair and Professor: Thackray  
 Professors: Link, McCurry, Rodgers  
 Associate Professor: Crosby, Tapanila  
 Assistant Professors: Kobs Nawotniak, Godsey, Delparte, Pearson  
 Research Associate Professor: Shapley, Sankey  
 Assistant Instructors: Tapanila, Bottenberg  
 Joint Appointment Faculty: Finney, Lohse

IGS Research Geologist: Welhan  
 GIS TReC Director: Weber  
 Emeritus Professor: Hughes  
 Affiliate Faculty: Ames, Dehler, Davis, Hailemichael, Heath, Manic, Plummer, Ritzenour, Schlegel, Sherwin, Smith, Solan, Stephens

## Goals - All Programs

1. Graduates will think critically and comprehend written and verbal communications about geoscience topics.
2. Graduates will have specific skills for careers in geoscience and related industries, licensure, or to continue in graduate study.
3. Graduates will attain employment in geology or related fields or gain admission to graduate programs.

## Graduate Degree Programs

### Goals

1. Graduates will be prepared to communicate effectively at the professional level.
2. Graduates will be prepared to define, implement, and complete geologic investigations.
3. Graduates will have professional skills for employment or further graduate study.

### Objectives

1. Provide graduate students with coursework, laboratory experiences, field exercises and research opportunities in order to achieve all goals set forth above.
2. Provide graduate students with a professional interactive environment that improves their opportunities to enter successful careers in geoscience.
3. Increase graduate students' probability of obtaining employment in academia or industry, or of being accepted for doctoral studies.

### Admission Requirements

A complete graduate application for classified status in the Idaho State University Geosciences Department consists of:

1. The student must apply to and meet all criteria for admission to the Graduate School. In addition to the general requirements of the Graduate School. Applicants must hold the degree of Bachelor of Science or Bachelor of Arts in geology or the equivalent as determined by the department. An Idaho State University Graduate School application form and official copies of transcripts from all previous coursework are required.
2. GRE aptitude scores - 50th percentile or above in two of the three categories, or strengths clearly demonstrated in other components of the application
3. A letter of intent and statement of goals in Graduate School
4. Three letters of recommendation
5. Notification to the department: [geology@isu.edu](mailto:geology@isu.edu)

## Doctor of Philosophy in Geosciences

### Brief Description

The Ph.D. program in geosciences is offered to those students who have demonstrated strong aptitude for research and scholarly activity. Research can be conducted in any field of the geosciences in which ISU faculty have expertise. The student's course of study will be determined in consultation with his or her advisors. Continued enrollment in the program is contingent upon maintaining a 3.0 grade point average and making satisfactory progress toward the degree. In order to complete the research and prepare the dissertation, the program will normally require at least four years of full-time study beyond the master's degree. In some cases, students without an appropriate M.S. degree but demonstrating an exceptional undergraduate academic record and aptitude for research may be directly admitted to the Ph.D. program.

### Admission Requirements

All applicants must meet Idaho State University Graduate School admission requirements for doctoral programs. In addition, applicants must have attained a minimum of a bachelor's degree in geosciences or a closely related field (environmental science, physics, engineering, chemistry, biology, etc.). The student's course of study will be determined through consultation with the lead advisor, the department chair or the department's graduate advising committee. Students may be required to complete any missing course material that is required for the B.S. degree in geosciences at Idaho State University.

A complete graduate application for classified status in the Idaho State University Geosciences Department Ph.D. program consists of:

1. GRE scores (a minimum of 50th percentile is required in both verbal and quantitative categories); Students for whom English is a second language who do not meet the minimum verbal GRE score must meet the Graduate School minimal TOEFL score.
2. An Idaho State University Graduate School application form, fee, and official copies of transcripts;
3. Three letters of recommendation;
4. A statement outlining your motivation for graduate school and your longer term career goals.

## General and Course Requirements

The Ph.D. degree requires completion of at least 84 graduate credits. Of these, at least 32 credits must be doctoral dissertation credits (GEOL 8850) and 35 credits must come from coursework at the graduate level, 2 to 4 of which must be a graduate seminar. Of the total 84 credits, at least 40 must be taken from the ISU Department of Geosciences. Students entering the program with a master's degree may receive credit for up to 30 credits toward the Ph.D., split between dissertation and coursework as appropriate, subject to the department chair's approval. Classes and seminars may be taken at, or in collaboration with, Boise State University and/or the University of Idaho.

## Program of Study

An advisory committee of 3-4 graduate faculty, inclusive of the major professor, will guide each student in establishing his or her program of study based upon the student's background and research interests. The committee has the responsibility of ensuring that the student has adequate knowledge to support research in his or her area of research.

During the full-time student's third semester, the student will sit for a written Qualifying Examination. Exceptions to this schedule may be made when a student has academic deficits to make up, in which case the student may be granted an additional year. The student will be allowed two attempts to pass this examination. The student will be admitted to candidacy upon passing the Qualifying Examination.

A dissertation committee of 3-4 graduate faculty and a Graduate Faculty Representative (GFR), chaired by the candidate's major professor, must be decided upon within six months of passing the qualifying examination. The dissertation committee may include individuals from other departments, affiliate graduate faculty, or graduate faculty from collaborating universities, such as Boise State University or the University of Idaho, but the majority of any committee must consist of graduate faculty from the ISU Department of Geosciences. In the semester following the passing of the qualifying exam, the full-time candidate, with guidance from the major professor, must satisfactorily complete the Preliminary Examination. This consists of an oral presentation and defense of a written proposal for dissertation research to the student's dissertation committee.

The research and dissertation preparation must be done under the close supervision of the dissertation committee and must include at least one full year of work performed under

the supervision of Idaho State University graduate faculty. The dissertation must demonstrate the student's ability in independent investigation and must be a contribution to scientific knowledge. It must display mastery of the literature of the subject field and must demonstrate an organized, coherent development of ideas, with a clear exposition of results and a creative discussion of the conclusions.

Dissertation examination approval requires a public presentation of the dissertation and a satisfactory oral defense to the dissertation committee. Doctoral oral examinations are open to all regular members of the graduate faculty as observers. Further, oral presentations are open to the public until questioning by the dissertation committee begins. Additional details regarding the graduate timeline are available on the ISU Department of Geosciences website.

## Doctor of Philosophy in Engineering and Applied Science

A Ph.D. program in Engineering and Applied Science, administered through the College of Engineering, is available to Geoscience students who wish to emphasize Subsurface Science. The complete program description is provided under the College of Engineering section of the Graduate Catalog.

## Master of Science in Geology

The M.S. degree is offered to those students who have degrees in geology who have demonstrated the potential for research and a professional career. Classified (degree-seeking, fully accepted) admission to the program is recommended by the graduate faculty of the Geosciences Department.

The student's course of study will be determined by consultation and possibly an entrance examination. Students will normally be required to complete deficiencies at the undergraduate level any courses required for the B.S. in geology at Idaho State University that they have not already taken. Continued enrollment in the program is contingent upon maintaining a 3.0 grade point average and making satisfactory progress toward the degree.

Unclassified status is used for students with large numbers of deficiencies or with low undergraduate GPAs. Unclassified students may apply for classified status when their performance warrants.

## General Requirements

A student who wants to earn an M.S. in Geology must complete at least 30 credits of course work. These credits must be earned under the following conditions:

1. The student must earn at least 17 credits (including six Thesis credits) at the 6600 level in Geology.
2. The remaining 13 credits may be earned at the 5500 or 6600 level, of which eight credits may come from a related discipline.

In addition to the 30 required credits, each student must take two approved courses from outside the Geosciences Department (e.g., technical writing, anthropology, etc.) or may opt to take the foreign language challenge exam at the elementary level.

The department requires that the following core courses be completed. These classes are normally taken during the first and second semesters of graduate study:

GEOL 5591 Seminar	1 cr
GEOL 6601 Advanced Physical Geology	2 cr
GEOL 6603 Geologic Writing Seminar	1 cr

Graduate students may not sign up for GEOL 6650 (Thesis) until their thesis prospectus has been submitted and approved by the Thesis Committee. Additionally, all graduate students are required to present at least one geology colloquium dealing with their thesis topic prior to taking their oral examination.

## Master of Science in Geology with Emphasis in Environmental Geoscience

A Geology M.S. degree may be awarded with the annotation "Emphasis in Environmental Geoscience" added, if the student completes the requirements for an M.S. Geology degree plus at least 9 credits in approved graduate-level courses in the general area of Environmental Geoscience. Students who wish their M.S. degree to contain the added designation "With Emphasis in Environmental Geoscience", need to file an amended program of study form with the Graduate School. The curriculum may be developed in, but is not limited to, the following areas: surface and groundwater hydrology; environmental geochemistry; surficial geological processes; geomorphology; volcanic, earthquake and other geologic hazards; environmental geophysics; assessment and remediation of hazardous

waste sites; Neogene and Quaternary geology. Courses in related sciences and engineering disciplines may also be included.

The curriculum must be approved by the student's graduate committee, and may include components taken at Boise State University and/or the University of Idaho. Inter-university graduate committees are encouraged.

## Master of Science in Geographic Information Science

The M.S. in GISci degree is offered to students who wish to become competent geospatial researchers and as Geographic Information Systems (GIS) analysts and developers. The program focuses on advancing knowledge to acquire, store and manage, visualize, model, and analyze information about spatial features and phenomena, with strong emphasis on real-world geospatial applications. The M.S. in GISci is designed as an interdisciplinary study of the nature, function, and development of spatial information systems and the application of these systems in research. Students will be involved in the technical study of the design and evaluation of scientific inquiry methods, tools, and techniques that will involve formulating hypotheses, collecting spatial information, and developing techniques for spatial analysis.

Applicants must hold a degree of Bachelor of Science or Bachelor of Arts in any discipline that allows research focus on geotechnologies including, but not limited to: Geosciences, Anthropology, Biology, Business, Information Technology, Computer Science, and Engineering. Students can focus on either the development of new GIS tools and analytical procedures or the application of established and new tools and procedures to scientific problems. Each student in this program will have a member of the current Geotechnology Faculty as his/her major advisor. Applicants will be requested to state an advisor preference at the time of application; otherwise a preliminary advisor will be assigned upon acceptance to the program.

NOTE: Due to the interdisciplinary nature of this program, applicants should initially contact a faculty member or the Geotechnologies Program Director in the Department of Geosciences in order to match their interests with those of potential faculty advisors.

### Admission Requirements

Applicants must apply to and meet all criteria for admission to the Graduate School as well as additional criteria for admission to the De-

partment of Geosciences.

### General Requirements

In their application, students must state a preference for the Thesis Option or Non-thesis Option for the M.S. in GISci. The geotechnologies graduate faculty will determine for which track the student is accepted.

**Thesis Option:** Students desiring to enter careers in research or to pursue a Ph.D. are encouraged to request the Thesis Option M.S. in GISci. Students supported on Research Assistantships or Teaching Assistantships will typically be required to enroll in the Thesis Option. A minimum of 30 credit hours is required for completion of the Thesis Option M.S. in GISci, with a minimum of 15 credit hours (including six thesis credits) completed in 6600-level courses. The student's graduate advisory committee (major advisor and co-advisor) will establish specific research goals, thesis topic, and the course electives in the program of study.

**Non-Thesis Option:** The Non-Thesis Option M.S. in GISci is particularly suited for working professionals who are interested in earning additional education without interrupting their careers. Typically students are not awarded Research Assistantships or Teaching Assistantships in the Non-Thesis Option. A minimum of 30 credit hours is required for completion of the Non-Thesis Option M.S. in GISci, with a minimum of 15 credit hours completed in 6600-level courses. The student must prepare and submit to the Geotechnologies Program Director a program of study in his or her first semester indicating the courses to be taken to meet these requirements. In their final semester, all Non-Thesis Option students will complete a written and oral cap-stone exam administered by geotechnologies graduate faculty.

All M.S. in GISci students are required to take a 1 credit hour graduate seminar (in any related discipline) and eight credit hours of core courses. Generally these will be taken during the first year of study. Prerequisites for core courses are designed to permit students entering the M.S. program from all disciplines. Students entering with some or all of the core courses taken at the undergraduate level may, with permission from the student's advisory committee, substitute other graduate-level courses in the program of study.

Program requirements are summarized as follows:

Graduate Seminar, (taken in a related discipline)	1 cr
Core Geotechnologies Courses	8 cr
Electives	15 cr
Thesis (GEOL 6650)	6 cr
Total (includes 15 hours at 6600-level)	30 cr

### Section A - Core Courses

GEOL 5504 Advanced GIS	3 cr
GEOL 5507 GPS Applications in Research	3 cr
GEOL 5508 Geotechnology Seminar	2 cr
GEOL 5509 Remote Sensing	3 cr

### Section B - Electives

ANTH 6641 Research Project 1-6 credits	1-6 cr
BIOL 5518 Ecotopics: Ecological Applications of GIS	2 cr
BIOL 6651 Advanced Topics in Ecology: Landscape Ecology	3 cr
BIOL 5599 Advanced Data Analysis for Biologists	3 cr
CIS 5503 Systems Analysis and Logical Design	3 cr
CIS 5507 Database Design and Implementation	3 cr
CIS 5524 Decision Support Systems	3 cr
CIS 5540 Object-Oriented Development	3 cr
CIS 5590 Management of Information Systems and Information Security	3 cr
CS 5551 Database Theory and Implementation	3 cr
CS 5542 GUI Development	3 cr
GEMT 5530 GPS Principles and Applications	3 cr
GEMT 5532 Principles of Photogrammetry	3 cr
GEOL 5502 Geomorphology	3 cr
GEOL 5555 Geologic Data Methods	3 cr
GEOL 5527 Information Technology for GIS	3 cr
GEOL 5528 Programming for GIS	3 cr
GEOL 5571 Historical Geography of Idaho	3 cr
GEOL 5581 GeoTechnology Internship	1-3 cr
GEOL 6628 Advanced GIS Programming	3 cr
GEOL 6606 Geostatistical Spatial Data Analysis and Modeling	3 cr
GEOL 6607 Spatial Analysis	3 cr
GEOL 6609 Advanced Image Processing	1 cr
GEOL 6648 Research Problems	1-6 cr
GEOL 6604 Watershed Modeling	3 cr
HIST 5590 and HIST5590L Cartography: History and Design	4 cr
HIST 6610 Geographic Information Systems in Historical Studies	3 cr
HIST 5589 GIS for Social Sciences	3 cr

Certain graduate courses not shown in the list above may be acceptable with approval of the student's advisory committee. All courses in the program of study require approval by the student's advisory committee and final approval by the Graduate School. Non-Thesis Option M.S. GISci students must have their planned program of study approved by the Geotechnologies Program Director in their first semester and by the Graduate School in their final semester.

Thesis Option M.S. GISci students are expected to complete a thesis that will be original and encompass all stages of scientific work, including project design, implementation, and communication. Graduate students may sign up for Thesis credits only after their thesis prospectus has been submitted and approved by the advisory committee. Additionally, all Thesis Option M.S. GISci students are required to present at least one colloquium dealing with their thesis topic prior to taking their oral examination

## Master of Natural Science in Geology

The Master of Natural Science (MNS) degree in Geology is designed primarily for teachers

and prospective teachers who wish to broaden their understanding of geologic processes, the nature of natural resources, and the effect of humans on their environment. This is a non-thesis program of study with an emphasis on subject matter that will enhance the ability of the teacher to give students an interesting, up-to-date class in earth science or geology. Those interested in the program should possess or be working toward a standard teaching certificate. Requirements include completion of a prescribed program of study of 30 credits approved by a departmental committee selected by the student in consultation with the student's major professor and approved by the Dean of the Graduate School, and satisfactory performance on final written and oral examinations. See Master of Natural Science in the General information section of this catalog for details of the M.N.S. degree.

## Post-Baccalaureate GeoTechnology Certificate

(19 credits required)

## GeoTechnology Certificate

### Goals

1. Graduates will have the knowledge and skills necessary to apply geotechnology in their chosen careers or fields of interest.
2. Graduates will have the background to compete successfully for industrial and academic positions.

### Objectives

1. Learn and perform techniques in Geographic Information Systems, Global Positioning System, Remote Sensing, and related skills.
2. Increase knowledge of how geotechnical applications are incorporated into research, education, and industry.
3. Increase knowledge of geotechnical workforce needs and the future directions of geotechnological applications.

The Graduate Certificate in GeoTechnology is offered to students who wish to become proficient in the collection, management, and analysis of spatial data. Courses in three disciplines—geographic information systems (GIS), global positioning systems (GPS), and remote sensing—are used to teach the theory and application of GeoTechnology. Students may pursue the Certificate independently or in conjunction with another Idaho State University degree.

