

COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN ZOOLOGY¹

1. THE GENERAL EDUCATION AND TOTAL UNIVERSITY CREDIT REQUIREMENTS MUST BE MET (See Note 1 below). 128 total minimum credits are required for graduation. 36 of these must be upper division credits.

2. COURSES IN BIOLOGICAL SCIENCES: NUMBER OF CREDITS

| | | |
|--|---------------------------------|---|
| BIOL 1101 | Biology I | 4 |
| BIOL 1102 | Biology II | 4 |
| BIOL 2206 | Cell Biology | 4 |
| BIOL 2209 | General Ecology | 4 |
| BIOL 3303 ² | Principles of Animal Physiology | 4 |
| BIOL 3310 | Invertebrate Zoology | 4 |
| BIOL 3314 | Comparative Vertebrate Anatomy | 4 |
| or | | |
| BIOL 3324 | Developmental Biology | 4 |
| BIOL 3315L | Introduction to Biometry Lab | 1 |
| BIOL 3358 | General Genetics | 3 |
| BIOL 4417 | Organic Evolution | 3 |
| BIOL 4491,4492 | Seminar | 2 |
| Additional upper division coursework in Zoology ³ : | | 6 |
| (BIOL 3314, 3324, 4419, 4420, 4423, 4426, 4427, 4428, 4429, 4431, 4435, 4438, 4440, 4441, 4443, 4449, 4456, 4459, 4470, 4486, or 4495) | | |

3. COURSES IN MATHEMATICS

| | | |
|-----------|-----------------------------|---|
| MATH 1160 | Brief Calculus ⁴ | 4 |
| MATH 3350 | Statistics ⁵ | 3 |

4. COURSES IN CHEMISTRY

| | | |
|----------------|---------------------------|---|
| CHEM 1111 | General Chemistry I | 5 |
| CHEM 1112 | General Chemistry II | 4 |
| CHEM 3301,3303 | Organic Chemistry I, Lab | 4 |
| CHEM 3302,3304 | Organic Chemistry II, Lab | 4 |

5. COURSES IN PHYSICS

| | | |
|----------------|-------------------------|---|
| PHYS 1111,1113 | General Physics I, Lab | 4 |
| PHYS 1112,1114 | General Physics II, Lab | 4 |

Notes:

1. Students pursuing a Bachelor of Science degree must satisfy goals 1, 2, 3, 4, and 5, two of goals 6, 7, and 8, and three of goals 9, 10, 11, and 12. Goal 10 may be satisfied by either 10A or 10B.
2. The requirement for BIOL 3303 may be satisfied by taking both BIOL 3301 and 3302 (Anatomy and Physiology).
3. BIOL 4481 and BIOL 4482 can be counted as upper division zoology credits only if approved by the department.
4. Students may take MATH 1170 in place of MATH 1160. MATH 1160 has a prerequisite of MATH 1143. MATH 1170 has a prerequisite of MATH 1147. Prerequisites for both classes may be satisfied by the Mathematics placement exam.
5. The requirement for Statistics may be satisfied by taking MATH 2253 or MATH 3350 for students enrolled prior to Fall 2007. Starting Fall 2007, students must take MATH 3350 (listed as MATH 399 for Fall 2007 only).

Upper Division Zoology Courses

| | |
|-----------|---|
| BIOL 3314 | Comparative Vertebrate Anatomy |
| BIOL 3324 | Developmental Biology |
| BIOL 4419 | Mammalian Histology |
| BIOL 4420 | Musculo-Skeletal Anatomy |
| BIOL 4423 | General Parasitology (reflects proposed change in title) |
| BIOL 4426 | Herpetology |
| BIOL 4427 | Ichthyology |
| BIOL 4428 | Veterinary and Medical Entomology (reflects proposed change in title) |
| BIOL 4429 | Regional Anatomy and Histology |
| BIOL 4431 | General Entomology |
| BIOL 4435 | Vertebrate Paleontology |
| BIOL 4438 | Ornithology |
| BIOL 4440 | Human Gross Anatomy |
| BIOL 4441 | Mammalogy |
| BIOL 4443 | Endocrinology |
| BIOL 4449 | Human Physiology |
| BIOL 4456 | Human Physiology II |
| BIOL 4459 | Fish Ecology |
| BIOL 4470 | Cross-Sectional Anatomy |
| BIOL 4486 | Human Systemic Physiology |
| BIOL 4495 | Ethology |

Note:

BIOL 4481 and BIOL 4482 can be counted as upper division zoology credits only if approved by the department.

