

# College of Pharmacy

Barbara G. Wells, Pharm.D., Dean  
Virginia J. Galizia, Ph.D., Associate  
Dean

## Department of Pharmacy Practice and Administrative Sciences

Chair and Associate Professor:

Culbertson

Professors: Hurley, Sharp

Associate Professors: Adamcik,

Bartlomé, Cady, Erramouspe, Gould,  
Mason, Rhodes

Assistant Professors: Beckwith,

R. Force, Hefflinger, Larson,  
Madaras-Kelly, Reitz

Clinical Associate Professor: Jue

Visiting Clinical Assistant Professors:

Heyneman, Story-Phelan

Adjunct Faculty: W. Force, Kale

Clinical Affiliate Faculty: Bond,

Carmichael, Clifford, Coonce, Fox,  
Frisch, Fuller, Isaacs, Ivanich,  
Isaacs, Jacobs, Monaghan, Patchin,  
Sawyer, Sieren, Silcock, Stander,  
Thornley, Wieland

Other Affiliate Faculty are listed  
alphabetically at the rear of the  
catalog

## Department of Pharmaceutical Sciences

Interim Chair and Associate Professor:  
Daniels

Professors: Diedrich, Fontenelle,  
Goetsch, Isaacson, Lai

Associate Professors: Jarvi, LaHann,  
Nelson

Assistant Professors: Mobley, Ratka,  
Senekowitsch, Wilson

Affiliate Faculty are listed alphabetically  
at the rear of the catalog

### Curriculum Mission Statement:

To prepare a competent pharmacy practitioner with effective primary care practice skills, including abilities to communicate and educate others on the rational use of medications and related devices; to engender a life-long learner who possesses a caring professional attitude and seeks to be an agent of change within the profession. The faculty endeavors to develop and maintain a curriculum that is open to individualized inquiry, hold the student

responsible for his/her own learning, and foster the education of the whole person.

### Accreditation

The Doctor of Pharmacy program is accredited by the American Council on Pharmaceutical Education, the national accrediting organization for colleges of pharmacy.

### Professional Standards

Students enrolled in the programs of the College of Pharmacy are expected to endorse professional standards by subscribing to the Oath of the Pharmacist. Students are also expected to abide by the American Pharmaceutical Association's Code of Ethics of the Profession.

### Pre-Pharmacy Curriculum

To be eligible to apply to the professional pharmacy program, each student must complete the pre-pharmacy curriculum. The pre-pharmacy curriculum for resident and transfer students must include those requirements listed below (see under Doctor of Pharmacy) and at least the following: two semesters of general chemistry, two semesters of organic chemistry, two semesters of physics, one semester of biology or zoology, one semester of microbiology, one semester of calculus, and one semester of macroeconomics.

## Admission to the College of Pharmacy

### Application Materials

Application materials may be obtained by contacting:

College of Pharmacy Admissions  
Idaho State University

Campus Box 8288

Pocatello, ID 83209-8288

(208) 236-3475

FAX 208-236-4482

e-mail = rx info@pharmacy.ISU.edu

WWW <http://pharmacy.ISU.edu>

### Admission Criteria

The recommended high school background for students planning to enter the pre-professional program at Idaho State University includes four units of mathematics

and three units of natural science (biology, chemistry, and physics).

All of the pre-professional curriculum, as outlined, must be completed by the end of spring term of the year the applicant is applying for admission. In addition, the faculty encourages applicants to have a broad background in the arts, humanities and social sciences, as well as in the biological and physical sciences. Students should be competent in using word processing, spreadsheet and presentation software.

To apply to the College of Pharmacy, a student must have a minimum cumulative grade point average (GPA) of 2.5 in all previous college academic courses. Admission is competitive; in recent classes, successful applicants had cumulative GPAs in excess of 3.0 with a class median of 3.4 GPA. Fulfillment of the specific requirements does not ensure admission to the college. Idaho residents are given preference.

New students are admitted to the professional program of the college only in the fall semester of each year. All application materials should be submitted to the College of Pharmacy Admissions Committee by **February 1**.

### Application Procedure

Admission to the Pharm.D. program requires a separate application, in addition to the one for the University's general admission. The deadline to submit all application materials is **February 1**.

Application materials to be submitted:

1. College of Pharmacy application and a \$40 nonrefundable application fee;
2. Official transcripts of all previous college course work;
3. Three recommendations, one being from a pharmacist, on the form provided;
4. Pharmacy College Admission Test (PCAT) scores.

The Pharmacy College Admissions Test (PCAT) is a specialized test that helps identify qualified applicants to pharmacy colleges by measuring general academic ability and scientific knowledge. You must preregister to take the PCAT approximately 30 days before the test date. The fall test date is the latest the exam may be taken to insure that the scores are received prior to the February 1 deadline.

For a candidate booklet with application, contact:

Pharmacy College Admission Test (PCAT)  
The Psychological Corporation  
555 Academic Court  
San Antonio, TX 78204-2498  
1-800-622-3231  
FAX 210-921-8861

## Evaluation of Students for Admission

Admission to the College of Pharmacy is limited to 50 positions per class. Historically, there have been more applicants than available positions. This requires the faculty to select from among the applicants those who will have the best opportunity to complete the curriculum and have productive professional lives. Admission is based upon the student's academic ability as reflected in pre-pharmacy courses, PCAT scores, and references, as well as successful interviews. Each spring a select group of applicants are invited for a series of interviews.

Approximately 85 applicants will be requested to schedule an on-campus interview with the Admissions Committee. Selection for interview is based upon complete evaluation of all submitted application materials. Any missing documentation will compromise the application. Interviews are scheduled through the Office of the Associate Dean, at (208) 236-3475. Students will be notified approximately March 15 of their interview status.

Upon completion of interviews, applicants are placed into three categories:

1. admission,
2. reserve for possible admission pending available positions, or
3. no admission.