### Admission Requirements

Classified admission is necessary to complete the Certificate and is recommended by the graduate faculty of the Geosciences - Department in accordance with standards set by the Graduate School. Applicants must have a bachelor's degree from an accredited school and meet the Graduate School admission requirements. All applicants must submit an application to the Graduate School. In addition, applicants who wish to apply for a Graduate Assistantship should submit to the Geosciences Department a GA request form, 3 letters of recommendation, and a statement of goals for graduate study.

### General Requirements

Students will complete 14 credits of required course work and 5 credits of elective course work to obtain the Certificate. The following courses are relevant:

#### Core Courses (14 credits required):

GEOL 5503 Principles of GIS	3 cr
GEOL 5504 Advanced GIS	3 cr
GEOL 5507 GPS Applications in Research	3 cr
GEOL 5508 GeoTechnology Seminar	2 cr
or	
BIOL 5518 Ecological Topics	1 cr
GEOL 5509 Remote Sensing Applications	3 cr

#### Electives (5 credits required):

ANTH 5582 Independent Problems in Anthropology*	3 cr
BIOL 5582 Independent Problems in Biology	1-3 cr allowed
CIS 5580 Data Base Management Systems	3 cr
GEOL 5527 Information Technology for GIS	3 cr
GEOL 5528 Programming for GIS	2 cr
GEOL 5580 Special Topics in GIS	1-3 cr
GEOL 5581 GeoTechnology Internship	1-3 cr
GEOL 6606 Geostatistics Spatial Data Analysis and Modeling	4 cr
GEOL 6607 Spatial Analysis	3 cr
GEOL 6628 Advanced GIS Programming	3 cr
GEOL 6648 Research Problems	1-3 cr allowed
TOTAL:	19 cr

Topic: Geographical Information Systems and Anthropology (or GIS and Anthropology)

For current information regarding GIS Center and courses, see the website: <http://giscenter.isu.edu>

### Geology Graduate Courses

**GEOL 5502 Geomorphology 4 credits.** Process-response approach to landforms and landscapes. Historical perspectives, endo- and exogenetic processes, equilibrium and relict landforms. Emphasis on interrelations among various geologic sub-disciplines. Field trips, some lab exercises. PREREQ: GEOL 3313 OR PERMISSION OF INSTRUCTOR.

**GEOL 5502L Geomorphology Laboratory 0 credits.**

**GEOL 5503 Principles of Geographical Information System 3 credits.** Study of GIS

fundamentals, introduction to GPS, databases, and metadata. Practical application of ESRI ArcView®. Build, edit, and query a GIS; basic spatial analysis. Requires competence in computer operating systems. PREREQ: CIS 1101 OR INSTRUCTOR APPROVAL; COREQ: GEOL 5503L.

**GEOL 5503L Principles of GIS Laboratory 0 credits.** Computer lab assignments to apply principles from GEOL 5503.

**GEOL 5504 Advanced Geographic Information Systems 3 credits.** Study of relational databases, including spatial analysis, and remote sensing. Practical application of Arc/Info and Idrisi. Exercises include digitizing, querying, digital terrain modeling, and image processing. PREREQ: GEOL 5503, GEOL 5503L OR PERMISSION OF INSTRUCTOR.

**GEOL 5505 Volcanology 3 credits.** Aspects of physical and chemical volcanology: types of volcanoes; interpretation of volcanic deposits; properties of magma; generation, rise, and storage of magma; volcanic hazards and prediction. PREREQ: ONE OF GEOL 3314, GEOL 5502, GEOL 4421, OR GEOL 5552.

**GEOL 5506 Environmental Geology 3 credits.** Humans and the environment. Topics include: industrial exploitation of fossil fuels, energy sources, soils, water and other materials, environmental health, pollution, waste disposal, hazards, disasters, and land use. PREREQ: GEOL 1100 OR GEOL 1101.

**GEOL 5507 GPS Application in Research 3 credits.** Overview of satellite positioning systems usage. Topics include GPS theory, basic mapping concepts, use of mapping grade receivers for GIS data collection, and processing of carrier phase data for high precision applications.

**GEOL 5508 GeoTechnology Seminar 2 credits.** GIS applications in natural and social sciences; ethical and legal issues, current status and recent advances in GeoTechnology. Lectures, discussion, readings. PREREQ: GEOL 5503, GEOL 5503L OR PERMISSION OF INSTRUCTOR.

**GEOL 5509 Remote Sensing 3 credits.** Fundamentals and applications of single frequency, multispectral, and hyperspectral remote sensing for physical, natural, engineering, and social sciences. Emphasis on acquiring, processing, integrating, and interpretation of imagery. Requires competence in computer operating systems.

**GEOL 5510 Science in American Society 2 credits.** Observational basis of science; technology's historical influences on scientific

developments; perceptions of science in contemporary America; tools/strategies for teaching science. Cross-listed as PHYS 5510. PREREQ: JUNIOR STANDING AND PERMISSION OF INSTRUCTOR.

**GEOL 5511 Planetary Petrology 3 credits.** Chemistry, mineralogy, tectonic association and petrogenesis of the principal igneous and metamorphic rock types on Earth and other planetary bodies. PREREQ: GEOL 3314.

**GEOL 5512 Petrology Lab 2 credits.** Microscopic identification of igneous and metamorphic minerals and rocks. PREREQ: GEOL 3313 AND GEOL 2211. COREQ: GEOL 5511.

**GEOL 5515 Quaternary Global Change 3 credits.** Use and interpretation of landforms, sediments, and fossil life in the reconstruction of Quaternary events, environment, and climates. PREREQ: PERMISSION OF INSTRUCTOR.

**GEOL 5516 Global Environmental Change 3 credits.** Analysis of the causes and effects of both natural and human-induced environmental change. Integrates knowledge from other Earth Systems Science Courses, and examines and analyzes relevant problems in global environmental change using scientific methods. PREREQ: GEOL 1115, GEOL 1115L, GEOL 2310, GEOL 5506, and BIOL 2209.

**GEOL 5517 General Soils 3 credits.** Formation, morphology, and distribution of soils, including developments in soil classification. PREREQ: GEOL 1100 OR GEOL 1101 OR GEOL 1115, OR PERMISSION OF INSTRUCTOR.

**GEOL 5520 Principles of Geochemistry 3 credits.** Chemistry of the earth; discussion of factors controlling abundance, distribution, and migration of chemical elements within the earth. PREREQ: GEOL 2211, AND CHEM 1111, CHEM L1111, CHEM 1112, CHEM L1112, OR PERMISSION OF INSTRUCTOR.

**GEOL 5522 Planetary Geology 3 credits.** Formation of planetary bodies (planets, moons, asteroids, and comets), internal and surficial processes, tectonics, and planetary exploration. PREREQ: GEOL 1100 OR GEOL 1101 OR PERMISSION OF INSTRUCTOR.

**GEOL 5527 Information Technology for GIS 3 credits.** Study of servers, networks, system administration, relational database design and management, spatial database engines, and serving maps on the internet. The course uses traditional lectures along with

demonstrations, and hands-on exercises. PREREQ: GEOL 5503, GEOL 5503L OR PERMISSION OF INSTRUCTOR.

**GEOL 5528 Programming for GIS 3 credits.** Course introduces students to Visual Basic programming for GIS. Students will learn the fundamentals of object oriented programming, rapid application development, basic coding, help documentation, and compiling. Students will complete a project where they develop a GIS utility of their choice. PREREQ: MATH 1147 AND GEOL 1100 OR 1101, OR PERMISSION OF INSTRUCTOR.

**GEOL 5530 Principles of Hydrogeology 3 credits.** Surface and groundwater occurrence, movement and recovery, water quality and pollution, well construction principles, and computer modeling. PREREQ: GEOL 1100 OR GEOL 1101, OR PERMISSION OF INSTRUCTOR.

**GEOL 5531 Geobiology and the History of Life 4 credits.** Principles of biology and geology applied to the study of fossil invertebrates; consideration is given to morphology, classification, evolution, paleoecology, and the stratigraphic significance of fossils. PREREQ: GEOL 2202 (recommended); PERMISSION OF INSTRUCTOR.

**GEOL 5531L Invertebrate Paleontology Laboratory 0 credits.**

**GEOL 5535 Vertebrate Paleontology 4 credits.** Phylogenetic history of the vertebrates outlined in the light of morphology, classification, evolution, paleoecology, and the significance of fossils. Field trips. Cross-listed as BIOL 5535. PREREQ: GEOL 5531 OR BIOL 3314 OR EQUIVALENT.

**GEOL 5539 Principles of Taphonomy 3 credits.** Effects of processes which modify organisms between death and the time the usually fossilized remains are studied. Emphasis on vertebrates. Cross-listed as ANTH 5539 and BIOL 5539. PREREQ: PERMISSION OF INSTRUCTOR.

**GEOL 5540 Ore Deposits 3 credits.** Nature, mode of occurrence, and origin of ores with each type related to a given rock association and as the product of a particular environment. PREREQ: ONE OF GEOL 3314, GEOL 5552 (RECOMMENDED), OR GEOL 4421.

**GEOL 5545 Environmental and Engineering Geophysics 4 credits.** Geophysical applications to environmental and geological engineering problems. Includes seismic, gravity, magnetic, electrical, and electromagnetic methods. (Includes lab.) PREREQ: MATH 1144 OR 1147, GEOL 1100 OR 1101, OR -

PERMISSION OF INSTRUCTOR.

**GEOL 5550 Field Geology 6 credits.** Five-week summer field camp, applying standard geologic field instruments and geologic concepts to a series of field problems. PREREQ: GEOL 4421 and GEOL 5552, GEOL 3314 (recommended) or GEOL 4420.

**GEOL 5551 Field Methods in Environmental Sciences 3 credits.** Practical application of field methods with an Earth systems focus. Analysis of topographic and vegetational data, hydrologic methods, riverine processes and habitat, and soil characteristics, emphasizing use of GIS, GPS, remote sensing and other geotechnologies. Two-week summer course at Lost River Field Station. PREREQ: GEOL 5503 and GEOL 5503L, and either GEOL 5515 or GEOL 5516, and BIOL 2209.

**GEOL 5552 Sedimentation-Stratigraphy 4 credits.** Principles of sedimentation from source to diagenesis. The basis of stratigraphic nomenclature, classification, and correlation of rock units. Laboratory covers unconsolidated sediment, hand specimens, subsurface, and field techniques. PREREQ: GEOL 2210 AND ENGL 1102 OR PERMISSION OF INSTRUCTOR. COREQ: CHEM 1111.

**GEOL 5552L Sedimentation-Stratigraphy Laboratory 0 credits.** Assignments to apply principles in GEOL 5552. COREQ: GEOL 5552.

**GEOL 5554 Basic Engineering Geology 3 credits.** Geology applied to engineering projects; geotechnical problems in civil projects; site methods. Subsurface investigations including scope, logging, and in situ and geophysical methods. Cross-listed as CE 5554. PREREQ: GEOL 3314 OR CE 3332.

**GEOL 5555 Geologic Data Methods 3 credits.** Classification of geotechnical projects. Geologic mapping for civil engineering purposes. Development of engineering geologic profiles. Pre-bid geotechnical investigations and field instrumentation for civil works projects. Cross-listed as CE 5555. PREREQ: GEOL 4450.

**GEOL 5556 Geology of Idaho 2 credits.** Geologic provinces and plate tectonic history of Idaho. Topics include basement, Belt Supergroup, Phanerozoic passive margin, Cordilleran orogen, accreted terranes, Idaho batholith, Challis volcanics, Idaho mineral deposits, Basin and Range, Snake River and Pleistocene floods. PREREQ: GEOL 1100 OR GEOL 1101.

**GEOL 5558 Geology of North America 3 credits.** Regional stratigraphy and tectonics of

North America emphasizing National Parks and the Intermountain West. Graduate students will do extensive additional reading in current literature. PREREQ: GEOL 1100 OR GEOL 1101.

**GEOL 5565 Subsurface Geology 3 credits.** Principles of well log interpretation and correlation, core and cuttings description, cross section and subsurface map creation. Environmental geology, hydrogeology, mining, geological engineering, and petroleum applications. PREREQ: GEOL 2210 OR PERMISSION OF INSTRUCTOR.

**GEOL 5571 Historical Geography of Idaho 3 credits.** Influences of geography and geology on Idaho's economic, political and cultural history. May be team taught and include field trips, discussion sections. Cross-listed as HIST 5571 and POLS 5571.

**GEOL 5575 Essentials of Geomechanics 3 credits.** Essentials of rock fracture relevant to geological engineering including stress and strain, properties and classification of rock masses, rock fracture mechanisms. Cross-listed as CE 5575. PREREQ: GEOL 4421 OR ENGR 3350.

**GEOL 5576 Engineering Geology Project 1 credit.** Team projects studying actual problems in engineering geology. Cross-listed as CE 5576. PREREQ: GEOL 5554 OR CE 5554.

**GEOL 5580 Special Topics in GIS 1-3 credits.** Visual Basic programming for GIS. May be repeated. PREREQ: GEOL 5503 and GEOL 5503L OR PERMISSION OF INSTRUCTOR.

**GEOL 5581 GeoTechnology Internship 1-3 credits.** Choose a project with either natural resource or municipal GIS emphasis and work with real-world data at the internship's off-campus location. Projects focus on using/creating geotechnical data. PREREQ: GEOL 5503 and GEOL 5503L OR PERMISSION OF INSTRUCTOR.

**GEOL 5583 Earthquake Engineering 3 credits.** Mechanism and characterization of earthquakes; seismic risk analysis; site and structural response; applications from points of view of engineer and geologist. Cross-listed as CE 5580. PREREQ: GEOL 3313 OR CE 3332, OR PERMISSION OF INSTRUCTOR.

**GEOL 5591 Seminar 1 credit.** Field trip or discussion of current geologic literature and geologic problems. May be repeated until 3 credits are earned. PREREQ: PERMISSION OF INSTRUCTOR. Graded S/U.

**GEOL 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**GEOL 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**GEOL 6601 Advanced Physical Geology 2 credits.** An advanced level course in physical geology required for all first year graduate students. A review of the principles of physical geology, and an overview of current hypotheses and research in the field.

**GEOL 6602 Advanced Geomorphology 3 credits.** Seminar in the treatment of theoretical concepts in classical and modern geomorphology.

**GEOL 6603 Geologic Writing Seminar 1 credit.** Review of quality geologic writing practices; extended field trip and introduction to regional geology. Topics include databases, abstracts, stratigraphic terminology, grant proposals, thesis prospecti, and use of reference library. Required for all Geosciences graduate students.

**GEOL 6604 Watershed Modeling 3 credits.** Use of geographic information systems and integrated simulation models to study the hydrologic cycle, water quality, agricultural and industrial impacts, environmental and related issues at the watershed scale. PREREQ: GEOL 5404.

**GEOL 6606 Geostatistical Spatial Data Analysis and Modeling 4 credits.** Description, analysis and modeling of spatial data in the geosciences, emphasizing hands-on application of geostatistical software tools for spatial analysis and probabilistic modeling in petroleum and groundwater reservoirs, environmental remediation, and mining or any application involving spatially-varying data. PREREQ: PERMISSION OF INSTRUCTOR.

**GEOL 6607 Spatial Analysis 3 credits.** This course focuses on advanced techniques for spatial data analysis covering issues in sampling, characterizing, visualizing, exploring and modeling spatial data. Techniques for point patterns, continuous data, area data, and spatial interaction data will be emphasized. PREREQ: GEOL 5503, MATH 1170/1175, AND A BASIC STATISTICS CLASS (e.g., MATH 2253) OR PERMISSION OF IN-

STRUCTOR.

**GEOL 6609 Advanced Image Processing 1 credit.** An advanced-level course in image processing techniques, such as using transforms, filters, and classifiers for data derived in the visible, infrared, and microwave. Specific topics include preprocessing, endmember analysis, classification (including spectral unmixing), and accuracy assessment. Practical application of theory for graduate student theses and dissertations. PREREQ: GEOL 5509.

**GEOL 6615 Neutron Activation Analysis 4 credits.** Theory and use of neutron activation methods for quantitative chemical analysis of natural and synthetic materials. Applications in geologic systems will be emphasized. Cross-listed as CHEM 6615, PHYS 6615. PREREQ: PERMISSION OF INSTRUCTOR.

**GEOL 6617 Environmental Geochemistry 3 credits.** Geochemistry of environmental systems. Emphasis given to low-temperature water-rock interactions, including sorption processes, retardation, reaction kinetics and reaction-mass transport modeling. Cross-listed as CHEM 6617. PREREQ: CHEM 1112 AND GEOL 5520 OR CHEM 3351.