RECOMMENDED COURSE SELECTION - B.S. of ZOOLOGY

Fall Semester

Spring Semester

For Students Who Qualify to take Math 1143 During their First Semester

Freshman Year

| | | | | | |
|------------------------|---------------------|-------------|-----------------|----------------------|-------------|
| BIOL 1101/1101L | Biology I | 4 cr | BIOL 1102/1102L | Biology II | 4 cr |
| MATH 1143 | College Algebra | 3 cr | MATH 1160 | Brief Calculus | 3 cr |
| ENGL 1101 | English Composition | 3 cr | ENGL 1102 | English Composition | 3 cr |
| Goal 6, 7, or 8 | | 3 cr | COMM 1101 | Principles of Speech | 3 cr |
| Electives ¹ | | <u>3 cr</u> | Goal 6, 7, or 8 | | <u>3 cr</u> |
| | | 16 cr | | | 16 cr |

Sophomore Year

| | | | | | |
|------------------------|---------------------|-------------|------------------------|----------------------|-------------|
| BIOL 2209 | Ecology | 4 cr | BIOL 2206/2207 | Cell Biology | 4 cr |
| CHEM 1111 | General Chemistry I | 5 cr | CHEM 1112 | General Chemistry II | 4 cr |
| Electives ¹ | | 4 cr | Goal 9, 10, 11 or 12 | | 3 cr |
| Goal 9, 10, 11 or 12 | | <u>3 cr</u> | Goal 9, 10, 11 or 12 | | 3 cr |
| | | 16 cr | Electives ¹ | | <u>2 cr</u> |
| | | | | | 16 cr |

Junior Year

| | | | | | |
|-------------------------|-----------------------|-------------|------------------------|---------------------------|-------------|
| CHEM 3301/3303 | Organic Chemistry/Lab | 4 cr | CHEM 3302/3304 | Organic Chemistry/Lab | 4 cr |
| PHYS 1111/1113 | General Physics/Lab | 4 cr | PHYS 1112/1114 | General Physics/Lab | 4 cr |
| BIOL 3314 ² | Comp Vert Anatomy | 4 cr | BIOL 3324 ² | Developmental Biology | 4 cr |
| MATH 3350 ³ | Statistics | 3 cr | BIOL 3303 ⁴ | Principals of Animal Phys | <u>4 cr</u> |
| BIOL 3315L ³ | Biometry Lab | <u>1 cr</u> | | | |
| | | 16 cr | | | 16 cr |

Senior Year

| | | | | | |
|---|----------|-------------|---|----------------------|-------------|
| BIOL 3358 ² | Genetics | 3 cr | BIOL 4417 | Evolution | 3 cr |
| Upper Division Zoology Electives ⁵ | | 3 cr | BIOL 3310 | Invertebrate Zoology | 4 cr |
| BIOL 4491 | Seminar | 1 cr | BIOL 4492 | Seminar | 1 cr |
| Electives ¹ | | <u>9 cr</u> | Upper Division Zoology Electives ⁵ | | 3 cr |
| | | 16 cr | Electives ¹ | | <u>5 cr</u> |
| | | | | | 16 cr |

Graduation Requirements:

To graduate in 4 years (or 8 semesters) you need to average 16 credits/semester (128/8=16)

Total Credits: 128

- General Education requirements: Goals 1, 2, 3, 4, 5; 2 of 6, 7, & 8; and 3 of 9, 10, 11, and 12
- Upper division credits: 36 minimum
- Satisfy departmental requirements

- ¹. Electives include any biology or non-biology upper or lower division credits. Recommended electives are those that make students more competitive.
- ². Students must take either BIOL 3314 (Comparative Vertebrate Anatomy) **or** BIOL 3324 (Developmental Biology). BIOL 3358 (Genetics) can be taken in the first semester of the junior year if students elect to take BIOL 3324 or during the second semester of the junior year if students elect to take BIOL 3314.
- ³. The requirement for Statistics may be satisfied by taking MATH 2253 or MATH 3350 for students enrolled prior to Fall 2007. Starting Fall 2007, students must take MATH 3350 (listed as MATH 399 for Fall 2007 only) with BIOL 3315L.
- ⁴. BIOL 3301 and 3302 (2 semesters of Anatomy and Physiology) can substitute for this course.
- ⁵. The minimum of 6 credits of upper division zoology are required. BIOL 4481 and BIOL 4482 can be counted as upper division zoology credits only if approved by the department.