Students placed in the reserve admission category will be notified of their priority within this division. As positions become available, students will be reclassified from reserve admission to admission.

## Admission Under Special Circumstances

### Students Transferring from Other Schools of Pharmacy

Students wishing to transfer from another college of pharmacy must present the following materials to the Associate Dean of the College of Pharmacy:

1. A letter certifying good standing by the dean of the college of pharmacy previously attended,
2. An official transcript(s) showing that the pre-pharmacy requirements of Idaho State University have been completed,
3. A letter to the associate dean requesting evaluation of class standing.

### Graduates of Foreign Schools of Pharmacy

Graduates of foreign schools of pharmacy who wish to pursue a degree in pharmacy from the ISU College of Pharmacy must make formal application and provide evidence that they meet all of the pre-professional course requirements of the college. Scores from the Test of English as a Foreign Language (TOEFL) are to be provided in accordance with university policy. Such applicants will be evaluated by the faculty regarding their class standing.

## Progression Requirements

Students accepted into the professional program of the College of Pharmacy will be permitted to progress to the next semester in the professional curriculum only when all of the required courses of the previous semester have been successfully completed. Successful completion is defined to mean that a grade point average of C (2.0) or better must be maintained in required professional courses, as well as required courses outside the College. In addition, no student shall be allowed (on his or her transcript) more than two D grades in required professional courses both in and outside of the College. Policies adopted within these guidelines are distributed to all students in the professional program.

Students failing to meet minimal academic standards at the end of any semester must petition the Progressions Committee to further progress in the College.

A student who intends to take a required ISU pharmacy course at another institution must receive written permission from the dean. This permission must be received prior to enrolling in the course.

## Experiential Curriculum—Clerkships

Prior to entering clerkships, students shall: be CPR certified; demonstrate immunization compliance as recommended by the AACP health guidelines; complete all didactic pharmacy course work; complete general education requirements and the 30 semester credits of humanities and social sciences.

Forty-two (42) weeks of the Doctor of Pharmacy curriculum are spent in a variety of patient care areas. This requirement assures that the student becomes competent at applying information and concepts learned in the classroom to the practice of pharmacy. Clerkship sites are assigned by the College. Site locations currently include southeast, southwest, and northern Idaho, San Diego, Las Vegas, and Reno. Decentralization of off-campus programs is a commitment the College has made to provide students with the best possible educational experiences. Students should clearly understand that they will be required to complete at least part of their last year at a site other than Pocatello.

During the clerkships, students are required to complete at minimum 40 contact hours per week of practice experience in a variety of health care settings. Since patient care is a continuous activity, some off-campus clerkship experiences are conducted outside the traditional work day (shift work). Personal expenses, including travel, food, and lodging while enrolled in off-campus programs, are the student's responsibility.

## Policy on Completing Clerkship Requirements for Graduation

Students must complete all clerkship requirements for graduation by May of the year following the original scheduled graduation date at the time the student was first enrolled in clerkships.

## Pharmacy Extern Registration

All students are required to be licensed interns with a state board of pharmacy during all phases of the clinical program/externship. An extern registration is required in each state in which a student does any portion of their clinical program (ex-

ception is Indian Health Service sites). If a student plans to sit for the Idaho licensure examination for pharmacists, all externship hours must be recorded with the Idaho Board of Pharmacy through an Idaho extern registration. Idaho registration forms may be secured from the Office of the Associate Dean or directly from the Board of Pharmacy. The completed form, a required registration fee of \$15, and a 3" by 4" head and shoulders photo of the student, are required to register with the State Board. Extern permits expire annually on April 30. Address inquiries to:

Idaho State Board of Pharmacy  
280 N 8th St., Ste. 204  
Boise, ID 83720  
(208) 334-2356

## Graduation Requirements

All students graduating from Idaho State University with a Doctor of Pharmacy (Pharm.D.) degree are expected to complete the General Education Requirements as described for the Bachelor of Science degree, and a minimum of seven additional credits in communication, behavioral, social, or humanistic subjects.

To be eligible for graduation in pharmacy, a student must have earned an average GPA of 2.0 or better on all credits applied toward the minimum graduation requirements of the curriculum. S/he also must have earned an average of 2.0 or better for all required pharmacy courses applied toward graduation. A minimum of 224 semester credits is required for graduation with the Doctor of Pharmacy degree.

Students are held responsible for meeting degree requirements in proper sequence. Frequent consultation between student and faculty advisor is encouraged.

## Licensure

The following information relative to licensure is included at the request of the Idaho State Board of Pharmacy:

For graduation with the Doctor of Pharmacy degree, students are required to complete a program of 42 weeks (1,680 hours) of structured practical experiences in pharmacy practice environments administered by the College. By action of the Idaho Board of Pharmacy, successful completion of the clinical program/externship required for the Doctor of Pharmacy degree will satisfy all of the practical

experience requirements for licensure in Idaho.

Following completion of all requirements, candidates must pass an examination given by the Idaho State Board of Pharmacy to obtain licensure to practice pharmacy in Idaho. If a student plans to practice pharmacy in states other than Idaho, s/he must meet the specific licensing requirements of that state(s).

All questions relative to externship training requirements and other qualifications for examination and licensure as a pharmacist in Idaho should be addressed to:

Executive Director  
Idaho State Board of Pharmacy  
280 N. 8th Street  
Boise, ID 83720

## Doctor of Pharmacy

The Doctor of Pharmacy is a professional doctorate degree. Graduates may apply for licensure to practice pharmacy immediately upon graduation.