**GEOL 6618 Applied Geophysics 3 credits.** - Geologic interpretation of reflection seismic, refraction seismic, gravity, magnetic, and ground-penetrating radar data.

**GEOL 6621 Advanced Structural Geology 3 credits.** Current aspects of structural geology or tectonics. May focus on regional structures, tectonic theories, orogenic mechanics, global tectonic model(s), or topics of special interest in structural geology.

**GEOL 6622 Orogenic Belts of the World 3 credits.** Interdisciplinary analysis of Alpine and Cordilleran-type mountain belts including their infrastructure, tectonic evolution, and mechanisms of formation.

**GEOL 6623 Tectonics and Sedimentation 3 credits.** Sedimentary basin analysis and mechanisms of subsidence. Extensional, compressional and strike-slip tectonics as related to depositional systems, facies architecture, and provenance.

**GEOL 6625 Quantitative Geochemistry Lab 3 credits.** Practical application of theory involving use and operation of instrumental techniques. Cross-listed as CHEM 6625.

**GEOL 6628 Advanced GIS Programming 3 credits.** Course focuses on Visual Basic for Applications (VBA) programming for ArcGIS. Students will learn to navigate, interact, and utilize ArcObjects to customize ArcGIS and to



create and distribute their own customizations (i.e., dll). PREREQ: GEOL 5503, GEOL 5528, AND PERMISSION OF INSTRUCTOR.

**GEOL 6630 Advanced Hydrogeology 3 credits.** Advanced topics in hydrogeology, including precipitation and stream flow, soil moisture, principles and modeling of groundwater flow, migration of wastes in both saturated and unsaturated zones, design and impact of production wells, water chemistry. PREREQ: GEOL 5530 OR EQUIVALENT.

**GEOL 6631 Sedimentology 3 credits.** Provenance, dispersal, and environments of deposition; emphasis on various aspects of surface equilibria.

**GEOL 6641 Advanced Petrology 3 credits.** Selected topics in igneous and/or metamorphic petrology, regional and/or global aspects of current interest, including relationship to major advances in other areas of solid earth sciences.

**GEOL 6646 The Sedimentary Record 4 credits.** Earth history as revealed in sedimentary facies, provenance, chemical and isotopic excursions. Methods of analysis including sequence stratigraphy, geochronology, biogeochemistry, chemostratigraphy. Sedimentary petrology and field methods emphasized in lab.

**GEOL 6648 Research Problems 1-6 credits.** Independent research on non-thesis subject matter, subject to approval of the staff before results receive credit. Course may be repeated until 10 credits are earned.

**GEOL 6650 Thesis 1-9 credits.** Ordinarily a fieldproblem with supporting laboratory work undertaken by the student with approval of the geology graduate faculty, and after a thesis prospectus has been accepted. May be repeated. Graded S/U.

**GEOL 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**GEOL 8850 Doctoral Dissertation (Ph.D. in Engineering and Applied Science) variable credits.** Research toward and completion of the dissertation. May be repeated Graded S/U.

## Department of Mathematics

Chair and Professor Fisher

Assistant Chair and Professor Laquer

Professors: Egger, Hanin, Kriloff, Palmer,

Payne, Stowe, Wolper

Associate Professors: S. Chen, Y. Chen, Derryberry, Gironella, Gryazin, W. Zhu

Assistant Professors: Y. Zhu

### Goals

- M.S. students develop a broad knowledge of mathematics and a degree of competence in one field within mathematics.
- D.A. students develop a broad knowledge of mathematics; learn about the roles of instruction, service, and research in the mathematical profession; and study a mathematical topic in depth, reporting their findings in a thesis that meets professional standards.
- Graduate students find employment in teaching or industry.

## Doctor of Arts in Mathematics

The Doctor of Arts program in mathematics is designed to prepare the student for a teaching career in institutions of higher learning. The program emphasizes broad competence in mathematics rather than specialization and makes provision for classroom teaching - experience.

### Admission Requirements

Admission to the D.A. program requires the completion of the requirements for a master's degree equivalent to the M.S. in mathematics at Idaho State University with a 3.5 GPA or higher in all graduate work. The general Graduate Record Examination (GRE) is required with a minimum score at the 67th percentile on the quantitative section and at the 50th percentile for the average of the percentiles on the quantitative, verbal, and analytical sections.

In addition to completing the application procedure specified by the Graduate School (page 7), applicants to the D.A. program in Mathematics must:

1. Submit directly to the Department of Mathematics a letter discussing the applicant's reasons for wishing to pursue the D.A. program. The letter must contain a request for an assistantship or fellowship if the applicant wishes to be considered for such.
2. Arrange for three confidential letters of recommendation to be sent directly to the

Department of Mathematics. These letters must address the applicant's background and potential for success in the study of advanced mathematics and in the teaching of college-level mathematics.

Applicants will be selected according to the following criteria:

1. Measure of success in completing the master's program;
2. Satisfactory GRE scores;
3. Teaching experience;
4. Letters of recommendation;
5. Applicant's reasons for wishing to pursue this specific program.

Applications must be received by April 1 to be given full consideration.

### Residence

Up to six semester hours beyond the master's degree may be transferred into the program. Two consecutive semesters of full-time study are required in residence.

### Committees and Advising

The student will be advised initially by the departmental graduate committee. This group will be the student's temporary advising committee and will assist in the selection of the student's permanent committee which will supervise the remainder of the student's - program.

### General Requirements

The program requires course work, a thesis, teaching internships, and examinations as described below. The program must include a minimum of 48 credits beyond the masters degree, and at least two 6600-level sequences taken in residence. Approval for optional courses is granted by the Mathematics Department Graduate Committee.

#### 1. Course Work

##### a. Mathematics Component

##### i. CORE COURSES

MATH 6625-6626 Real Analysis	6 cr
MATH 6627-6628 Complex Analysis	6 cr
MATH 6631-6632 Abstract Algebra	6 cr
MATH 6671-6672 Topology	6 cr

##### ii. Twelve additional 6600-level Mathematics credits, including one full-year sequence

##### b. Interdisciplinary and Applied Mathematics Component Fifteen (15) credit hours of coursework in statistics, applied mathematics, and/or approved interdisciplinary subjects are required.

##### i. The following mathematics courses satisfy this requirement:

MATH 5550-5551 Mathematical Statistics	
MATH 5521-5522 Advanced Engineering Mathematics	
MATH 5541-5542 Numerical Analysis	
MATH 5557 Applied Regression Analysis	
MATH 5558 Experimental Design	
MATH 5559 Applied Multivariate Analysis	
MATH 5565 Partial Differential Equations	
MATH 6641-6642 Numerical Analysis	

MATH 6652 Stochastic Processes  
 MATH 6653 Advanced Topics in Probability and Statistics  
 MATH 6662-6663 Differential Equations  
 MATH 6664-6665 Applied Mathematics

- ii. Graduate courses taken in other departments may be applied toward this requirement, but such courses must contain a substantial mathematics component and be approved by the mathematics department graduate committee.
- c. Education Component
  - i. MATH 6600 Introduction to College Mathematics Teaching 1 cr
  - ii. MATH 6610 Topics in College Mathematics Teaching 1 cr
  - iii. MATH 6692 Doctor of Arts Seminar 2 cr
  - iv. MATH 6693 Mathematical Exposition 1 cr

An approved course in technical or expository writing if recommended by the departmental graduate committee in consultation with the student's permanent committee

2. Doctor of Arts Thesis—The Doctor of Arts Thesis is an expository or research paper in mathematics or mathematics education. Six hours of course credit are given for the completion of the thesis.
3. Teaching Internship—Each candidate must complete teaching internships under the supervision of the departmental Graduate Committee. Six hours of course credit must be earned in MATH 7700 Supervised Teaching Internship.
4. Examinations
  - a. D.A. Written Examination: A written comprehensive examination on undergraduate-level mathematics.
  - b. Oral Examination: An oral examination on the four core areas previously described in Section 1.
  - c. Final Examination: The candidate will present to the public a lecture on the candidate's dissertation, and will answer any questions that arise. Following the lecture and question period, the candidate will be examined orally by the candidate's dissertation committee on topics related to the dissertation.

## Doctor of Philosophy in Engineering and Applied Science

This Ph.D. program is available to students wishing to study mathematics applied to problems in subsurface science. The complete program description is provided under the College of Engineering section of the Graduate Catalog.

## Master of Science in Mathematics

The Master of Science degree program is designed to provide a broad and in-depth background and prepare the student for further study at the doctoral level or for an industrial or academic career.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following departmental requirements.

For full admission to the M.S. degree program in mathematics, the applicant must have completed all requirements for a bachelor's degree in mathematics at an accredited institution. The applicant should have a grade point average of at least 3.0 in upper-division undergraduate course work and have taken the Graduate Record Examination, achieving at least the 50th percentile on the quantitative part of the general aptitude test. The student should have completed course work in modern algebra, differential equations, advanced calculus, and introductory analysis. Applicants not fully meeting these requirements may be allowed to make up deficiencies at Idaho State University. If the applicant wishes to be considered for an assistantship, the applicant must send directly to the Department of Mathematics a letter requesting such and a brief outline of the applicant's qualifications for a teaching or research assistantship.

Applications must be received by April 1 to be given full consideration.

### General Requirements

The Master of Science program in Mathematics provides thesis and non-thesis options. Students choosing either option must take 15 credits in mathematics at the 6600 level, including two full-year sequences. Of the remaining 15 graduate credits required for the degree, at least 9 must be in mathematics. The entire program of study must be approved by the departmental graduate committee.

Students must pass a written examination on one of the 6600-level sequences in their programs of study. Those who choose the thesis option must also complete and defend an expository or research thesis, for which they will receive 6 credits of MATH 6649. Those who choose the non-thesis option must pass a final oral examination over all courses in their program of study.

## Master of Arts in Mathematics for Secondary Teachers

The degree Master of Arts in Mathematics for Secondary Teachers (MAMST) is designed for people with a bachelor's degree who hold a secondary school teaching certificate for the teaching of mathematics and have at least three years of full-time teaching experience. The objective of the program is to enhance the mathematical training of secondary teachers and to equip such teachers with a broad and modern background in mathematics.

### Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with the following departmental requirements. For full admission to the MAMST program, the applicant (1) must hold a bachelor's degree and a standard secondary school teaching certificate in mathematics; (2) must have at least three years' full-time teaching experience; (3) must have a GPA of at least 3.0 for the last two years of undergraduate work; (4) must have taken the Graduate Record Examination (GRE), achieving at least the 50th percentile on the quantitative part of the general aptitude test; and (5) must have completed undergraduate work equivalent to that required for the Idaho State University Teaching Major in Mathematics.

### General Requirements

The MAMST degree requires the following:

1. Possession of a bachelor's degree and a secondary teaching certificate in mathematics.
2. Completion of a program of study approved by the Graduate Committee of the Department of Mathematics and the Dean of the Graduate School.
3. Completion of a minimum of 30 credits beyond the bachelor's degree in courses numbered 5500 or above.
4. Approval of semester papers as required by the Graduate Committee of the Department of mathematics.
5. Satisfactory performance on comprehensive written and oral examinations on the student's program of study.

### Mathematics Graduate Courses

**MATH 5503 Survey of Combinatorics and Graph Theory 3 credits.** Enumeration techniques, including generating functions. Applications. Introductory graph theory. Students enrolled for graduate credit will be assigned

additional work beyond the undergraduate students as outlined by the instructor and noted on the course syllabus. PREREQ: MATH 1175 and MATH 2240.

**MATH 5504 Topics in Combinatorics and Graph Theory 3 credits.** Application of algebraic, analytic, and/or probabilistic methods to combinatorial, graph-theoretic, and algorithmic problems. Students enrolled for graduate credit will be assigned additional work beyond the undergraduate students as outlined by the instructor and noted in the course syllabus. PREREQ: MATH 5503 or Permission of instructor.

**MATH 5506 Advanced Linear Algebra 3 credits.** Advanced linear algebra with a strong emphasis on proof. Real and complex vector spaces, linear transformations, polynomials associated to matrices, determinants, canonical forms, inner product spaces. Suggested prereq MATH 2240.

**MATH 5507-5508 Modern Algebra 3 credits each.** Rings, fields, groups, algebras, and selected topics in abstract algebra. Suggested prereqs MATH 2240 and MATH 2287.

**MATH 5521 Advanced Engineering Mathematics I 3 credits.** Analysis of complex linear and nonlinear engineering systems using advanced techniques, including Laplace transforms, Fourier series and classical partial differential equations. Suggested prereq MATH 3360.

**MATH 5522 Advanced Engineering Mathematics II 3 credits.** Analysis of complex linear and nonlinear engineering systems using advanced techniques, including probability and statistics, advanced numerical methods and variational calculus. Suggested prereqs MATH 5521.

**MATH 5523 Introduction to Real Analysis I 3 credits each.** The theory of differentiation and Riemann integration of functions of one variable. Sequences and series of functions. Suggested prereq MATH 3326.

**MATH 5524 Introduction to Real Analysis II 3 credits.** Metric spaces and theory of differentiation and Riemann integration in several variables. Suggested prereqs MATH 4423 or MATH 5523.

**MATH 5526 Elementary Analysis 3 credits.** A beginning course in analysis on the real line. Proof writing and the underlying logic are emphasized throughout the course. Topics include sets and functions, sequences, convergence, limits, continuity, and infinite series. Enrollment restricted to students admitted to the MAMST program approved by the depart-

ment graduate committee.

**MATH 5535 Elementary Number Theory 3 credits.** Diophantine equations, prime number theorems, residue systems, theorems of Fermat and Wilson, and continued fractions. Suggested prereq MATH 5507.

**MATH 5541 Introduction to Numerical Analysis 3 credits.** Introduction to standard numerical techniques for solving problems dealing with nonlinear equations, systems of linear equations, differential equations, interpolation, numerical integration, and differentiation. Suggested prereqs MATH 2240, MATH 3326, and MATH 3360 or PERMISSION OF INSTRUCTOR.

**MATH 5542 Introduction to Numerical Analysis 3 credits.** Extension of MATH 5541 for students who wish to pursue more advanced techniques with emphasis on analysis. Typical topics covered include numerical methods applied to partial differential equations, integral equations, and in-depth treatment of topics covered in MATH 5541. Suggested prereq MATH 5541.

**MATH 5544 Modern Geometry 3 credits.** Transformation groups. Topics from hyperbolic, projective, and other geometries.

**MATH 5550-5551 Mathematical Statistics 3 credits each.** Probability, random variables, discrete and continuous distributions, order statistics, limit theorems, point and interval estimation, uniformly most powerful tests, likelihood ratio tests, chi-square and F tests, nonparametric tests. Suggested prereqs MATH 3326 and MATH 3352.

**MATH 5552 Introduction to Probability 3 credits.** Fundamentals of probability, discrete and continuous random variables, distributions such as binomial, uniform, Poisson, hypergeometric, normal, gamma; expectation; joint, marginal, conditional distributions; central limit theorem; applications to statistics. Emphasizes materials needed to develop statistical inference methods. Enrollment restricted to students admitted to the MAMST program and approved by the department graduate committee.

**MATH 5553 Topics in Statistics 1-3 credits.** Content varies. May be repeated for up to 6 credits. Suggested prereq PERMISSION OF INSTRUCTOR.

**MATH 5557 Applied Regression Analysis 3 credits.** Simple and multiple linear regression, polynomial regression, diagnostics, model selection, models with categorical variables. Suggested prereqs MATH 3350 or MATH 3352 or PERMISSION OF INSTRUCTOR.

**MATH 5558 Experimental Design 3 credits.** The linear model for experimental designs, analysis of variance and covariance, block designs, factorial designs, nested designs, choice of sample size. Suggested prereqs MATH 3350 or MATH 3352 or PERMISSION OF INSTRUCTOR.

**MATH 5559 Applied Multivariate Analysis 3 credits.** Matrix computation of summary statistics, graphical analysis of multivariate procedures, multivariate normal distribution, MANOVA, multivariate linear regression, principal components, factor analysis, canonical correlation analysis. Suggested prereq MATH 2240 and one of the following: MATH 3350, MATH 5557, MATH 5558 or PERMISSION OF INSTRUCTOR.

**MATH 5565 Partial Differential Equations 3 credits.** Equations of the first and second orders, methods of solution, Laplace's Equation, heat equation, and the wave equation. Emphasis on applications to problems in the physical sciences and engineering. Suggested prereqs MATH 2275 and MATH 3360.

**MATH 5573 Introduction to Topology 3 credits.** Metric spaces; convergence; notions of continuity; connected, separable and compact spaces. Suggested prereq PERMISSION OF INSTRUCTOR.