Students should consult with their advisors and with the current departmental list of course rotations to determine which semesters and years biological sciences electives will be taught.

RECOMMENDED COURSE SELECTION - B.S. of ZOOLOGY

Fall Semester

Spring Semester

For Students Who Qualify to take Math 1160 During their First Semester

Freshman Year

| | | | | | |
|------------------------|---------------------|-------------|------------------------|----------------------|-------------|
| BIOL 1101/1101L | Biology I | 4 cr | BIOL 1102/1102L | Biology II | 4 cr |
| CHEM 1111 | General Chemistry I | 5 cr | CHEM 1112 | General Chemistry II | 4 cr |
| MATH 1160 | Brief Calculus | 3 cr | COMM 1101 | Principles of Speech | 3 cr |
| ENGL 1101 | English Composition | 3 cr | ENGL 1102 | English Composition | 3 cr |
| Electives ¹ | | <u>1 cr</u> | Electives ¹ | | <u>2 cr</u> |
| | | 16 cr | | | 16 cr |

Sophomore Year

| | | | | | |
|-----------------------------|-----------------------|-------------|------------------------|-----------------------|-------------|
| BIOL 2206/2207 ² | Cell Biology | 4 cr | BIOL 2209 ² | Ecology | 4 cr |
| CHEM 3301/3303 | Organic Chemistry/Lab | 4 cr | CHEM 3302/3304 | Organic Chemistry/Lab | 4 cr |
| Goal 6, 7 or 8 | | 3 cr | Goal 6, 7 or 8 | | 3 cr |
| Goal 9, 10, 11 or 12 | | 3 cr | Goal 9, 10, 11 or 12 | | 3 cr |
| Electives ¹ | | <u>2 cr</u> | Goal 9, 10, 11 or 12 | | <u>3 cr</u> |
| | | 16 cr | | | 17 cr |

Junior Year

| | | | | | |
|-------------------------|---------------------|-------------|------------------------|---------------------------|-------------|
| PHYS 1111/3303 | General Physics/Lab | 4 cr | PHYS 1112/1114 | General Physics/Lab | 4 cr |
| BIOL 3314 ³ | Comp Vert Anatomy | 4 cr | BIOL 3324 ³ | Developmental Biology | 4 cr |
| MATH 3350 ⁴ | Statistics | 3 cr | BIOL 3303 ⁵ | Principals of Animal Phys | 4 cr |
| BIOL 3315L ⁴ | Biometry Lab | 1 cr | BIOL 3310 | Invertebrate Zoology | <u>4 cr</u> |
| BIOL 3358 | General Genetics | <u>3 cr</u> | | | 16 cr |
| | | 15 cr | | | |

Senior Year

| | | | | | |
|---|-----------|-------------|---|---------|--------------|
| BIOL 4491 | Seminar | 1 cr | BIOL 4492 | Seminar | 1 cr |
| BIOL 4417 | Evolution | 3 cr | Upper Division Zoology Electives ⁶ | | 3 cr |
| Upper Division Zoology Electives ⁶ | | 3 cr | Electives ¹ | | <u>12 cr</u> |
| Electives ¹ | | <u>9 cr</u> | | | 16 cr |
| | | 16 cr | | | |

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Total Credits: 128

- General Education requirements: Goals 1, 2, 3, 4, 5; 2 of 6, 7, & 8; and 3 of 9, 10, 11, and 12
- Upper division credits: 36 minimum
- Satisfy departmental requirements

¹. Electives include any biology or non-biology upper or lower division credits. Recommended electives are those that make students more competitive.

². Cell biology and Ecology can be switched between fall and spring semesters.

³. Students must take either BIOL 3314 (Comparative Vertebrate Anatomy) **or** BIOL 3324 (Developmental Biology)

⁴. The requirement for Statistics may be satisfied by taking MATH 2253 or MATH 3350 for students enrolled prior to Fall 2007. Starting Fall 2007, students must take MATH 3350 (listed as MATH 399 for Fall 2007 only) with BIOL 3315L.

⁵. BIOL 3301 and 3302 (2 semesters of Anatomy and Physiology) can substitute for this course.

⁶. The minimum of 6 credits of upper division zoology are required. BIOL 4481 and BIOL 4482 can be counted as upper division zoology credits only if approved by the department.

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