## Pre-Pharmacy Curriculum

### First Year Pre-Pharmacy

BIOL 202	General Zoology	3 cr
CHEM 111	General Chemistry I	5 cr
CHEM 112	General Chemistry II	4 cr
CHEM 114	Cations and Anions	1 cr
ENGL 101	English Composition	3 cr
COMM 101	Principles of Speech (Goal 2)	2 cr
MATH 160	Brief Calculus (Goal 3)	4 cr
Goals 6,7,8,9,10,12 and electives from the behavioral, social, or humanistic areas		10 cr
		TOTAL: 32 cr

### Second Year Pre-Pharmacy

BIOS 235	General Microbiology	4 cr
CHEM g301	Organic Chemistry I	3 cr
CHEM g302	Organic Chemistry II	3 cr
CHEM g303	Organic Chemistry Laboratory I	1 cr
CHEM g304	Organic Chemistry Laboratory II	1 cr
PHYS 111-112	General Physics	6 cr
ECON 201	Principles of Macroeconomics	3 cr
ENGL 201	Critical Reading and Writing	3 cr
Goals 6,7,8,9,10,12 and electives from the behavioral, social, or humanistic areas		9 cr
		TOTAL: 33 cr

## Professional Curriculum

The professional curriculum requires four years of study: three years of academic courses and a fourth year comprised of 42 weeks of clinical experience.

The first professional year provides a firm foundation in the basic and pharmaceutical sciences that includes anatomy, physiology, biochemistry, pharmaceutics and pharmacology. A course in social behavior aspects of pharmacy provides insight into the human relation aspects of pharmacy.

A strong foundation continues in pharmacology, pharmaceutics, medicinal chemistry, and toxicology in the second year. Practice-related courses such as clinical pharmacokinetics, therapeutics, management, pharmacy law, and pharmaceutical care are completed during the third year. The second and third years incorporate a series of case studies courses designed to enhance the student's knowledge base and problem solving skills while focusing on application of knowledge to specific patient cases.

The last 42 weeks, or the fourth professional year, is devoted to full-time clinical experience in various pharmacy practice or, at the student's option, research environments. Students will complete six-week rotations in pediatrics, geriatrics, psychiatry or drug information, and a six-week rotation in community pharmacy practice. An eight-week rotation in medicine, a four-week rotation in hospital pharmacy, and a six-week rotation in ambulatory patient care are also required. Students will also have the option of selecting an elective rotation in an area of interest.

Given the length of the final year of the Pharm.D. program, students will begin rotations in mid-May after completing their third academic year in the professional program and will continue throughout the ensuing twelve (12) months.

## First Professional Year Curriculum

### (Fall)

BIOS 342	Basic Immunology*	2 cr
BIOS g425	Human Anatomy (w/lab)	4 cr
BIOS g445	Biochemistry I	3 cr
BIOS g449	Human Physiology (w/lab)	4 cr
PPRA 338	Drug Information Systems and Medical Terminology**	2 cr
PPRA 416	Social and Behavioral Aspects of Pharmacy Practice	3 cr
		TOTAL: 18 cr

**(Spring)**

BIOS 341	Medical Microbiology***	2 cr
BIOS g447	Biochemistry II	3 cr
BIOS g456	Human Physiology II (w/lab)	4 cr
PSCI 423	Pharmaceutics I	3 cr
PSCI g457	Clinical Chemistry	2 cr
PSCI g465	Pharmacology I	4 cr
TOTAL:		18 cr

\*Students attend classes for BIOS 342 for first ten weeks only.

\*\*5 weeks of lecture three times weekly (15 classes), 45 hours lab, with students rotating fall and spring.

\*\*\*Students attend classes for BIOS 341 for last 10 weeks of the semester.

## Second Professional Year Curriculum

**(Fall)**

BIOS g463	Human Pathophysiology	4 cr
PPRA 401	Current Topics in Pharmacy Practice	1 cr
PSCI 401	Case Studies in Pharmacy I	2 cr
PSCI 424	Pharmaceutics II	4 cr
PSCI g455	Medicinal Chemistry I	3 cr
PSCI g466	Pharmacology II	4 cr
TOTAL:		18 cr

**(Spring)**

PPRA 518	Clinical Research Design and Analysis	4 cr
PSCI 402	Case Studies in Pharmacy II	2 cr
PSCI 425	Pharmaceutics III	4 cr
PSCI g456	Medicinal Chemistry II	3 cr
PSCI g467	Pharmacology III	3 cr
PSCI 568	Toxicology	3 cr
TOTAL:		19 cr

## Third Professional Year Curriculum

**(Fall)**

PPRA 418	Pharmacy Practice Management	4 cr
PPRA 501	Case Studies in Pharmacy III	2 cr
PPRA 505	Externship in Pharmacy Practice****	1 cr
PPRA 521	Pharmaceutical Care I	3 cr
PPRA 525	Pathophysiology and Therapeutics I	5 cr
PSCI 529	Clinical Pharmacokinetics	3 cr
TOTAL:		18 cr

**(Spring)**

PPRA 502	Case Studies in Pharmacy IV	2 cr
PPRA 519	Pharmacy Law	3 cr
PPRA 522	Pharmaceutical Care II	4 cr
PPRA 526	Pathophysiology and Therapeutics II	5 cr
	Elective (pre-approved)	4 cr
TOTAL:		18 cr

\*\*\*\*Note: The requirement for PPRA 505 will be waived for students who provide evidence of completion of 200 hours in a licensed or public health pharmacy externship, which has been approved by a State Board of Pharmacy, and which was supervised by a licensed preceptor. This experience must have occurred since entry into the pharmacy school program, and may include extern experience from more than one practice setting.

## Fourth Professional Year Curriculum

**Full Calendar Year**

PPRA 540	Case Studies in Pharmacy Practice	7 cr
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Plus the following clerkships:

PPRA 541	Community Pharmacy Clerkship	6 weeks
PPRA 542	Hospital Clerkship	4 weeks
PPRA 543	Ambulatory Care Clerkship	6 weeks
PPRA 544	Medicine Clerkship (Institutional Practice and Acute Care Clinical) Special Populations Clerkship*	8 weeks
	(2 Rotations, 6 weeks each)	12 weeks
	Elective Clerkship	6 weeks
TOTAL Clerkships -		42 weeks

\*Two rotations are selected from Pediatrics, Geriatrics, Psychiatry or Drug Information. Students who complete the Ambulatory Care Clerkship in a Veterans Administration Medical Center must select Pediatrics as one Special Populations Elective Clerkship.