**MATH 5581 Special Problems 1-3 credits.** Reading and conference in an area not usually covered by a regular offering. Individual work under the supervision and guidance of a professor whose specialty includes the chosen area. Open to seniors and graduate students in good standing and with the consent of the instructor. May be repeated until 6 credits are earned.

**MATH 5591 Mathematics Seminar 1-3 credits.** Advanced reading and discussion on selected topics in mathematics. May be taken for credit more than once. Suggested prereq SENIOR STANDING OR EQUIVALENT.

**MATH 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**MATH 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**Courses 5526 through 5562 are restricted to students admitted to the MAMST program**

**MATH 5526 Elementary Analysis 3 credits.** Rigorous calculus on the real line. Completeness, compactness and connectedness. Continuity, images of compact and connected sets. Series, uniform convergence. Differentiability, inverse functions, chain rule. Integration, fundamental theorem, improper integrals. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5527 Vector Analysis 3 credits.** Calculus of vector functions of several variables, derivative matrix, chain rule, inverse function theorem, multiple integration. Change of variables. Integrals over curves and surfaces. Green's, Stokes' and Divergence Theorems. Applications to Physics. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5543 Modern Geometry I 3 credits.** Planar Euclidean geometry. Rigid motions and symmetry in the plane. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5552 General Statistics 3 credits.** Probability, random variables, discrete and continuous distributions such as the Binomial, Poisson, Geometric, Hypergeometric, Normal and Gamma, sampling distribution, point and interval estimation, hypothesis testing. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5555 Operations Research I 3 credits.** Deterministic problems in operations research oriented towards business. Includes linear programming, transportation problems, network analysis, PERT, dynamic programming, and elementary game theory. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5556 Operations Research II 3 credits.** Probabilistic models oriented towards business are treated. Selections from stochastic processes, Markov chains, queuing theory, inventory theory, reliability, decision analysis and simulation. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5560 Differential Equations 3 credits.**

Theory and applications of ordinary differential equations. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 5562 Introduction to Complex Variables 3 credits.** Introduction to the study of functions of a complex variable including the algebra and geometry of complex numbers, analytic functions, power series, integral theorems, and applications. Enrollment restricted to students admitted to the MAMST program and approved by the departmental graduate committee.

**MATH 6600 Introduction to College Mathematics Teaching 1 credit.** Practical course management issues for teaching mathematics at the college level. Open only to graduate students in mathematics. May not be repeated. Graded S/U.

**MATH 6610 Topics in College Mathematics Teaching 1 credit.** Theories and research related to mathematics teaching and learning. May be repeated. Graded S/U.

**MATH 6625-6626 Real Analysis 3 credits each.** Measures, the Lebesgue integral,  $L_p$  spaces and other normed vector spaces, approximation theorems. Suggested prereq MATH 5524.

**MATH 6627-6628 Complex Analysis 3 credits each.** Theory of functions of a single complex variable, including their differentiation, integration and representation by sums, products and integrals. The Cauchy integral formula and its consequences, conformal mappings, harmonic functions.

**MATH 6631-6632 Abstract Algebra 3 credits each.** Advanced theory and structural properties of groups, rings, modules, and fields, including topics such as group actions, universal maps, and Galois theory. Suggested prereqs MATH 5508 or PERMISSION OF INSTRUCTOR.

**MATH 6633 Matrix Analysis 3 credits.** Eigenvalues, special matrices, normal forms, matrix polynomials, matrix functions, matrix norms, Kronecker products, stability, matrix equations, generalized inverses, nonnegative matrices. Suggested prereqs MATH 5506 and MATH 5524.

**MATH 6636-6637 Lie Groups and Lie Algebras 3 credits each.** Lie groups, Lie algebras, and their representations. Structure of real and complex Lie algebras. Representations of semisimple Lie algebras and compact Lie groups. Suggested prereqs MATH 5506 and MATH 5507 or PERMISSION OF INSTRUCTOR.

**MATH 6641-6642 Numerical Analysis 3 credits each.** Topics selected from approximation theory, optimization, numerical linear algebra, differential and integral equations, spline analysis, computer algorithms, and other areas of current research in numerical analysis. Suggested prereqs MATH 5523 and MATH 5541.

**MATH 6650 Thesis (M.S.) 1-6 credits.** Graded S/U.

**MATH 6652 Stochastic Processes 3 credits.** Topics from conditional probability and expectation, martingales, Kolmogorov's Theorem, Markov processes, random walks, Brownian motion, diffusions, dynamic programming, stochastic differential equations. Applications to modeling physical and/or social dynamical systems. Suggested prereq MATH 5550.

**MATH 6653 Advanced Topics in Probability and Statistics 3 credits.** Topics such as experimental design, regression analysis, multivariate statistical analysis. Suggested prereqs MATH 3352 AND MATH 5506 or PERMISSION OF INSTRUCTOR.

**MATH 6655-6656 Combinatorics 3 credits each.** Theory and applications of: choice and enumeration techniques, generating functions, partitions, designs and configurations, graph theory including digraphs, algebraic graph theory and extremal problems. Suggested prereq PERMISSION OF INSTRUCTOR.

**MATH 6662-6663 Differential Equations 3 credits each.** Existence, uniqueness, and dependence of solutions upon initial conditions; linear equations; autonomous equations; dynamical systems and stability; partial differential equations of first and second order, with applications. Suggested prereqs MATH 3326, MATH 3327, and MATH 3360.

**MATH 6664-6665 Methods of Applied Mathematics 3 credits each.** Transform, spectral, variational and perturbation methods applied to the analysis of equations involving differential and integral operators. Emphasis on equations arising in physical and biological sciences. Suggested prereqs MATH 5506 and MATH 5565.

**MATH 6667-6668 Functional Analysis 3 credits each.** Major results of functional analysis, such as the Hahn-Banach, open mapping, and closed graph theorems; study of Hilbert and Banach spaces; spectral analysis. Suggested prereqs MATH 5523 or MATH 6625 or PERMISSION OF INSTRUCTOR.

**MATH 6671-6672 Topology 3 credits each.** Fundamental theorems and examples from point-set topology; emphasis on general and metric topologies and continuous mappings; introduction to topology of manifolds, covering spaces, homotopy, homology, and cohomology. Suggested prereqs MATH 5573 or PERMISSION OF INSTRUCTOR.

**MATH 6681-6682 Differential Geometry 3 credits each.** Differentiable manifolds and mappings; bundles, connections, geodesics, and curvature; Lie groups; topics from Riemannian, Hermitian, or symplectic geometry. Suggested prereq MATH 3327.

**MATH 6691 Directed Reading 1-3 credits.** Reading and problems arranged on an individual basis with a faculty supervisor.

**MATH 6692 Doctor of Arts Seminar 2 credits.** Topics include the nature and practice of mathematical research, grants, public speaking, professionally and classroom related software, information media, issues in mathematical pedagogy, standards, and curricula, university organization, history of mathematics. Graded S/U.

**MATH 6693 Mathematical Exposition 1 credit.** Presentation of mathematics in a seminar setting. Small group practice in and critique of mathematical exposition. Requirements include presentation of a departmental colloquium on an assigned topic. Graded S/U.

**MATH 6694 Special Topics in Mathematics 1-3 credits.** Each offering will deal with a topic selected from such fields of mathematics as algebra, analysis, geometry, number theory, topology, applied analysis, probability, and mathematical logic. May be repeated.

**MATH 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**MATH 7700 Supervised Teaching Internship. Credit variable up to 9 credits.** Graded S/U. May be repeated.

**MATH 7750 Thesis (D.A.) 1-6 credits.** Graded S/U.

**MATH 8850 Dissertation (Ph.D. in Engineering and Applied Science) Variable credit.** Graded S/U.

## Department of Physics

Chair and Professor: Khandaker  
 Professors: Dale, Shropshire  
 Associate Professors: Cole, Tatar  
 Research Associate Professor: Chouffani, Hunt, Forest  
 Assistant Professor: McNulty  
 Research Assistant Professors: Starovoitova, Y. Kim  
 Senior Lecturer: Hackworth  
 Visiting Assistant Professor: Calderon  
 Instructor: Bernabee  
 Adjunct Faculty: Franckowiak, Millward, Hobdey  
 Affiliate Faculty: Blackburn, DeVeaux, Harris, Hill, Jones, K. Kim, Roney, Wells  
 Professors Emeritus: Beezhold, Harmon, Parker, Vegors

### General Objectives of Graduate Programs

The objectives of our graduate degrees, which are the M.S., M.N.S., and a Ph.D. in Applied Physics, are to develop a core competence in the fundamental physical science that is appropriate for the level of the degree, to develop more generalized skills of quantitative reasoning that are applicable to any discipline, and to understand the nature and influence of physics in particular, and science in general, upon our society. Additional objectives for these students include the development of (1) broad, fundamental technical skills and knowledge, (2) strong communication skills, and (3) the capability to think critically and work independently. The expectations for each of these objectives have a "level" that is appropriate for the degree.

The Department offers two emphases in its Applied Physics programs. These are Health Physics, which is the science and practice of radiation protection, and Physics, which is the science and application of the physical laws of nature. (Health Physics will be moving to the Nuclear Engineering Department.)

The learning objectives of the M.S. degree with an emphasis in physics, are mastery of the "core" subjects of electromagnetism, non-relativistic quantum mechanics, and theoretical methods of classical physics (principally mechanics).

The objectives of the Idaho State University Health Physics M.S. program are to produce health physicists with broad, yet fundamental, technical knowledge, written and verbal communication skills, professional judgment and capability to think critically, practical experience in solving applied health-physics prob-

lems, the ability to work independently, and a professional ethic of magnitude sufficient for students to productively and successfully work in a variety of health-physics settings. (This degree will be moving to the Nuclear Engineering Department.)

The purpose of the M.N.S. degree is to provide a broad spectrum of knowledge in physical science for teachers of secondary education. The technical learning objectives are flexible in order to accommodate the interests of the student, so long as the subject area is physical science. There is no thesis requirement or expectation for this degree.

The communication objectives for these degrees are writing and speaking skills that are sufficient for students to represent themselves, their projects, and their organizations at regional, national, or international scientific meetings. Our expectations are that these students will obtain critical thinking skills and an ability to work independently at a level that will require minimal or no supervision by a more senior scientist or management.

The educational objectives of the Ph.D. degree in Applied Physics (emphasis on physics or health physics) include all of those of the M.S. programs, plus mastery of additional graduate-level classes of the student's choosing (in physics or health physics), plus completion of an original doctoral research thesis project with the objective of mastery of planning, executing, and publishing original research in physics or health physics at the highest level of the discipline. The communication objectives at this level are writing and speaking skills that are sufficient to teach in higher education, attract interest and funding to their projects, and to represent themselves, their projects and their organizations at regional, national, or international scientific meetings. Our expectations are that these students will develop critical thinking skills and an ability to work independently such that they are capable of initiating and leading their own scientific projects, and can work at a level that requires no supervision.

## Doctor of Philosophy in Applied Physics

### Program Goals

- Prepare graduates to conduct and disseminate independent scholarly research in applied physics.
- Prepare graduates for careers in academia, or related fields in the health professions, industry, or government.

## Program Objectives

- Increase the knowledge of graduates in their chosen field of applied physics.
- Enhance the ability of graduates to contribute to their chosen field of applied physics.
- Enhance effective written and oral communication skills of graduates.

The Ph.D. program in Applied Physics is an interdisciplinary program offered by the Department of Physics that allows for a broad range of research topics. Areas of emphasis in the department include: nuclear physics applications, medical physics, radiation effects in materials, biological systems and devices, accelerator physics and applications, materials science, homeland security applications, and other areas of applied nuclear science.

To attain a degree in this program, a student must demonstrate scholarly achievement and ability for independent investigation. The program will normally require approximately five years of full-time study beyond the bachelor's degree (or three years beyond the master's degree), including class work, research, and preparation of the dissertation.

## Admission Requirements

All applicants must meet Idaho State University Graduate School admission requirements for doctoral programs. In addition, applicants must have attained a minimum of a bachelor's degree in physics, health physics, or a closely related field (engineering, chemistry, biology, etc.). Students with degrees in biology, for example, are excellent candidates for admission to the health physics program. The student's course of study will be determined by consultation with the department chair, the health physics program director, or the department's graduate advising committee. Students may be required to complete any missing course material that is required for the B.S. degree in physics or health physics at Idaho State University. Continued enrollment in the program is contingent upon maintaining a 3.0 grade point average, and upon making satisfactory progress toward the degree.

A complete graduate application for classified status in the Idaho State University Physics Department Ph.D. program consists of:

- GRE scores (normally, a minimum of 50th percentile on verbal, quantitative, or analytical is required for classified students);
- An Idaho State University Graduate School application form, fee, and official copies of transcripts;
- Three letters of recommendation;
- A statement of career goals.

## General Requirements

The Ph.D. degree requires completion of at least 84 credits at the 500-course or greater. Of these, at least 32 credits, but no more than 44 credits, must be doctoral dissertation credits (PHYS 6699). At least 4 must be graduate seminar (or equivalent, as determined by the department). The remaining required credits consist of electives and the required courses listed below. Students entering the program with a master's degree may receive credit for up to 30 credits toward the Ph.D., subject to the department chair's approval. Students should complete the required courses as listed below (or their equivalent, as determined by the department), at Idaho State University. The required courses depend upon whether the student is enrolled in the health physics option or the physics option.

## Required Courses

### Physics Option (or equivalent at other institutions):

PHYS 6602 Theoretical Methods of Physics	3 cr
PHYS 6611-6612 Electricity and Magnetism	6 cr
PHYS 6621 Classical Mechanics	3 cr
PHYS 6624-6625 Quantum Mechanics	6 cr
PHYS 6649 Graduate Seminar	4cr

### Health Physics option (or equivalent at other institutions):

HPHY 5588 Advanced Radiobiology	3 cr
HPHY 6601 Quantitative Methods in Physics	3 cr
HPHY 6605 Radiological Environmental Monitoring and Surveillance	3 cr
HPHY 6610 Radiation Regulations	3 cr
PHYS 6649 Graduate Seminar	4 cr

## Program of Study

A departmental advisory committee consisting of graduate faculty will guide each student in establishing his or her program of course and laboratory study based upon the student's background and research interest. The advisory committee has the responsibility of ensuring that the student has adequate knowledge to support research in his or her area of research.

At the beginning of a full-time student's second year, the student will sit for a written Qualifying Examination. Exceptions to this schedule may be made when a student has academic deficits to make up, in which case the student will have an additional year. These exams are offered in January and September. The student will be allowed two attempts to pass this examination, and the second attempt must be the next available examination. The student will be admitted to candidacy upon passing the qualifying examination.

A dissertation committee of four departmental members and a Graduate Faculty Representative (GFR), chaired by the candidate's major professor, must be appointed within six

months of passing the qualifying examination. Within one year of passing the qualifying exam, the full-time candidate, with guidance from the major professor, must satisfactorily complete the Preliminary Examination, which consists of an oral presentation and defense of a written proposal for dissertation research to the student's dissertation committee.

The research and dissertation preparation must be done under the close supervision of the committee and must include at least one full year of work performed under the supervision of Idaho State University graduate faculty.

Dissertation Examination approval requires a public presentation of the dissertation and a satisfactory oral defense to the dissertation committee. Doctoral oral examinations are open to all regular members of the graduate faculty as observers. Further, oral presentations are open to the public until questioning by the dissertation committee begins.

# Master of Science Programs

## Admission Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School. In addition to the general requirements of the Graduate School, the student must comply with departmental requirements:

A complete graduate application for classified status in the Idaho State University Physics Department consists of:

- GRE aptitude scores;
- An Idaho State University Graduate School Application form, fees, and official copies of transcripts;
- Three letters of recommendation;
- A brief statement of career goals.

Applicants must hold the degree of Bachelor of Science or Bachelor of Arts in Physics, or a closely related field for the physics emphasis, or a B.S. or B.A. degree in health physics, biology, chemistry, physics, engineering, or similar field for the health physics option, as determined by the department. The student's course of study will be determined by consultation with the chair and the student's major advisor. In some circumstances, a placement examination will be given. Students will normally be required to complete as deficiencies any courses required for the B.S. in Physics at Idaho State University which they have not already taken. Continued enrollment in the program is contingent upon maintaining a 3.0 grade point average and upon making satisfactory progress toward the degree.

## Master of Science Thesis Option (Physics Emphasis):

A satisfactory score on physics examination(s) may be required before admission to candidacy. A total of 30 credits are required for the Master of Science Degree with Physics Emphasis.

### Required Courses

PHYS 6602 Theoretical Methods of Physics	3 cr
PHYS 6611 Electricity and Magnetism	3 cr
PHYS 6624-6625 Quantum Mechanics	6 cr
PHYS 6650 Thesis	6 cr

12 additional graduate level credits are required in courses approved by the student's advisor, department chair, and the Graduate School.

A public presentation of the thesis is required, along with a satisfactory oral defense to the thesis committee consisting of two departmental members and one GFR.

## Master of Science Non-Thesis Option (Physics Emphasis):

There are two mechanisms by which a student may attain a non-thesis M.S. degree. First, students in the Ph.D. program who do not pass the qualifying examination at the Ph.D. level after two attempts may complete a non-thesis M.S. degree. The required core courses for the non-thesis M.S. degree are the same as those for the Ph.D., i.e. those listed above. In addition, a non-thesis M.S. student must pass the qualifying examination at a level appropriate for the M.S., and he or she must complete an oral presentation and defense of a written proposal for research project to the student's graduate committee.

Second, students in the Ph.D. program who have completed all required courses for the Ph.D. and have passed both their qualifying examination and their oral presentation and defense of a written proposal for research project are eligible for a non-thesis M.S. degree.

## Master of Science (Health Physics Emphasis):

The Department of Nuclear Engineering and Health Physics additionally offers the M.S. option in Health Physics. Health physics, an applied science, is concerned with the protection of humans and their environment from the possible harmful effects of radiation while

providing for its beneficial uses. It is a multi-disciplined profession that incorporates aspects of both the physical and biological sciences. The Master of Science (MS) program in Health Physics is accredited by the Applied Sciences Accreditation Commission of ABET, <http://www.abet.org>. The Idaho State University Health Physics programmatic educational objectives have been developed in close collaboration of faculty and the Idaho State University Health Physics Program Advisory Board.

The educational objectives of the ISU Health Physics program are to produce Health Physicists with

- 1) broad, fundamental technical knowledge,
  - 2) written and verbal communication skills
  - 3) professional judgment and capability to think critically
  - 4) practical experience in solving applied health-physics problems
  - 5) the ability to work independently
  - 6) a professional ethic
- of magnitude sufficient for them to productively and successfully work in a variety of health physics settings. The graduate program has two additional educational objectives:
- 1) An ability to conduct research
  - 2) Professional tools and experience above that expected for the baccalaureate program.

The ISU Health Physics Program is in a state of transition from the Department of Physics to the newly named Department of Nuclear Engineering and Health Physics. This process of moving programs and realigning degree titles is also ongoing. Currently students earn a degree in Physics with Emphasis in Health Physics. This degree is being transitioned to a Masters of Science in Health Physics. Students interested in Health Physics at this time must apply to the Department of Physics M.S. program but indicate on their application their interest in Health Physics.

Students may enter the M.S. program in Health Physics from several undergraduate majors including health physics, physics, chemistry, biology, and other science or engineering majors. Additional course work to correct deficiencies may be necessary.

### Admission Requirements

For admission, the student must apply to, and meet all criteria for, admission to the Graduate School, including a baccalaureate degree in a physical or biological science or engineering.

### General Requirements

The basic program requirements are 33 credits, of which 15 credits must be at the 6600-course level. Six of the eighteen required credits may

be thesis. The normal core program is listed below. Students who are prepared with some education and experience in health physics will likely not need all of the elective health physics courses. Therefore, the student's program will be determined in consultation with the student's advisor and committee and can include electives to meet his/her needs. An oral examination in defense of the thesis is required for the thesis option.

### Required Courses

HPHY 5588 Advanced Radiobiology	3 cr
HPHY 6601 Quantitative Methods in Physics	3 cr
HPHY 6605 Radiological Environmental Monitoring and Surveillance	3 cr
HPHY 6610 Radiation Regulations	3 cr
HPHY 6650 Thesis	6 cr
TOTAL:	18 cr

### Electives - may be required if not taken at the undergraduate level.

PHYS 5509 Introductory Nuclear Physics	3 cr
HPHY 5516 Introduction to Nuclear Measurements	3 cr
HPHY 5531 Radiation Physics I	3 cr
HPHY 5532 Radiation Physics II	3 cr
HPHY 5533 External Dosimetry	3 cr
HPHY 5534 Internal Dosimetry	3 cr
HPHY 5555 Topics in Health Physics I	2 cr
HPHY 5556 Topics in Health Physics II	2 cr
PHYS 5592 Colloquium in Physics (may be repeated)	1 cr

## Master of Natural Science in Physics

The Master of Natural Science (MNS) in Physics is designed primarily for teachers and prospective teachers who want to improve their understanding of the subject matter of physics. Emphasis is upon the subject matter and the M.N.S. is generally not a thesis program. Individuals interested in this degree should hold a teaching certificate or be working toward one. The student's program will be determined in consultation with the student's advisor and committee. The program requires a minimum of 30 credits, 22 of which must be in residence. A final oral examination is required, with thesis committee consisting of two departmental members and one GFR.

### Admissions Requirements

The student must apply to, and meet all criteria for, admission to the Graduate School.

### General Requirements

The student's program will be determined in consultation with the student's advisor and committee. The program requires a minimum of 30 credits, 22 of which must be in residence. A final oral examination is required.

## Health Physics Courses

**HPHY 5511 Accelerator Health Physics 3 credits.** Fundamentals of particle accelerator design and operation. Examination of the potential radiation environment associated with accelerators and health and safety issues of their operation. PREREQ: SENIOR STANDING IN HEALTH PHYSICS OR PERMISSION OF INSTRUCTOR.

**HPHY 5512 Environmental Health Physics 3 credits.** State-of-the-art applied mathematical techniques for estimating the release, transport, and fate of contaminants in multimedia environmental pathways (air, groundwater, terrestrial). Both radiological and non-radiological contaminants will be addressed, with emphasis on radiological contaminants. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5513 Fundamentals of Industrial - Hygiene 3 credits.** Overview on the recognition, evaluation, and control of hazards arising from physical agents in the occupational environment. The exposure consequences associated with agents of major occupational health concerns are considered. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5516 Introduction to Nuclear Measurements 3 credits.** Lecture/laboratory course emphasizing practical measurement techniques in nuclear physics. PREREQ: CHEM1112 AND PHYS1111 AND PHYS1113 OR PHYS 2211 AND PHYS2213 OR EQUIVALENT OR PERMISSION OF INSTRUCTOR.

**HPHY 5517 Industrial and Aerosol Physics 3 credits.** This course focuses on two distinct subject areas: an elaboration on the details of the ACGIH method of local exhaust-system design, and a study of applied aerosol physics based upon trajectory analysis. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5518 Non-ionizing Radiation Protection 3 credits.** Occupational safety and health issues of human exposure to non-ionizing radiation. Topics include health concerns and safety strategies developed for extremely low frequency, microwave, radio-frequency, ultraviolet, infrared, laser radiation, and sound waves. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5519 Radiological Emergency Planning 3 credits.** Radiological emergency planning for facilities ranging from reactors and other major nuclear facilities to transportation accidents and smaller-scale nuclear accidents. Topics include planning, coordination, "exercises", exposure pathways, modeling, measurement, control, decontamination, and recovery. PREREQ: PERMISSION OF IN-

STRUCTOR.

**HPHY 5520 Reactor Health Physics 3 credits.** Introduction to reactor physics; nuances peculiar to reactor health physics; reactor designs. Critiques of exposure pathways accidents, decommissioning, contamination control, and emergency planning examine radiation safety approaches within the nuclear fuel cycle. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5531 Radiation Physics I 3 credits.** Atomic and nuclear structure, series and differential-equation descriptions of radioactive decay, physical theory of the interaction of radiation with matter suitable for the discipline of Health Physics. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5532 Radiation Physics II 3 credits.** Continuation of 5531 considering dosimetric quantities/units, theory and technology of radiation detection and measurement, and radiobiology important to an advanced understanding of radiation protection. PREREQ: PHYS 5531 OR PERMISSION OF INSTRUCTOR.

**HPHY 5533 External Dosimetry 3 credits.** A lecture course emphasizing external radiation protection including study of point kernel techniques, monte carlo modeling, and NCRP-49 methods. Also discussed are external dosimetry measurement techniques. PREREQ: PHYS 5532 OR PERMISSION OF INSTRUCTOR.

**HPHY 5534 Internal Dosimetry 3 credits.** A lecture course emphasizing internal radiation protection including studies of ICRP-2, ICRP-26&30, ICRP-60&66, and MIRD methods of internal dosimetry. PREREQ: PHYS 5533 OR PERMISSION OF INSTRUCTOR.

**HPHY 5555 Topics in Health Physics I 2 credits.** A lecture/seminar course covering special topics in Health Physics such as state and federal regulations, waste disposal methodology, and emergency procedures. PREREQ: PHYS 5532 OR PERMISSION OF INSTRUCTOR.

**HPHY 5556 Topics in Health Physics II 2 credits.** A continuation of 5555. A lecture/seminar course covering special topics in Health Physics such as state and federal regulations, waste disposal methodology, and emergency procedures. PREREQ: PHYS 5532 OR PERMISSION OF INSTRUCTOR.

**HPHY 5588 Advanced Radiobiology 3 credits.** An advanced-level class covering aspects of molecular radiobiology, teratogenesis, oncogenesis, and acute radiation illnesses. It

also considers nonstochastic radiation effects and the epidemiology of radiation exposures. Cross-listed as BIOL 5588. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 5590 ABHP Review 3 credits.** A course for practicing professionals aimed at the development and improvement of skills. PREREQ: PERMISSION OF INSTRUCTOR. May be graded S/U.

**HPHY 6601 Quantitative Methods in Physics 3 credits.** A review of the principles of physics and quantitative methods used: calculus, elementary differential equations and statistics. Designed for graduate students in the biosciences, chemistry, geology and interdisciplinary sciences.

**HPHY 6605 Radiological Environmental Monitoring and Surveillance 3 credits.** Advanced considerations in the design of monitoring programs. Sampling and analytical measurement programs for specific radionuclides and sources with emphasis in quality assurance.

**HPHY 6610 Radiation Regulations 3 credits.** Covers regulation of ionizing and non-ionizing radiation. Historical, biological, and legal foundations; federal regulations; state regulations; nuclear fuel cycle; emergency response; academic and medical facilities; transportation; accelerators; NORM/NARM; non-ionizing radiation. PREREQ: PERMISSION OF INSTRUCTOR.

**HPHY 6650 Thesis 1-12 credits.** May be repeated. Graded S/U.

**HPHY 8850 Doctoral Dissertation Variable credit.** Research toward and completion of the dissertation. May be repeated. Graded S/U.

## Physics Graduate Courses

**PHYS 5503 - 5504 Advanced Modern Physics 3 credits.** Study of the elementary principles of quantum mechanics and an introduction to atomic, solid state and nuclear physics. Quantum mechanics will be used as much as possible. PHYS 5503 is a PREREQ for 5504. PREREQ: MATH 3360 OR EQUIVALENT, AND PHYS 3301.

**PHYS 5505 Advanced Laboratory 2 credits.** Experiments in radiation detection and measurement, nuclear spectroscopy including x-ray and gamma spectroscopies, neutron activation and ion beam methods. Available to Geology, Engineering, Health Physics, and Physics majors. PREREQ: PERMISSION OF INSTRUCTOR.



**PHYS 5509 Introductory Nuclear Physics 3 credits.** A course in Nuclear Physics with emphasis upon structural models, radioactivity, nuclear reactions, fission and fusion. PREREQ: KNOWLEDGE OF ELEMENTARY QUANTUM MECHANICS AND DIFFERENTIAL EQUATIONS OR PERMISSION OF INSTRUCTOR.

**PHYS 5510 Science in American Society 2 credits.** Observational basis of science; technology's historical influences on scientific developments; perceptions of science in contemporary America; tools/strategies for teaching science. Cross-listed as GEOL 5510. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 5514 Electronic Instrumentation and Measurement 3 credits.** Lecture course with laboratory requirements. Topics include: DC and AC Electrical Circuits, Analog pulses, Bipolar Transistors, Field Effect Transistors, Operational amplifiers. PREREQ: PHYS2212, PHYS2214, and MATH 3360.

**PHYS 5515 Statistical Physics 3 credits.** Topics covered may include kinetic theory, elementary statistical mechanics, random motion and the theory of noise. Choice of topics will depend upon the interest of the students and instructor. PREREQ: PHYS 2212, MATH 3360.

**PHYS 5516 Radiation Detection and Measurement 3 credits.** Lecture/laboratory course emphasizing practical measurement techniques in nuclear physics. PREREQ: CHEM 1111, CHEM L1111, CHEM 1112, CHEM 1112L, AND EITHER (PHYS 1111 AND PHYS 1113) OR (PHYS 2211 AND PHYS 2213).

**PHYS 5521-5522 Electricity and Magnetism 3 credits.** Intermediate course in fundamental principles of electrical and magnetic theory. Free use will be made of vector analysis and differential equations. PHYS 5521 is a PREREQ for 5522. PREREQ: PHYS 2212 AND MATH 3360.

**PHYS 5542 Solid State Physics 3 credits.** Introduction to the field of solid state physics emphasizing the fundamental concepts. Topics usually covered are crystal structure, X-ray diffraction, crystal binding energies, free electron theory of solids, energy bands. PREREQ: PHYS 3301, PHYS 5583, MATH 3360 OR PERMISSION OF INSTRUCTOR.

**PHYS 5552 Intermediate Optics 3 credits.** Wave theory, e/m waves, production of light, measurement of light, reflection, refraction, interference, diffraction, polarization, optical

systems, matrix methods, Jones vectors, Fourier optics, propagation of e/m waves in materials, atmospheric optics. PREREQ: PHYS 2212. COREQ: MATH 3360

**PHYS 5553 Topics in Astrophysics 2 credits.** Applications of physics to astronomy or cosmology. May include lab exercise. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 5561-5562 Introduction to Mathematical Physics 3 credits.** Introduction to the mathematics most commonly used in physics with applications to and practice in solving physical problems; includes vector analysis, ordinary and partial differential equations. PHYS 5561 is a PREREQ for 5562. PREREQ: PHYS 2212 AND MATH 3360.

**PHYS 5583 Theoretical Mechanics 4 credits.** Detailed study of the motion of particles, satellites, rigid bodies and oscillating systems. Develop and apply Lagrangian and Hamiltonian methods. PREREQ: PHYS 2212 AND MATH 3360.

**PHYS 5592 Colloquium in Physics 1 credit.** Faculty and student lectures in current research topics in physics. Open to upper division and graduate students in physics. May be repeated to a maximum of 4 credits.

**PHYS 5597 Professional Education Development Topics. Variable credit.** A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. May be repeated. May be graded S/U.

**PHYS 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PHYS 6602 Theoretical Methods of Physics 3 credits.** Calculus of variations, Lagrangian and Hamiltonian formalisms of classical mechanics, some classical scattering theory, methods of solving PDEs, Green's functions, functions of complex variables, vector and tensor analysis, matrix, group and operator theory, and numerical methods integrated throughout each topic.

**PHYS 6603 Particle Physics 3 credits.** Basic constituents of the standard model, experimental methods, particle interactions: weak, gravitational, strong and electromagnetic, conservation laws, hadron structure and interactions, unification of interactions, physics beyond the standard model. PREREQ: PHYS 6624 OR PERMISSION OF INSTRUCTOR.

**PHYS 6609 Advanced Nuclear Physics 3 credits.** Nucleon-nucleon interaction, bulk nuclear structure, microscopic models of nuclear structure, collective models of nuclear structure, nuclear decays and reactions, electromagnetic interactions, weak interactions, strong interactions, nucleon structure, nuclear applications, current topics in nuclear physics. PREREQ: PHYS 6624 OR PERMISSION OF INSTRUCTOR.

**PHYS 6611 Electricity and Magnetism 3 credits.** Maxwell's equations and methods of solution, plane wave propagation and dispersion, wave guides, antennas and other simple radiating systems, relativistic kinematics and dynamics, classical interaction of charged particles with matter, classical radiation production mechanisms.

**PHYS 6612 Advanced Electricity and Magnetism 3 credits.** Advanced topics in application of Maxwell's equations to wave guides, antennas and other simple radiating systems. Particular emphasis upon the relativistic interaction of charged particles with matter, energy loss, and classical radiation production and absorption mechanisms. PREREQ: PHYS 6611 OR PERMISSION OF INSTRUCTOR.