## Joint Doctor of Pharmacy/ Master of Business Administration

The College of Business and College of Pharmacy at Idaho State University offer a combined joint Pharm.D./MBA program for students interested in earning both degrees. Students enrolled in the Pharm.D. program may earn an MBA degree with approximately one summer and one year of additional course work.

The program is closely aligned with the Pharm.D. curriculum with the following changes and requirements:

- During the two years of pre-pharmacy course work, the student should take ECON 201, ECON 202, ACCT 201 AND ACCT 202. Economics 202 and the accounting courses will satisfy four hours of the 18 hours of electives required in the pre-pharmacy curriculum.
- During the third professional year in the Pharm.D. program and the summer preceding that year, the student should take MBA 613, MBA 614, MBA 615 and MBA 616. 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 612 (Human Behavior in Organizations) will substitute for PPRA 418 (Pharmacy Management) required in the third professional year of the Pharm.D. curriculum.

- Six hours of specified clerkship courses taken in the fourth professional year of the Pharm.D. program will satisfy six elective hours required in the MBA curriculum.
- In the year following the fourth professional year of the Pharm.D. program, the student must return to campus to complete the second year of the MBA curriculum, which includes MBA 621, MBA 622, MBA 623, MBA 624, MBA 625, MBA 626 and six hours of 600-level electives in the College of Business.

## Admission to Joint Pharm.D./MBA Program

Interested student applicants may be admitted to the MBA program at the end of the second professional year of the Pharm.D. curriculum. Awarding of the MBA in this joint program requires successful completion of the Pharm.D. degree. Students must meet regular admission requirements for the MBA program, except that 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 School of Graduate Studies that they have completed 128 hours of course work, and that those 128 hours are equivalent to an undergraduate degree.

## Non-Traditional Doctor of Pharmacy Program

This academic program is intended for practitioners holding a Bachelor's degree in Pharmacy who desire the opportunity to earn the Doctor of Pharmacy (Pharm.D.) without returning full-time to the campus. The practitioner/student will complete individualized didactic course requirements through home study, using videotaped lec-

tures, detailed syllabi and textbooks. At the completion of all didactic requirements, the practitioner/student will be required to complete 28 weeks of clerkships.

## Admission Requirements

To be admitted to the program, students must hold a valid pharmacy license in one of the states or territories of the United States. There is no minimum cumulative grade point average required for the program. In determining admission status, the Admissions Committee will weigh all evidence each student provides including academic records and the documented achievements s/he has received as a pharmacy practitioner. Students are encouraged to apply regardless of present residence, but admission priority will be given to individuals who practice in Idaho.

Students may enroll in two courses prior to full admission to the program. This Conditional Enrollment will allow students to determine their interest in pursuing the entire program.

## Admissions Process

The application process consists of two phases:

### Phase I - Submission of Documents

Students must submit the following documents to the College of Pharmacy at least three months prior to their intended enrollment date, even if they desire the Conditional Enrollment option:

1. Completed application form.
2. Designated application fee.
3. A complete, official transcript of all college course work.
4. Proof of current licensure in one of the states or territories of the United States.
5. Three letters of recommendation, one from the applicant's current supervisor or employer and two from professional colleagues.
6. A personal, typewritten statement of approximately 100 words in response to the question: "Why are you seeking admission to the Pharm.D. program?"

Submission of the above documents does not ensure admission to the program. An assessment process will be initiated to review the documents. If the student meets the academic and professional assessment

criteria, s/he will be encouraged to participate in Phase II of the application process.

### Phase II - Assessment

Once the student has completed the first phase of the admissions process, a notice will be sent from the College to proceed with the second phase. The second phase contains two assessment activities.

1. Each student must schedule an on-campus interview. This will allow students to meet members of the faculty with whom they will be interacting throughout their studies, and ask questions about the program. The interview will give faculty an opportunity to meet each student and learn about their professional achievements and goals.
2. During the student's visit to campus, s/he will be asked to take a knowledge examination designed as a diagnostic tool to assist both the student and the Admissions Committee in evaluating the student's abilities to perform in specific courses in the curriculum. The examination is not an admissions test in that there is no minimum score that must be met for admission to the program. The results of this test will guide the advisor in placing the student in the appropriate courses if s/he is admitted to the program.

## Dates to Begin The Program

The non-traditional program does not follow the usual academic calendar of the University. Students will be enrolled and initiate the courses once official notification of admission has been received.

The official notice of admission will include the name and telephone number of the Director, Office of Practitioner Affairs. Students should contact their advisor to plan their course of study. The advisor will have all the information about the program including any deficient courses students may be required to complete.

## Progression Requirements

The courses students will take are competency based. This means the student will not receive a passing grade in the course until s/he has achieved the minimum level of knowledge and skills required for the course.

Students must complete all didactic courses within three calendar years after enrolling in the program. Before begin-

ning clerkships, a second on-campus visit is required during which the student must complete a comprehensive examination of the didactic curriculum. A physical assessment practicum will also be administered at this time. Following successful completion of these evaluations, students will be given one calendar year to complete the clerkship requirements. All educational requirements for the degree must be completed by the end of the fourth year after enrolling in the program.

The College will provide students the opportunity to complete the clerkship experiences over a one-year interval so the need to be away from the home/family/job can be minimized. Every effort will be made to place each student in an appropriate clerkship site convenient to their residence; however, the right must be retained to assign a student to a site away from his/her residence if local accommodations are not available or will not meet the requirements specified by the faculty of the College.