**PHYS 6615 Activation Analysis 3 credits.** Theory and use of activation methods for quantitative chemical analysis of natural and synthetic materials. Applications will be emphasized. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 6621 Classical Mechanics 3 credits.** Lagrange equations, small vibrations; Hamilton's canonical equations; Hamilton's principal, least action; contact transformation; Hamilton-Jacobi equation, perturbation theory; nonlinear mechanics. PREREQ: PHYS 5583, PHYS 5561-5562, OR PERMISSION OF INSTRUCTOR.

**PHYS 6624-6625 Quantum Mechanics 3 credits.** Schrodinger wave equation, stationary state solution; operators and matrices; perturbation theory, non-degenerate and degenerate cases; WKB approximation, non-harmonic oscillator, etc.; collision problems. Born approximation, method of partial waves. PHYS 6624 is a PREREQ for 6625. PREREQ: PHYS 5561-5562, PHYS 6621 OR PERMISSION OF INSTRUCTOR.

**PHYS 6626 Advanced Quantum Mechanics 3 credits.** Elementary quantum field theory and practical applications. Emphasis upon non-relativistic and relativistic quantum electrodynamics, radiative processes, bremsstrahlung, pair-production, scattering, photoelectric effect, emission and absorption. PRE-

REQ: PHYS 6625 OR PERMISSION OF INSTRUCTOR.

**PHYS 6630 Accelerator Physics 3 credits.**

The physics of direct voltage accelerators, betatrons, synchrotrons, linear induction acceleration; high current accelerators; electromagnetic particle optics, free electron lasers and synchrotron light sources. PREREQ: PHYS 6612, PHYS 6624 OR - EQUIVALENT.

**PHYS 6631 Accelerator Technology 3 credits.**

Topics will include high voltage and pulsed power techniques, wave guide and R.F. structures, ion and electron beam sources and beam measurements as applied to particle beam machines. PREREQ: PHYS 6612 OR EQUIVALENT.

**PHYS 6632 Particle Beam Laboratory 1-4 credits.**

Laboratory projects in particle beam and ion optics, radiation detectors, ion source operation, etc. May be repeated up to 4 credits. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 6640 Statistical Mechanics 3 credits.**

Statistical ensembles; the Maxwell-Boltzmann law; approach to equilibrium, quantum statistical mechanics; application of statistical mechanics to thermodynamic processes. PREREQ: PHYS 5515 AND PHYS 6621.

**PHYS 6641 Field Theory, Particles, and Cosmology I 3 credits.**

Topics may include Dirac theory, group theory, Feynman diagrams, superstrings, super gravity, relativity and cosmology. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 6642 Field Theory, Particles, and Cosmology II 3 credits.**

A continuation of 641. Topics may include Dirac theory, group theory, Feynman diagrams, superstrings, super gravity, relativity and cosmology. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 6643 Advanced Solid State Physics 3 credits.**

Electron many-body problem, crystal and reciprocal lattice, Bloch functions, pseudo potentials, semi-conductors, transition metals, crystal momentum and coordinate representations, electric and magnetic fields, impurities and defects in crystals and semi-conductors, radiation effects on solids, lattice vibrations, electron transport. PREREQ: PHYS 6624 OR PERMISSION OF INSTRUCTOR.

**PHYS 6648 Special Topics in Physics 1-3 credits.**

Survey, seminar, or project (usually at an advanced level) in one area of physics.

Content varies depending upon the desires of the students and faculty. May be repeated until 6 credits are earned. PREREQ: PERMISSION OF INSTRUCTOR.

**PHYS 6649 Graduate Seminar 1 credit.**

Advanced seminar topics in currently-active areas of applied physics. Students will be required to provide presentations and may be required to submit a paper. Four credits required. May be repeated.

**PHYS 6650 Thesis 1-10 credits.**

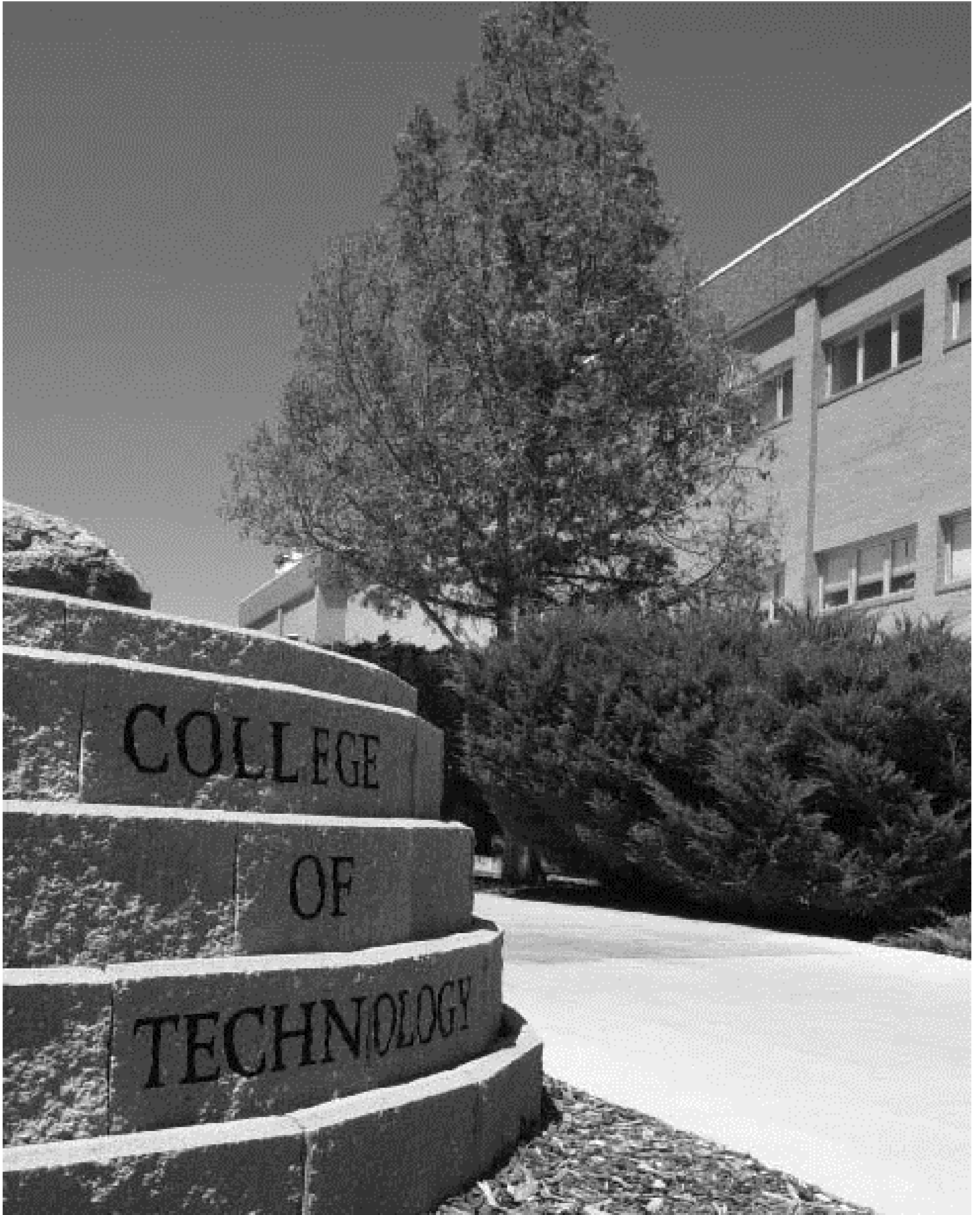
May be repeated. Graded S/U.

**PHYS 6699 1-6 credits.**

This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**PHYS 8850 Doctoral Dissertation Variable credit.**

Research toward and completion of the dissertation. May be repeated. Graded S/U.



# College of Technology

Marilyn Davis, Ed.D., Dean

## Geomatics Technology

Professor: Wissa

Associate Professor: Bajracharya

### Geomatics Graduate Courses

(No graduate degrees are offered)

**GEMT g530 Principles and Applications 3 credits.** Introduction to theory and use of GPS for mapping and survey quality application. Includes basic and advanced principles of GPS positioning, Differential GPS, types of GPS receivers, static, kinematics and RTK procedures, vector processing and adjustment using least squares concept, OPUS processing, coordinate creation and export results for use in specific application. PREREQ: CET/GEMT 224 OR PERMISSION OF INSTRUCTOR.

**GEMT g532 Principles of Photogrammetry 3 credits.** Introduction to vertical photo geometry and its scale, relief and tilt displacement, stereoscopic viewing, parallax measurement, mosaics, orientations, development of planimetric and topographic maps, flight planning, softcopy photogrammetry and introduction to aerial triangulation. PREREQ: CET/GEMT 224 OR PERMISSION OF INSTRUCTOR.

## Department of Human Resource Training and Development

Chair and Professor: Scott

Assistant Professors: Lindbeck, Lion, Nix

### Master of Organization- al Learning and Performance

The Master of Organizational Learning and Performance, aligned with State educational standards, provides the adult learner with opportunities to engage in the processes of inquiring, learning, and applying known competencies within the fields of Human Resource Development and Professional Technical Education.

The Master of Organizational Learning and

Performance is designed to strengthen the student's understanding, knowledge, and skills in three major areas—Professional Core Requirements, HRD Studies, and Integrative Field Research Studies—as they relate to Human Resource Development.

### Admission Requirements

Individuals applying for admission to the Master of Organizational Learning and Performance program must meet the following admission requirements:

- The student must apply to, and meet all criteria for, admission to the Graduate School.
- Bachelor's degree from a college or university accredited in the United States or its equivalent from a school in another country.
- Grade point average of 3.0 or higher for all upper division credits taken at the undergraduate level.
- The student must write a proctored Statement of Intent for the Master of Organizational Learning and Performance.

### General Requirements

Students must complete a minimum of 36 semester credit hours for the Master of Organizational Learning and Performance and will complete a thesis or field research project. Students will orally defend the findings of their research.

Students seeking Idaho PTE certification must meet the Idaho Division of Professional-Technical Education for certification. (See <http://www.pte.idaho.gov/>).

#### Professional Studies Core

HRD 5507	Instructional Technology	3 cr
HRD 5509	Professional Readings and Writing in HRD	3 cr
HRD 6632	Research Methods in HRD	3 cr
HRD 6661	Performance Improvement	3 cr

#### HRD Studies

HRD 6633	Program Planning and Evaluation in HRD	3 cr
HRD 6634	Administration of HRD	3 cr

An additional 12 semester hours must be taken from department courses or courses outside the department approved by student's major advisor.

#### Integrative Field Research Studies

HRD 6650	Thesis	6 cr
	OR	
HRD 6635	Field Experience in HRD	3 cr
HRD 6645	Field Research Project in HRD	3 cr

## Training and Development Graduate Courses

**HRD 5501 Foundations of Professional-Technical Education 3 credits.** Acquaints the student with the various aspects of professional-technical (formerly vocational) education: history, legislation, philosophy and organization of professional-technical education.

**HRD 5502 Occupational Analysis and Course Construction 3 credits.** Analysis of components of occupations to determine instructional content. Development of instructional materials based on performance objectives and competency identification.

**HRD 5503 Methods for Teaching Professional-Technical Education 3 credits.** Teaching methods and techniques applicable to professional-technical education.

**HRD 5504 Evaluation in Corporate Training and Professional-Technical Education 3 credits.** Designing and conducting evaluations at four levels in professional-technical education, and in business and industry training, including data analysis and preparation of evaluation reports.

**HRD 5506 Grantwriting in Human Resource Training and Development 3 credits.** Reasons for requesting a grant, goal setting, sample projects, identifying funding agencies, submitting a Request for proposal (RFP), elements of a good proposal, library resources, web sites, and other references for grant writing.

**HRD 5507 Instructional Technology in HRD 3 credits.** Applying evidence-based instructional principles to design, development, and evaluation of synchronous and asynchronous e-learning. Includes development of online multi-media materials for professional, industry, and educational application. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**HRD 5509 Professional Readings and Writing in HRD 3 credits.** Exposure to the professional literature and web sites of professional-technical education and corporate training, including practice in writing abstracts of journal articles using APA Style.

**HRD 5510 Principles of Leadership and Change 3 credits.** Critical analysis and discussion of change management theory, principles of leadership and change, and an in-depth review of principles related to personal change. Includes a review of current issues in managing transitions, leading change. Specific-

ic, evaluated graduate-level activities and/or performances are identified in the course syllabus.

**HRD 5531 Workforce Leadership 3 credits.** Supervising in a professional-technical education or corporate training setting. Study human relation factors: planning, organizing, evaluation, staff development, labor relations, and personnel policies/practices.

**HRD 5544 Career Guidance and Special Needs in Professional-Technical Education 3 credits.** Examine career guidance concepts, specialist services, special needs legislation, abilities and inabilities (both mental and physical), job seeking skills, and information sources.

**HRD 5550 Principles of Adult Education 3 credits.** Provides an understanding of adult education as a field of academic inquiry and professional practice. Examines current and past trends and practices of adult learning.

**HRD 5557 Facilitating Adult Learning 3 credits.** Study of the needs and interests of adult learners in business and industry using Andragogy. Planning of conferences and workshops for adult learners.

**HRD 5561 Directed Studies 1-4 credits.** Individual work under staff guidance. Field research on specific occupational advances in technology. May be repeated. PREREQ: PERMISSION OF INSTRUCTOR REQUIRED PRIOR TO REGISTRATION.

**HRD 5564 Instructional Facilities Management 3 credits.** Organization, safety and management of professional-technical education training facilities. An in-depth study of laboratory requirements and total facility planning.

**HRD 5568 Teaching Cooperative Education and School-to-Work 3 credits.** Coordinating cooperative programs and school-to-work programs, occupational and job analysis, utilizing professional-technical advisory committees, organizing and advising vocational student organizations.

**HRD 5597 Professional Education Development Topics. Variable credit.** May be repeated. A course for practicing professionals aimed at the development and improvement of skills. May not be applied to graduate degrees. Must be graded S/U.

**HRD 5599 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be re-

peated.

**HRD 6632 Research Methods in HRD 3 credits.** Examination of methods for designing and conducting research in both educational and workplace settings. Introduction to procedures for summarizing and analyzing quantitative and qualitative data with proper style and format requirements for formal report writing. PREREQ: HRD 5509 OR PERMISSION OF INSTRUCTOR.

**HRD 6633 Program Planning and Development in HRTD 3 credits.** Preparing local plans for professional-technical education or training programs for business and industry. State, federal and private sector guidelines for program implementation, and effectiveness explored.

**HRD 6634 Administration of HRTD 3 credits.** Examination of the executive functions of the professional-technical or training administrator. Attention to budgeting, reporting, facility and equipment management, negotiations, advisory committees, and community relations.

**HRD 6635 Field Experience in HRD 3 credits.** An individually designed field experience under the supervision of the faculty and an experienced professional. PREREQ: PERMISSION OF INSTRUCTOR REQUIRED PRIOR TO REGISTRATION.

**HRD 6637 Internship in HRD 1-3 credits.** An individually designed professional experience under the supervision of the faculty and an experienced practitioner in the field. May be repeated up to the 6 credits. Graduate S/U. PREREQ: PERMISSION OF INSTRUCTOR REQUIRED PRIOR TO REGISTRATION.

**HRD 6640 Seminar in Training Management 1-2 credits.** Current topics in the management of human resource development presented by department faculty and visiting lecturers. Maximum of 2 credits applied to the degree. Graded S/U.

**HRD 6645 Field Research Project in Training Management 1-3 credits.** An individual field research project must be completed; a written report and oral explanation of the report will be required. May be repeated up to 6 credits. Graded S/U. PREREQ: PERMISSION OF INSTRUCTOR REQUIRED PRIOR TO REGISTRATION.

**HRD 6650 Thesis 1-6 credits.** Graded S/U. PREREQ: PERMISSION OF INSTRUCTOR REQUIRED PRIOR TO REGISTRATION.

**HRD 6660 Contemporary Issues in HRD 3 credits.** Exploration of issues relating to the

functions of HRTD - Individual Development, Career Development and Organizational Development. Emphasis on how these functions relate to the industrial/business environment.

**HRD 6661 Performance Improvement 3 credits.** Through a systems approach, critical analysis, discussion, and application of performance technology in the workplace. Includes review of current research, theories, methods, and models.

**HRD 6662 Distance Learning Delivery Practices 3 credits.** Exploration of the distance delivery medium including on-screen practices, media development, curriculum planning, instructional strategies, technical support. Includes review of research and theory relating to distance learning.

**HRD 6663 Instructional System Evaluation 3 credits.** Critical analysis and discussion of the roles of evaluation in corporate training. Emphasis on theories of program and curriculum evaluation.