## Curriculum

The minimum didactic courses students will be required to complete are as follows:

BIOS 351	Immunology	3 cr
BIOS 355	Pathogenic Microbiology	3 cr
PPRA 518	Clinical Research Design and Analysis	4 cr
PPRA 538	Drug Information and Literature Analysis	2 cr
PPRA 534, 535	Pathophysiology and Therapeutics I and II	4 cr ea.
PPRA 539	Quality Assurance and Cost Containment Strategies	1 cr
PPRA 550	Physical Assessment	1 cr
PSCI 569	Human Pathophysiology	3 cr
PSCI 529	Clinical Pharmacokinetics	3 cr
PSCI 457	Clinical Chemistry	2 cr
		Total: 30 cr

These didactic courses constitute 30 credits of academic work. If a student has certain deficiencies as noted in the assessment examination, s/he may be required to complete other courses prior to enrolling in these courses. Note that time spent in completing deficiency courses will not be counted towards the four calendar year time limit in completing the degree.

In addition to the didactic courses, students will be required to complete 28 weeks of full-time clerkship experiences. These include:

PPRA 543	Ambulatory Care Clerkship	6 weeks
PPRA 544	Medicine Clerkship Special Populations Clerkship*	6 weeks
		12 weeks

\*Select two or three rotations from Pediatrics, Geriatrics, Psychiatry or Drug Information.

PPRA 521      Pharmaceutical Care  
Clerkship                      4 weeks  
TOTAL: 28 weeks

All students will be required to complete 28 weeks of clerkship regardless of the experiences they had in their practice. However, if a student has specialized experience in one or more of these areas, s/he may be allowed to select an elective clerkship in another area of interest or complete an advanced rotation in one of the core areas.

Permanent clerkship sites have been established in Idaho and several other states. New clinical sites throughout the United States can be approved provided they meet the requirements specified by the faculty of the College. Students will not be required to locate their clerkship sites; the College will explore potential sites that students recommend to their advisor.

Note that students will be awarded ACPE accredited continuing education credits in addition to academic credits for successfully completing the didactic and clerkship courses.

The Idaho State University College of Pharmacy is approved by The American Council on Pharmaceutical Education as a provider of Continuing Pharmaceutical Education.

## Sequence of Study and Time Allowed To Complete A Course

1. Students may complete any of the didactic courses, except Pathophysiology and Therapeutics, in any desired sequence. Pathophysiology and Therapeutics should be taken immediately after completion of all other didactic course work and immediately prior to starting the first clerkship.
2. Students will be required to complete each didactic course within four months of registration.

## Format of Didactic Instruction

Each course will be assigned an instructor who will be available to students by telephone. The instructor will also be responsible for administering examinations and assigning final grades.

Didactic courses will be taught using video tapes or suitable self-study methods and detailed content syllabi. Each course will utilize a textbook suitable for the non-traditional learner.

## Criteria for Selection of Non-Traditional Pharm.D. Clerkship Sites and Preceptors

The clerkship component of the non-traditional Pharm.D. curriculum provides the mechanism whereby students are given experiential education in several important areas of clinical pharmacy practice. It is essential that this education be provided in facilities where high standards of pharmaceutical care and instruction are available. Therefore, certain qualifications must be met by clerkship preceptors and sites.

**Qualifications of Preceptors.** Preceptors are expected to be clinical pharmacists actively engaged in the delivery of high quality pharmaceutical care. These individuals typically will have completed the Pharm.D. degree and may have residency and/or fellowship training. These individuals will spend the majority of their time providing pharmaceutical care in their facility but will be able to commit sufficient time to the education of the student(s). Preceptors must be eligible to receive faculty appointment at Idaho State University College of Pharmacy.

**Qualifications of Facilities.** Facilities will be licensed and accredited by appropriate agencies which govern pharmacy practice and/or health care delivery in respective geopolitical regions. Clinical services will be integrated into the routine practice of pharmacy; mechanisms to assure the quality of these services will be in place. An understanding and commitment of the pharmacy service director to the ISU educational program will be documented and the facility will establish an "Educational Affiliation Agreement" with the University.

Nontraditional students who desire to complete clinical clerkships at facilities currently affiliated with the ISU College of Pharmacy will be incorporated into the clerkship placement process employed for traditional students.

## Clerkship Placement— Student Responsibilities

Students may request to complete clinical clerkships at sites in close proximity to their home but which are not currently affiliated with the ISU College of Pharmacy. Clerkship sites requested by students may require that a representative of the College visit the facility to validate the acceptability of the site for clinical instruction before the site can be approved.

Students who request non-affiliated clerkship sites must follow the steps outlined below:

1. Notify the Director, Office of Practitioner Affairs of the desire to complete clerkships at alternative sites. The Director will give the student permission to make initial contact with the facility(ies) and preceptor(s). This step ensures that the College is aware that its students are making initial educational contacts on its behalf. If a student wants to complete clerkships at a facility(ies) or with a preceptor(s) unacceptable to the College, the Director will deny permission.
2. Contact the facility(ies) and preceptor(s) to determine if they have interest in having the student complete clerkships at their site.
3. Report to the Director the results of contact(s) with proposed facility(ies) and preceptor(s).

## Clerkship Placement— College of Pharmacy Responsibilities

Assuming the student has successfully identified facilities and preceptors which are tentatively acceptable to the College, the following steps will occur:

1. The Director will contact the preceptor(s) and/or facility(ies) to confirm the interest in affiliation with the College. This contact by the Director will document the ability of preceptor(s) and facility(ies) to fulfill the educational requirements of clerkships. Preliminary discussions regarding affiliate/adjunct faculty appointment(s) and payment for clerkship supervision may also occur.
2. Provided mutual interest in an academic affiliation is sustained, the Director may schedule a visit to the facility(ies) and preceptor(s) to confirm the acceptability of the site(s) for clinical instruction.
3. Acceptable facilities will be engaged by the University using "Educational Affiliation Agreements" and contracts for payment of facilities and/or preceptors. These agreements and contracts will be negotiated by the Director. Affiliate/adjunct faculty appointments will be designated by the Director. All agreements and contracts will be executed prior to student placement at a facility.

4. Clerkship rotation schedules will be developed by the Director in conjunction with specific student requests. Schedules will be communicated to students by the Director.
5. The Director will communicate with preceptors, monitor student progress, receive grades, receive student evaluations of preceptors, and visit sites during clerkships as needed.

### Program Director/Advisor

Students will be assigned a faculty advisor upon admission to the program. The Office of Practitioner Affairs will also be responsible for registration, delivery of course materials (video tapes, syllabi, examinations, etc.), and any other administrative details associated with the program.

### Non-Traditional Application Materials

Application materials and other information may be obtained by writing or telephoning:

Non-Traditional Program, College of  
Pharmacy  
Campus Box 8356  
Idaho State University  
Pocatello ID 83209  
(208) 236-2777

## Pharmacy Courses

### Pharmaceutical Sciences Courses

**PSCI 401 Case Studies in Pharmacy I 2 credits.** Application of principles in the pharmaceutical sciences to drug therapy issues. PREREQ: SECOND PROFESSIONAL YEAR STATUS; COREQ: PSCI g466, PSCI g455. F

**PSCI 402 Case Studies in Pharmacy II 2 credits.** Continuation of PSCI 401. PREREQ: PSCI 401, PSCI g466, PSCI 455. COREQ: PSCI 467, PSCI 456. S

**PSCI g423 Pharmaceutics I 3 credits.** Fundamental knowledge for pharmaceutical evaluation: terminology, physical and chemical properties of drugs, and pharmacokinetic principles. Students become familiar with physician orders, patients' charts, and current literature, and will evaluate patient profiles. PREREQ: FIRST PROFESSIONAL YEAR STATUS. S

**PSCI g424 Pharmaceutics II 4 credits.** Pharmaceutical principles based on different routes of administration; biopharmaceutics, stability, packaging and formulation of various dosage forms, pharmacokinetic processes and dose modeling. Three hours lecture and three hours laboratory each week. PREREQ: PSCI 423. F

**PSCI g425 Pharmaceutics III 4 credits.** Parenterals, radiopharmaceuticals, chemothera-

peutic products, biological derived products and manufacturing techniques. Three hours of lecture and three hours of laboratory each week. PREREQ: PSCI 424. S

**PSCI g455 Medicinal Chemistry I 3 credits.** A study of the general chemistry, chemical properties and relationships between chemical structures and pharmacological activities of organic and inorganic medicinal agents. PREREQ: PSCI g465, BIOS g447. F

**PSCI g456 Medicinal Chemistry II 3 credits.** A study of the general chemistry, chemical properties and relationships between chemical structures and pharmacological activities of organic and inorganic medicinal agents. PREREQ: PSCI 455. S

**PSCI 457 Clinical Chemistry 2 credits.** The influence of disease states on the results of laboratory diagnostic procedures; the effects of drug therapy on diagnostic tests. PREREQ: MUST BE FIRST-YEAR PROFESSIONAL STATUS IN PHARM D PROGRAM. S

**PSCI g465 Pharmacology I 4 credits.** Study of drug action, receptors and metabolism; principles of pharmacology of the major classes of drugs. PREREQ: BIOS g445, g449. S

**PSCI g466 Pharmacology II 4 credits.** Study of drug action, receptors and metabolism; principles of pharmacology of the major classes of drugs. PREREQ: PSCI g465, BIOS g447, 456. F

**PSCI g467 Pharmacology III 3 credits.** Principles of pharmacology of the major classes of drugs; the actions, receptor sites, and metabolism of these agents. PREREQ: PSCI g466, PSCI 455. S

**PSCI 501 Drug Abuse and the Pharmacist 3 credits.** A detailed discussion of pharmacological and societal aspects of drugs of abuse, including the role of the pharmacist when confronted with personal, professional, and societal drug abuse. PREREQ: PSCI g465. S

**PSCI g510 Pharmaceutical Analysis 3 credits.** Principles and techniques of pharmaceutical analysis used for the evaluation of drugs and their dosage forms. PREREQ: PERMISSION OF INSTRUCTOR. D

**PSCI g511 Vitamins and Enzymes 3 credits.** Study of the biochemical role of vitamins and enzymes. D

**PSCI g515 Pharmacological Basis of Cancer Chemotherapy 3 credits.** In-depth study of the pharmacology of the antineoplastics and rational basis for chemotherapy. Advances in the design and evaluation of new combined treatments are included. PREREQ: PSCI g465, g466, g467. S

**PSCI 521 Dermatologicals 2 credits.** General principles, etiology, and clinical manifestations of skin diseases. Emphasis is placed on the management and therapy of common cutaneous disorders. PREREQ: PSCI 425 OR PSCI 427 OR PERMISSION OF INSTRUCTOR. D

**PSCI 529 Clinical Pharmacokinetics 3 credits.** The application of pharmacokinetic principles to the rational design of individualized drug dosage regimens. PREREQ: PSCI 425. F

**PSCI 537 Professional Student Seminar in Pharmaceutical Sciences 1 credit.** Review of current research and literature in the fields of pharmacy. Oral and written reports are required. May Be Repeated. PREREQ: MUST BE ENROLLED IN THE PHARM.D. PROGRAM. S

**PSCI 538 Independent Problems in Pharmaceutical Sciences 2 credits.** Advanced students are assigned special laboratory studies on the basis of interest and previous preparation. May Be Repeated. PREREQ: MUST BE ENROLLED IN THE PHARM.D. PROGRAM. F, S

**PSCI 568 Toxicology 3 credits.** Study of environmental and clinical poisons with emphasis on mechanisms of toxicity, causes, detection and treatment. PREREQ: PSCI g467 OR PERMISSION OF INSTRUCTOR. S

**PSCI 569 Pathophysiology 3 credits.** The study of basic processes underlying diseases with an emphasis on gross functional disturbances. PREREQ: B.S. IN PHARMACY. Note: Students may not receive credit for both PSCI 569 and BIOS g463. F, S