**HRD 6664 Topics in Human Resource Development 3 credits.** Critical analysis of current topics in human resource development. Opportunities will be provided for students to study independently with specialists in topic areas.

**HRD 6680 Advanced Technical Competency 1-4 credits.** Advanced occupational skills and knowledge obtained from modern practice in selected field. For experienced professionals seeking advanced techniques in specialized areas of PTE, and HRD. PREREQ: APPROVAL OF ADVISOR REQUIRED.

**HRD 6699 1-6 credits.** This is an experimental course. The course title and number of credits are noted by course section and announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.



# Informatics Research Institute

Director and University Professor of Informatics: Schou  
 Associate Director and Professor: Lohse  
 Professor: Cady  
 Associate Professors: Sammons, J. Strickland, Turley-Ames  
 Assistant Professor: Frost  
 Affiliate Professors: Leibrock, Longley, Murray, Stephenson  
 Affiliate Assistant Professors: Moulton, Slay, Willes

## Mission

The Informatics Research Institute (IRI) is an academic unit providing coordination for several interdisciplinary degrees and research centers across campus. Informatics is an integrative discipline that arises from the synergistic application of computational, informational, organizational, cognitive, and other disciplines whose primary focus is in the acquisition, storage and use of information in a broad spectrum of domains. It includes the study and application of information technology in the arts, sciences, commerce, medicine, and society in general. The IRI has a mission in teaching, research, and service. Activities include:

- Developing interdisciplinary programs in informatics
- Developing interdisciplinary degree programs
- Developing and offering outreach programs
- Coordinating activities of related centers on campus
- Providing leadership in critical infrastructure protection
- Developing educational programs
- Developing infrastructures to support research in diverse fields
- Coordinating interdisciplinary academic concentrations

The IRI coordinates activities among the National Information Assurance Training and Education Center (NIATEC), Simplot Decision Support Center (SDSC), Center for Innovative Technology in Archaeological Informatics (CITI-AI), and the Center for Innovative Technology in Mathematics, Science, and Social Sciences Learning (CITI-MSSSL). The IRI charter includes development of interdisciplinary AA, AS, BA, BS, Masters and Doctoral programs, as well as concentrations in Infor-

mation Assurance.

## Archaeological Informatics

Associate Director and Professor of Anthropology: Lohse

## CITI-AI - Center for Innovative Technology in Archaeological Informatics

The CITI-AI leads research in the organization and analysis of archaeological information. It creates and maintains active partnerships within the archaeological community and serves as an interdisciplinary center of activity uniting basic informatics research and modeling within the Informatics Research Institute, Idaho State University, and its affiliated faculty.

## Educational Informatics

### CITI-MSSSTL - Center for Mathematics, Science, Social Sciences, and Technology Learning

The CITI-MSSSTL focus is on PK-16 learning in the current environment of accountability. The faculty of CITI-MSSSTL collaborates with other institutions to explore technology and informatics solutions to improve learning. Curriculum development, assessment, data management, and teacher training are but a few of the services offered by CITI-MSSSTL. The staff of CITI-MSSSTL are experienced in all aspects of instructional systems design and implementation. The center creates and maintains active partnerships with public schools and higher education institutions interested in improving the quality of learning within our educational systems.

## Simplot Decision Support Center

### SDSC - Simplot Decision Support Center

The Simplot Decision Center is a facility designed to increase group decision-making effectiveness and efficiency. It is a research

and development effort of Idaho State University resulting from the generosity of the Simplot Corporation. The Simplot Decision Support Center is one of a few dedicated facilities in the nation and is available as a resource to both local and national organizations. It has led the national effort in developing information assurance and computer security training and education standards for the federal government.

## Information Assurance

### NIATEC - National Information Assurance Training and Education Center

The NIATEC Center is a consortium of academic, industry, and government organizations to improve the literacy, awareness, training, and education standards in information assurance. As the federally designated cornerstone for essential education and training components of a strong information assurance initiative, the mission is to establish an effective information assurance infrastructure. NIATEC is associated with the Idaho State University Center for Academic Excellence. It is a component in the national plan to establish a federal cyber-corps to defend against cyber-based disruption and attacks. Key to building such a cyber-corps is the implementation of robust graduate and undergraduate curricula in information assurance.

## Information Assurance Degree Concentrations

The Informatics Research Institute coordinates the federally designated Center of Academic Excellence in Computer Security Education. The Center of Academic Excellence includes formal concentrations in information assurance at the undergraduate and graduate level in cooperation with NIATEC and CITI-MSSSL. In addition, the IRI offers formal concentrations in information assurance for baccalaureate, masters, and doctoral programs. These concentrations may be above the regular degree requirements documented by the DHS/CNSS approved certificates offered by ISU.

### Certificates for Concentrations:

- CNSS 4011 - National Training Standard for Information Systems Security (INFOSEC) Professionals
- CNSS 4012 - Senior Systems Manager
- CNSS 4013 - Systems Security Admin-

istration

- CNSS 4014 - Information Systems Security Officer
- CNSS 4015 - Systems Certification

## General Requirements

Students with appropriate prerequisites may take courses within the information assurance program as part of a formal information assurance concentration in their degree program. With approval of their advisor and the faculty, they may pursue certificates in specialty areas. In addition to courses that support specialized certificates, the program offers courses in computer forensics and risk analysis. All courses require preparation of research papers on information assurance topics related to their major fields.

CNSS 4011 - Students in the CIS emphasis in the MBA program may take CIS 511, a minimum of 6 hours of 519 (Informatics Practicum) or 593 (Internship) and two additional courses in information assurance. Graduate courses increase focus on theory, history, software assurance, assured systems design, and networks. Students in other majors may have to take additional remedial courses or demonstrate appropriate experience.

All students seeking additional certifications must complete the requirements for CNSS 4011 and the following:

- CNSS 4012 - Students certifying for 4012 must complete CIS 511, 512, 513, 514, and 515.
- CNSS 4013 - Students certifying for 4013 must complete CIS 511, 513, and 585
- CNSS 4014 - Students certifying for 4014 must complete CIS 511, 513, and 514
- CNSS 4015 - Students certifying for 4015 must complete CIS 511, 514, and 515

Doctoral students wishing to build a concentration in Information Assurance should contact the director to discuss research and coursework opportunities customized to meet their academic program



# Graduate Faculty

(NOTE: The date in parentheses is the date of first appointment at Idaho State University. Adjunct, Affiliate and Emeritus Faculty are listed in the Undergraduate Catalog.)

- Adams, Naomi S.**, Assistant Professor, Art. B.A., 1999, Washington State University; M.F.A., 2012, University of North Texas. (2012)
- Adamcik, Barbara A.**, Professor, Pharmacy Practice and Administrative Sciences; Associate Vice President for Academic Affairs. B.A., 1974, University of California, Los Angeles; M.A., 1981; Ph.D., 1984, University of Southern California. (1985)
- Allen, Virginia B.**, Emeritus, Counseling. B.A., 1974, University of Montana; M.Ed., 1978, South Dakota State University; Ed.D., 1981, University of South Dakota. (1981)
- Aly, Mohamed H.**, At-Large Graduate Faculty, Geosciences. B.Sc., 1992, Zagazig University, Egypt; M.Sc., 1997, Zagazig University, Egypt; Ph.D., 2006, Texas A&M University. (2006)
- Anderson, Curtis W.**, Professor, Biological Sciences. B.S., 1991, Southwest Missouri State University; M.S., 1994; Ph.D., 1996, Northern Arizona University. (1998)
- Anderson, Sean K.**, Professor, Political Science. B.A., 1975, Western Washington University; M.B.A., 1978, University of Washington; Ph.D., 1993, University of Oklahoma. (1993)
- Apel, William A.**, At-Large Graduate Faculty, Biological Sciences. B.A., 1973; M.S., 1976; Ph.D., 1978, The Ohio State University.
- Appleby, Karen M.**, Associate Professor, Sport Science and Physical Education. B.A., 1998, Hanover College; M.S., 1999; M.S., 2000; Ph.D., 2004, University of Tennessee. (2004)
- Arvidson, Cathy R.**, Associate Professor, Nursing. B.S.N., 1978, Vanderbilt University; M.S.N., 1981, University of Florida; Ph.D., 1990, Texas Woman's University. (1992)
- Attebery, Brian L.**, Professor, English and Philosophy. A.B., 1974, College of Idaho; A.M., 1976; Ph.D., 1979, Brown University. (1982)
- Attebery, Jennifer Eastman**, Professor, English and Philosophy; Department Chair. B.A., 1973, College of Idaho; M.A., 1974; Ph.D., 1985, Indiana University, Bloomington. (1992)
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# Index

- A**
- Academic Calendar Inside Front Cover
- Academic Dishonesty 17
- Academic Progress, Satisfactory  
See Satisfactory Academic Progress
- Accountancy, MAcc 69
- Accounts, Delinquent  
See Delinquent Accounts
- Accreditation 6
- ADA and Disabilities Resource Center 26
- Admission 7
- Admission of International Students 9
- Admission of Last-Semester Seniors 10
- Admission, Notification of 8
- Admission, Re-  
See Re-Admission
- Admission Requirements,  
Interdisciplinary Degree 17
- Admission Requirements for Professional  
Development Students  
(5598P Courses) 10
- Admission Requirements for Professional  
Development Students - K-12  
Teachers (5597 Courses) 10
- Admission Requirements for  
Non-Degree-Seeking Students 9
- Admission to Doctoral Programs 7
- Administration, ISU  
See ISU Administration
- Advisor, Changing a Major  
See Changing a Major Advisor
- Advisors & Examining Committees 13
- Affirmative Action 26
- Alumni Association 26
- Americans with Disabilities 26
- Anthropology, Department of 47
- Appeal of a Grade  
See Grade, Appeal of a
- Appeal of Dismissal  
See Dismissal, Appeal of
- Appeals and Dismissals 15
- Application Deadline 8
- Application Fee, Graduate 19
- Application for a Degree 14
- Application for a Degree, Program  
of Study, Candidacy  
See Program of Study, Candidacy,  
Application for a Degree
- Application for Graduation and  
Diploma Fee 20
- Application Process 7
- Archaeological Informatics  
See Informatics, Archaeological
- Art and Pre-Architecture,  
Department of 31
- Arts and Letters, College of 31
- Assistantships and Fellowships 21
- Assistantships, Graduate  
See Graduate Assistantships
- Assistantships, Research  
See Research Assistantships
- Athletic Administration, M.P.E. 87
- Athletic Training, M.S. 87
- Audiology, Au.D. 138
- B**
- Belief Statement, Graduate School 7
- Biological Sciences, Department of 150
- Biology, D.A.  
See Doctor of Arts, Biology
- Biology, M.S. 156
- Biology Master of Natural Science  
See Master of Natural Science,  
Biology
- Biology, Ph.D. 150
- Biomedical and Pharmaceutical  
Sciences, Department of 101
- Business, College of 66
- Business, M.B.A. 66
- Business, Administration Graduate  
Certificate 69
- C**
- C.W. Hog 26
- Calendar, Academic  
See Academic Calendar
- Campus Map  
See Map, Campus
- Candidacy, Application for a  
Degree, Program of Study  
See Program of Study, Candidacy,  
Application for a Degree
- Candidacy for Doctoral Degrees 14
- Check Policy, Dishonored  
See Dishonored Check Policy
- Change Status 9
- Changing a Major Advisor 13
- Charges, Other Fees and  
See Other Fees and Charges
- Chemistry, Department of 164
- Chemistry, B.S./M.S. 164
- Chemistry, M.S. 164
- Chemistry Master of Natural Science  
See Master of Natural Science,  
Chemistry
- Child and Family Studies, M.Ed. 83
- Civil Engineering 168
- Class Fees 19
- Classifications 8
- Classified Status 8
- Classified (w/Performance  
Requirements) Status 9
- Clinical Laboratory Science (MLS) 119
- College of Arts and Letters  
See Arts and Letters, College of
- College of Business  
See Business, College of
- College of Education  
See Education, College of
- College of Science & Engineering  
See Science & Engineering, College of
- College of Health Professions  
See Division of Health Sciences
- College of Pharmacy  
See Division of Health Sciences
- College of Technology  
See Technology, College of
- Committees, Advisors & Examining  
See Advisors & Examining Committees
- Communication and Rhetorical Studies,  
Department of 32
- Conflict of Interest Policy 13
- Continuing Registration 8
- Council Membership, Graduate  
See Graduate Council Membership
- Counseling and Testing Center 24
- Counseling, Department of 107
- Counseling, Ed.S. 110
- Counseling, Master of 111
- Counselor Education and  
Counseling, Ph.D. 109
- Course Levels, Credits, and Grading 11
- Credit Limits, Semester  
See Semester Credit Limits
- Credits 11
- Credits, and Grading, Course Levels  
See Course Levels, Credits, and Grading
- Credits, Out-of-Date  
See Out-of-Date Credits
- Credits, Residency

- See Residency Credits  
 Credits, Transfer of  
 See Transfer of Credits
- D**
- Deadline, Application  
 See Application Deadline  
 Deaf Education, M.S. 86  
 Degree, Application for a  
 See Application for a Degree  
 Degree, Program of Study, Candidacy,  
 Application for a  
 See Program of Study, Candidacy,  
 Application for a Degree  
 Degree-Seeking Status 7  
 Degrees, Procedures for Graduate  
 See Procedures for Graduate Degrees  
 Degrees, Interdisciplinary  
 See Interdisciplinary Degrees  
 Delinquent Accounts 21  
 Dental Hygiene, Department of 130  
 Dental Hygiene, M.S. 130  
 Dental Science, Department of 132  
 Department of Anthropology  
 See Anthropology, Department of  
 Department of Art and Pre-Architecture  
 See Art and Pre-Architecture,  
 Department of  
 Department of Biological Sciences  
 See Biological Sciences, Department of  
 Department of Biomedical and Pharmaceutical  
 Sciences  
 See Biomedical and Pharmaceutical  
 Sciences, Department of  
 Department of Chemistry  
 See Chemistry, Department of  
 Department of Communication and Rhetorical  
 Studies  
 See Communication and Rhetorical  
 Studies, Department of  
 Department of Communication Sciences and  
 Disorders, and Education of the Deaf  
 See Communication Sciences and  
 Disorders, and Education  
 of the Deaf, Department of  
 Department of Counseling  
 See Counseling, Department of  
 Department of Dental Hygiene  
 See Dental Hygiene, Department of  
 Department of Dental Science  
 See Dental Science, Department of  
 Department of Economics  
 See Economics, Department of  
 Department of Educational Foundations  
 See Educational Foundations,  
 Department of  
 Department of Educational Leadership  
 See Educational Leadership, Department of  
 Department of Educational Learning and  
 Development  
 See Educational Learning and  
 Development, Department of  
 Department of English and Philosophy  
 See English and Philosophy, Department of  
 Department of Geosciences  
 See Geosciences, Department of  
 Department of Health and Nutrition Sciences  
 See Health and Nutrition Sciences,  
 Department of  
 Department of Health Care Administration  
 See Health Care Administration,  
 Department of  
 Department of History  
 See History, Department of  
 Department of Human Resource Training and  
 Development  
 See Human Resource Training and  
 Development, Department of  
 Department of Instructional Methods and  
 Technology  
 See Instructional Methods and Technology,  
 Department of  
 Department of Languages and Literature  
 See Languages and Literatures, Department  
 of  
 Department of Mass Communication, James  
 E. Rogers  
 See Mass Communication, James E. Rogers  
 Department of  
 Department of Mathematics  
 See Mathematics, Department of  
 Department of Music  
 See Music, Department of  
 Department of Pharmacy Practice and Admin-  
 istrative Sciences  
 See Pharmacy Practice and Administrative  
 Sciences, Department of  
 Department of Physical and Occupational  
 Therapy  
 See Physical and Occupational Therapy,  
 Department of  
 Department of Physician Assistant Studies  
 See Physician Assistant Studies,  
 Department of  
 Department of Physics  
 See Physics, Department of  
 Department of Political Science  
 See Political Science, Department of  
 Department of Psychology  
 See Psychology, Department of  
 Department of Sociology, Social Work, and  
 Criminal Justice  
 See Sociology, Social Work, and Criminal  
 Justice, Department of  
 Department of Sport Science and Physical  
 Education  
 See Sport Science and Physical Education,  
 Department of  
 Department of Theatre and Dance  
 See Theatre and Dance, Department of  
 Dietetic Programs 116  
 Diploma Fee, Application for  
 Graduation and  
 See Application for Graduation and  
 Diploma Fee  
 Disabilities, Americans with  
 See Americans with Disabilities  
 Disabilities Resource Center, ADA and  
 See ADA and Disabilities Resource Center  
 Dishonored Check Policy 21  
 Dismissal 16  
 Dismissal, Appeal of 15  
 Dismissal Policy 16  
 Dismissals, Appeals and  
 See Appeals and Dismissals  
 Dissertation Research Costs, Thesis and  
 See Thesis and Dissertation Research Costs  
 Division of Health Sciences 101  
 Doctor of Arts, Biology 154  
 Doctor of Arts, Mathematics 185  
 Doctor of Arts, Political Science 53  
 Doctoral Degrees, Candidacy for  
 See Candidacy for Doctoral Degrees  
 Doctoral Programs, Admission to  
 See Admission to Doctoral Programs  
 Drop or Withdrawal 15
- E**
- Economics, Department of 49  
 Education, College of 77  
 Educational Administration, Ed.S. 80  
 Educational Administration, M.Ed. 81  
 Educational Foundations,  
 Department of 82  
 Educational Informatics  
 See Informatics, Educational  
 Educational Leadership and Instructional  
 Design, Department of 78  
 Educational Leadership, Ed.D. 78  
 Educational Rights and Privacy  
 Act of 1974 (FERPA), Federal Family  
 See Federal Family Educational....