**PSCI 592 Special Topics in Pharmaceutical Sciences 1-4 credits.** An examination of selected topics in pharmaceutical sciences. PREREQ: MUST BE ENROLLED IN PHARM.D. PROGRAM. D

Pharmacy Practice and Administrative Sciences Courses

**PPRA 338 Drug Information Systems and Medical Terminology 2 credits.** Methods of gathering and using medication-related information derived from a variety of sources. Laboratory exercises in information retrieval. PREREQ: FIRST PROFESSIONAL YEAR STATUS. F

**PPRA 401 Current Topics in Pharmacy Practice 1 credit.** Student led seminar examining current issues in pharmacy practice. PREREQ: PPRA 416. F

**PPRA 416 Social and Behavioral Aspects of Pharmacy Practice 3 credits.** Principles of medical sociology applicable to health care and professional practice. Focuses on understanding of health and illness behavior, consumer and health care professional roles, and health care ethics. F

**PPRA 418 Pharmacy Practice Management 4 credits.** Principles of financial and human resource management as applied to pharmacy practice. PREREQ: ECON 201. F

**PPRA g491 Topical Seminar in Pharmacy Practice 1-4 credits.** Examination of selected topics in Pharmacy Practice and Pharmacy Administration. May Be Repeated. PREREQ: PERMISSION OF INSTRUCTOR. D

**PPRA 501 Case Studies in Pharmacy III 2 credits.** Application of principles in pathophysiology and therapeutics to drug therapy issues. PREREQ: PSCI 402. COREQ: PPRA 525, PSCI 529. F

**PPRA 502 Case Studies in Pharmacy IV 2 credits.** Application of principles in pathophysi-

ology and therapeutics to drug therapy issues. PREREQ: PPRA 501. COREQ: PPRA 526. S

**PPRA 505 Externship in Pharmacy Practice 1 credit.** 200 hours of practical experience in a pharmacy practice environment. S/U. F

**PPRA 513 Marketing Management of the Community Pharmacy 2 credits.** Principles of marketing management as applied to community pharmacy practice. S

**PPRA 514 Institutional Pharmacy Practice 2 credits.** The practice of institutional pharmacy with special emphasis on the practice of hospital pharmacy. PREREQ: PPRA 418. S

**PPRA 515 Financial Management of the Community Pharmacy 2 credits.** Principles of financial management as applied to community pharmacy practice. PREREQ: PPRA 418. S

**PPRA 518 Clinical Research Design and Analysis 4 credits.** The fundamentals of experimental design, implementation and data analysis pertinent to pharmaceutical clinical investigations. F, S

**PPRA 519 Pharmacy Law 3 credits.** The study of federal and state statutes, regulations and court decisions which control the practice of pharmacy and drug distribution; and an introduction to civil liability in pharmacy practice. PREREQ: THIRD PROFESSIONAL YEAR. S

**PPRA 521 Pharmaceutical Care I 3 credits.** Integration of skills and knowledge necessary for providing pharmaceutical care. Emphasizes communication and counseling skill development, patient assessment, prospective drug review, use of nonprescription products and ethics. Two lectures and three hours of laboratory weekly. PREREQ: PSCI g467. F

**PPRA 522 Pharmaceutical Care II 4 credits.** Continuation of PPRA 521. Three lectures and three hours of laboratory weekly. PREREQ: PPRA 521. S

**PPRA 525 Pathophysiology and Therapeutics I 5 credits.** Study of disease states and drug therapy, with emphasis on selection and monitoring of drug therapy, patient counseling and application of knowledge to patient situations. PREREQ: BIOS g463 OR PSCI 569. F

**PPRA 526 Pathophysiology and Therapeutics II 5 credits.** Continuation of PPRA 525. PREREQ: PPRA 525. S

**PPRA 530 Geriatric Pharmacy I 3 credits.** Principles of effective pharmaceutical care of the elderly patient. PREREQ: THIRD PROFESSIONAL YEAR.

**PPRA 531 Geriatric Pharmacy II 3 credits.** This course is a continuation of PPRA 530, and includes advanced study of the principles of effective pharmaceutical care of the elderly patient. PREREQ: THIRD PROFESSIONAL YEAR. S

**PPRA 534 Pathophysiology and Therapeutics I 4 credits.** This course presents drug therapies by disease state with emphasis placed on selection and monitoring of drug therapy, patient counseling and application of knowledge to patient situations. F, S

**PPRA 535 Pathophysiology and Therapeutics II 4 credits.** Provide knowledge of therapeutics and prepare for learning in a clinical setting. PREREQ: PPRA 534. S

**PPRA 538 Drug Information and Literature Analysis 2 credits.** Advanced course in retrieving, analyzing, and evaluating medication-related information from the literature. PREREQ: PPRA 518. F

**PPRA 539 Quality Assurance and Cost Containment Strategies 1 credit.** A study of the drug use process with special emphasis on methods whereby pharmacists can enhance patient care and reduce costs of care. F, S

**PPRA 540 Case Studies in Pharmacy Practice 1-2 credits.** This series of one- or two-credit courses will require students to present selected patient cases for discussion to the preceptor or other students on rotation. PREREQ: COMPLETION OF THIRD PROFESSIONAL YEAR. Graded S/U. F, S

**PPRA 541 Community Pharmacy Clerkship 4-6 credits.** Emphasizes the distributive, communicative and managerial aspects of community pharmacy practice. For this clerkship, students are assigned to selected community pharmacy preceptors. PREREQ: FOURTH PROFESSIONAL YEAR STATUS OR PERMISSION OF INSTRUCTOR. Graded S/U. F, S

**PPRA 542 Hospital Pharmacy Clerkship 4-6 credits.** Emphasizes the distributive, communicative and managerial aspects of hospital pharmacy practice. For this clerkship, students are assigned to selected hospital pharmacy preceptors. PREREQ: FOURTH PROFESSIONAL YEAR STATUS OR PERMISSION OF INSTRUCTOR. Graded S/U. F, S

**PPRA 543 Ambulatory Care Clerkship 4-8 credits.** Integration of basic pharmacy related concepts to patient care as a member of an interdisciplinary health care team in the ambulatory care setting. Graded S/U. F, S

**PPRA 544 Medicine Clerkship 4-8 credits.** This clerkship is designed to integrate the knowledge from previous didactic courses in pharmacology, clinical chemistry, and pathophysiology for application encountered in general medicine practice. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F, S

**PPRA 545 Pediatrics Clerkship 4-6 credits.** Practical experience in monitoring drug therapy for institutionalized and ambulatory pediatric and neonatal patients. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F, S

**PPRA 546 Geriatrics Clerkship 4-6 credits.** Application of pharmaceutical knowledge and skills in the care of geriatric patients and long-term care. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F, S

**PPRA 547 Psychiatry Clerkship 4-6 credits.** Application of pathophysiology and therapeutics to a general psychiatry practice. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F, S

**PPRA 548 Drug Information Clerkship 4-6 credits.** Structured experience in the practical aspects of the provision of drug information. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F, S

**PPRA 549 Pharmaceutical Care Clerkship 4-6 credits.** Emphasizes the development, implementation and assessment of pharmaceutical care activities provided in the non-traditional student's work setting. PREREQ: NON-TRADITIONAL ENROLLMENT AND REQUIRED CLERKSHIPS. Graded S/U. F, S

**PPRA 550 Physical Assessment 1 credit.** An introduction to the practical applications of pharmacy including performing a basic physical examination and taking a medical history. F, S

**PPRA 551 Community Pharmacy Specialty Clerkship 4-6 credits.** Develops the concepts and mechanisms of the distributive, communicative and managerial aspects of community practice through the completion of a student project. PREREQ: PPRA 541 AND PERMISSION OF INSTRUCTOR. Graded S/U. F, S

**PPRA 552 Hospital Pharmacy Specialty Clerkship 4-6 credits.** Develops the concepts and mechanisms of the distributive, communicative and managerial aspects of hospital pharmacy practice through the completion of a student project. PREREQ: PPRA 542 AND PERMISSION OF INSTRUCTOR. Graded S/U. F, S

**PPRA 553 Professional Student Seminar 1 credit.** Development of a relevant therapeutic topic including the review, analysis, and oral presentation of all appropriate medical and scientific literature. PREREQ: MUST BE FOURTH-YEAR PROFESSIONAL STUDENT. F, S

**PPRA 554 Clinical Specialty Clerkship 4-6 credits.** Designed to integrate the knowledge from previous didactic courses to teach students to formulate, apply and monitor therapeutic drug treatment of diseases. PREREQ: PPRA 544 AND PERMISSION OF INSTRUCTOR. Graded S/U. F, S

**PPRA 563 Advanced Parenteral Products 2 credits.** Provides advanced training in the preparation and handling of parenteral products used in institutional pharmacy and home-health-care services. PREREQ: PERMISSION OF INSTRUCTOR. S

**PPRA 569 Research Specialty Clerkship 4-6 credits.** Provides experience in the conduct of research in the pharmaceutical sciences. PREREQ: PPRA 544 AND PERMISSION OF INSTRUCTOR. F, S

**PPRA 571 Home Health Care Specialty Clerkship 4-6 credits.** Emphasizes the clinical, distributive, communicative, and managerial aspects of providing a home health care service in the ambulatory patient environment. PREREQ: PPRA 541 AND 542 AND PERMISSION OF INSTRUCTOR. F, S

**PPRA 581 Nuclear Pharmacy Specialty Clerkship 4-6 credits.** Provides practical experience in the compounding and clinical use of radiopharmaceuticals. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F

**PPRA 582 Rural Health Specialty Clerkship 4-6 credits.** Provides practical experience, knowledge, and skills necessary for the provision of pharmaceutical care services in rural and under-served health care settings. PREREQ: FOURTH PROFESSIONAL YEAR STATUS. Graded S/U. F

**PPRA 583 Special Populations Clerkship 4-6 credits.** Provides additional experience in the delivery of pharmaceutical services to one of four special patient populations including geriatrics, pediatrics, mental health or chemical dependency. PREREQ: PPRA 545 OR PPRA 546 OR PPRA 547. Graded S/U. F, S

**PPRA 592 Independent Problems in Pharmacy Practice 1-2 credits.** Advanced students are assigned special studies on the basis of interest and previous preparation. May be repeated. PREREQ: MUST BE ENROLLED IN PHARM.D. PROGRAM. F, S

## Service Courses

**Non-pharmacy students may enroll in these courses in the College of Pharmacy.**

**PHAR 205 Drugs in Society 2 credits.** Survey of the response of people to drugs and chemicals. This course is for non-pharmacy majors. F, S

**PHAR 314 Basic and Applied Pharmacology for Dental Hygiene 3 credits.** A study of basic pharmacology and therapeutic uses of selected drug groups. The most commonly prescribed drugs in these selected groups are discussed in detail. PREREQ: BIOS g301, BIOS g302. S

**PHAR 316 Essentials of Pharmacology 3 credits.** Deals with the pharmacologic actions and therapeutic implications of the major classes of drugs. PREREQ: BIOS g301, BIOS g302. F

**PHAR 317 Drug Therapy 2 credits.** Major emphasis on the therapeutic aspects of drugs as they relate to the care of patients. PREREQ OR COREQ: PHAR 316. S

**PHAR 318 Basic and Applied Pharmacology for Physical Therapists 2 credits.** Introduction to the basic concepts of pharmacology. Discussion of pharmacologic therapy of problems affecting the musculoskeletal and connective tissues, including pain management. PREREQ: LIMITED TO FIRST YEAR PHYSICAL THERAPY STUDENTS. S