Elementary Education, M.Ed.	82	Fee Payment		Graduate Faculty	197
Employment Information	23	Fee Scholarships, Tuition and		Graduate School Policies	7
Engineering and Applied		<i>See Tuition and Fee Scholarships</i>		Graduate School Programs	4-5
Science Ph.D.	165,166,180,186	Fee, Senior Citizen Registration		Graduation and Diploma Fee,	
Engineering, M.S.	167	<i>See Senior Citizen Registration Fee</i>		Application for	
English and Philosophy,		Fee, Student Health Insurance		<i>See Application for Graduation</i>	
Department of	34	<i>See Student Health Insurance Fee</i>		and Diploma Fee	
English and The Teaching of		Fee, Transcript		Graduation, Reprocessing Fee	20
English, PhD	34	<i>See Transcript Fee</i>		Grants	23
English, D.A.		Fees, Audit		Grants, Research	
<i>See Doctor of Arts, English</i>		<i>See Audit Fees</i>		<i>See Research Grants</i>	
English, M.A.	35	Fees, Enrollment			
English, TESOL Certificate	36	<i>See Enrollment Fees</i>		<b>H</b>	
Enrollment Fees	18	Fees and Charges, Other		Health Education M.H.E.	117
Enrollment, Re-		<i>See Other Fees and Charges</i>		Health Care Administration,	
<i>See Re-Enrollment</i>		Fees, Late Registration Processing		Emphasis	68, 116
Environmental Engineering M.S.	168	<i>See Late Registration Processing Fees</i>		Health Insurance Fee, Student	
Environmental Science and		Fees, Part-Time		<i>See Student Health Insurance Fee</i>	
Management (ESM)	168	<i>See Part-Time Fees</i>		Health Physics	170,191
ESM, Environmental Science		Fees, Tuition and		Health Services, Student	
and Management		<i>See Tuition and Fees</i>		<i>See Student Health Services</i>	
<i>See Environmental Science and</i>		Fellowships	21	History, Department of	50
Management (ESM)		Fellowships and Assistantships		History, Historical Resources	
Examinations	14	<i>See Assistantships and Fellowships</i>		Management M.A.	50
Examining Committees, Advisors &		FERPA, Federal Family Educational Rights		Hog, C.W.	
<i>See Advisors &amp; Examining</i>		and Privacy Act of 1974		<i>See C.W. Hog</i>	
Committees		<i>See Federal Family Educational....</i>		Housing Costs	20
		Financial Support	21	Human Exceptionality, M.Ed.	85
<b>F</b>				Human Resource Training and	
Faculty, Staff and Spouse		<b>G</b>		Development, Department of	88,196
Registration Fee	19	Geographic Information Science (GIS)	181		
Family Educational Rights		Geology, M.S.	180	<b>I</b>	
and Privacy Act of 1974		Geology Master of Natural Science		IAGD, Idaho Advanced General	
(FERPA), Federal		<i>See Master of Natural Science,</i>		Dentistry Program	
<i>See Federal Family Educational....</i>		Geology		<i>See Idaho Advanced General</i>	
Family Practice Residency Program	137	Geomatics Technology	192	Dentistry	
Federal Family Educational Rights and		Geosciences, Department of	179	Idaho Advanced General Dentistry	
Privacy Act of 1974 (FERPA)	21	Geosciences, Engineering and		Program (IAGD)	133
Fee, Application for Graduation and Diploma		Applied Science	180	Idaho Dental Education	
<i>See Application for Graduation and</i>		Geotechnology Certificate	182	Program (IDEP)	132
Diploma Fee		Grade, Appeal of a	15	Idaho Museum of Natural History	25
Fee, Class		Grades, Incomplete		Idaho Residency Requirements	
<i>See Class Fee</i>		<i>See Incomplete Grades</i>		for Fee Payment	18
Fee, Faculty, Staff and Spouse		Grading	11	IDEP, Idaho Dental Education	
Registration		Grading, Course Levels, Credits and		Program	
<i>See Faculty, Staff and Spouse</i>		<i>See Course Levels, Credits, and Grading</i>		<i>See Idaho Dental Education</i>	
Registration Fee		Graduate Application Fee		Program (IDEP)	
Fee, Graduate Application		<i>See Application Fee, Graduate</i>		Incomplete Grades	12
<i>See Application Fee, Graduate</i>		Graduate Assistantships	21	Informatics, Archaeological	199
Fee, Graduation Processing		Graduate Assistantship Teaching		Informatics, Educational	199
<i>See Graduation, Processing Fee</i>		Experience (GATE)	22	Informatics Research	
Fee Payment, Idaho Residency Requirements		Graduate Council Membership	3	Institute	27, 199
for		Graduate Degrees, Procedures for		Information Assurance	199
<i>See Idaho Residency Requirements for</i>		<i>See Procedures for Graduate Degrees</i>			

- Information Technology Services 24  
 Institutes 27  
 Instructional Design, Ph.D. 79  
 Instructional Technology, M.Ed. 81  
 Insurance Fee, Student Health  
   *See* Student Health Insurance Fee  
 Interdisciplinary Degrees 17  
 International Students, Admission of  
   *See* Admission of International Students  
 ISU Administration 3  
 ISU Education Center 28
- J**
- K**
- K-12 Education, M.Ed. 83  
 K-12 Teachers (5597 Courses), Admission  
   Requirements for Professional  
   Development Students  
   *See* Admission Requirements for  
   Professional Development Students  
   K-12 Teachers (5597 Courses)
- L**
- Languages and Literatures,  
   Department of 40  
 Last-Semester Seniors, Admission of  
   *See* Admission of Last-Semester Seniors  
 Late Registration Processing Fees 19  
 Library, Eli M. Oboler  
   *See* Oboler Library, Eli M.  
 Limits, Semester Credit  
   *See* Semester Credit Limits  
 Limits, Time  
   *See* Time Limits  
 Literacy Emphasis, M.Ed. 85  
 Loans 21
- M**
- Major Advisor, Changing a  
   *See* Changing a Major Advisor  
 Map, Campus Inside Back Cover  
 Marital, Couple and Family  
   Counseling, M.Coun. 111  
 Mass Communication, James E.  
   Rogers Department of 52  
 Master of Counseling (M.Coun.,  
   MCF, MHC, SC, SAC) 111  
 Master of Fine Arts (MFA) 31  
 Master of Natural Science (MNS)  
   Biology 158  
   Chemistry 165  
   Master of Natural Science, Geology 181  
   Master of Natural Science, Physics 191  
   Mathematics, Department of 185  
   Mathematics, Doctor of Arts  
     *See* Doctor of Arts, Mathematics  
   Mathematics, Engineering and  
     Applied Science, Ph.D. 186  
   Mathematics, M.S. 186  
   Mathematics, M.A. for Teachers  
     in Secondary Education  
     (M.A.M.S.T.) 186  
   Measurement and Control  
     Engineering M.S. 169  
   Mechanical Engineering, M.S. 170  
   Medical Laboratory Science 119  
   Mental Health Counseling, M.Coun. 111  
   Microbiology, M.S. 157  
   Microbiology, Ph.D. 152  
   Mission Statement, Graduate School 7  
   Mission Statement, ISU 7  
 MNS, Biology  
   *See* Master of Natural Science,  
   Biology  
 MNS, Chemistry  
   *See* Master of Natural Science,  
   Chemistry  
 MNS, Geology  
   *See* Master of Natural Science,  
   Geology  
 MNS, Master of Natural Science  
   *See* Master of Natural Science  
 Museum 45  
 Music, K-12 Education, M.Ed. 42,183
- N**
- Non-Degree-Seeking Status 9  
 Non-Degree-Seeking Students, Admission  
   Requirements  
   *See* Admission Requirements for  
   Non-Degree-Seeking Students  
 Non-Resident Tuition  
   Waivers (NRTW) 22  
 Notification of Admission  
   *See* Admission, Notification of  
 NRTW, Non-Resident Tuition  
   Waivers (NRTW)  
   *See* Non-Resident Tuition Waivers  
 Nuclear Science & Engineering, M.S. 167,170  
 Nursing Certificate Option, Post  
   Master's 127  
   Nursing, D.N.P. 124  
   Nursing, M.S. 125  
   Nursing, Ph.D. 122  
   Nursing, School of 122
- O**
- Oboler Library, Eli M. 25  
 Occupational Therapy, M.O.T. 142  
 Oak Ridge Associated Universities  
   (ORAU) 27  
 ORAU, Oak Ridge Associated  
   Universities  
   *See* Oak Ridge Associated  
   Universities  
 Organizational Communication, M.A. 32  
 Other Fees and Charges 19  
 Out-of-Date Credits 13
- P**
- Part-Time Fees 18  
 Permission, Registration Without  
   *See* Registration Without Permission  
 Performing Arts, School of 42  
 Petitions 14  
 Pharmaceutical Sciences  
   *See* Biomedical and Pharmaceutical  
   Sciences  
 Pharmaceutical Sciences, M.S. 101  
 Pharmaceutical Sciences, Ph.D. 102  
 Pharmacy Practice and Administrative  
   Sciences, Department of 101  
 Pharmacy, College of 102  
 Physical and Occupational Therapy,  
   Department of 142  
 Physical Education, M.P.E. 89  
 Physical Therapy, D.P.T. 140  
 Physician Assistant Studies,  
   Department of 134  
 Physician Assistant Studies,  
   M.P.A.S. 135  
 Physics, Applied Physics, Ph.D. 189  
 Physics, Department of 189  
 Physics, Health Physics, M.S. 191  
 Physics, M.S. 190  
 Physics Master of Natural Science  
   *See* Master of Natural Science,  
   Physics  
 Policies, Graduate School  
   *See* Graduate School Policies  
 Political Science, Department of 53  
 Political Science, D.A.  
   *See* Doctor of Arts, Political Science  
 Political Science, M.A. 54  
 Political Science, M.P.A. 54  
 Privacy Act of 1974 (FERPA),  
   Federal Family Educational  
   Rights and  
   *See* Federal Family Educational....

Procedure, Application					
<i>See</i> Application Procedure					
Procedures for Graduate Degrees	6				
Professional Development Students (5598P Courses), Admission Requirements for					
<i>See</i> Admission Requirements for Professional Development Students (5598P Courses)					
Professional Development Students - K-12 Teachers (5597 Courses), Admission Requirements for					
<i>See</i> Admission Requirements for Professional Development Students - K-12 Teachers (5597 Courses)					
Program of Study, Candidacy, Application for a Degree	14				
Programs, Graduate School					
<i>See</i> Graduate School Programs					
Proprietary Research	17				
Psychology, Clinical					
Psychology, Ph.D.	58				
Psychology, Department of	58				
Psychology, M.S.	60				
Public Health, M.P.H.	121				
<b>Q</b>					
<b>R</b>					
Re-Admission	8				
Re-Enrollment	8				
Refund Policy	20				
Registration	8				
Registration, Continuing					
<i>See</i> Continuing Registration					
Registration Fee, Faculty, Staff and Spouse					
<i>See</i> Faculty, Staff and Spouse Registration Fee					
Registration Fee, Senior Citizen					
<i>See</i> Senior Citizen Registration Fee					
Registration Processing Fees, Late					
<i>See</i> Late Registration Processing Fees					
Registration, Restricted					
<i>See</i> Restricted Registration					
Registration Without Permission	8				
Rehabilitation and Communication Sciences, Department of	137				
Requirements, Admission					
<i>See</i> Admission Requirements					
Requirements for Fee Payment, Idaho					
Residency					
<i>See</i> Idaho Residency Requirements for Fee Payment					
Requirements for Non-Degree-Seeking Students, Admission					
<i>See</i> Admission Requirements for Non-Degree-Seeking Students					
Requirements for Professional Development Students (5598P Courses), Admission					
<i>See</i> Admission Requirements for Professional Development Students (5598P Courses)					
Requirements for Professional Development Students - K-12 Teachers (5597 Courses), Admission					
<i>See</i> Admission Requirements for Professional Development Students - K-12 Teachers (5597 Courses)					
Requirements to Other Programs, Admission					
<i>See</i> Admission Requirements to Other Programs					
Research Costs, Thesis and Dissertation					
<i>See</i> Thesis and Dissertation Research Costs					
Research Assistantships	22				
Research Grants	23				
Research, Proprietary					
<i>See</i> Proprietary Research					
Residency Credits	12				
Residency Requirements for Fee Payment, Idaho					
<i>See</i> Idaho Residency Requirements for Fee Payment					
Restricted Registration	8				
Rhetorical Studies, M.A.	33				
<b>S</b>					
Satisfactory Academic Progress	21				
Scholarships	23				
Scholarships, Tuition and Fee					
<i>See</i> Tuition and Fee Scholarships					
School Counseling, M.Coun.	111				
School of Nursing					
<i>See</i> Nursing, School of					
School of Performing Arts					
<i>See</i> Performing Arts, School of					
School Psychology, Ed.S.	84				
Secondary Education, M.Ed.	82				
Semester Credit Limits	11				
Senior Citizen Registration Fee	19				
Seniors, Admission of Last-Semester					
<i>See</i> Admission of Last-Semester Seniors					
Services, Computing					
<i>See</i> Computing Services					
Services, Student Health					
<i>See</i> Student Health Services					
Services, University					
<i>See</i> University Services					
Simplot Decision Support Center	199				
Sociology, Social Work, and Criminal Justice, Department of	63				
Sociology, M.A.	63				
Special Education, Ed.S.	84				
Speech-Language Pathology, M.S.	138				
Sport Science and Physical Education, Department of	87				
Spouse, Faculty and Staff					
Registration Fee					
<i>See</i> Faculty, Staff and Spouse Registration Fee					
Staff and Spouse, Faculty, Registration Fee					
<i>See</i> Faculty, Staff and Spouse Registration Fee					
Status, Change					
<i>See</i> Change Status					
Status, Classified					
<i>See</i> Classified Status					
Status, Conditional					
<i>See</i> Conditional Status					
Status, Degree-Seeking					
<i>See</i> Degree-Seeking Status					
Status, Non-Degree Seeking					
<i>See</i> Non-Degree Seeking Status					
Status, Unclassified					
<i>See</i> Unclassified Status					
Student Affairs Counseling, M.Coun.	111				
Student Health Insurance Fee	18				
Student Health Services	24				
Study Abroad	18				
<b>T</b>					
Table of Contents	2				
Technology, College of	192				
TESOL Certificate, English					
<i>See</i> English, TESOL Certificate					
Theatre, M.A.	44				
Thesis and Dissertation					
Research Costs	23				
Testing Center, Counseling and					
<i>See</i> Counseling and Testing Center					
Time Limits	12				
Training and Development M.T.D.	196				
Transcript Fee	20				
Transfer of Credits	12				
Travel Funds	23				
Tuition and Fee Scholarships	22				
Tuition and Fees	18				
Tuition Waivers (NRTW), Non-Resident					
<i>See</i> Non-Resident Tuition Waivers					



**U**

Unclassified Status	9
University Services	23
University Housing	27

**V**

Vision Statement, Graduate School	7
-----------------------------------	---

**W**

Waivers (NRTW), Non-Resident Tuition	
<i>See</i> Non-Resident Tuition Waivers	
Western Regional Graduate Program	19
Withdrawal, Drop or	
<i>See</i> Drop or Withdrawal	

**X****Y****Z**

# Other

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## 5597 Courses

*See* Admission Requirements for Professional Development Students - K-12 Teachers (5597 Courses)

## 5598P Courses

*See* Admission Requirements for Professional Development Students (5598P Courses)