

# Department of Fisheries and Wildlife



## BACHELOR OF SCIENCE DEGREE IN FISHERIES AND WILDLIFE

### UNIVERSITY REQUIREMENTS:

- Minimum number of credits required: 120 credits
- Minimum cumulative grade point average: 2.00

### WRITING REQUIREMENT:

- Tier I: WRA 110 or higher (4 cr.)
- Tier II: Satisfied by completing FW 434 (3 cr.)

### INTEGRATIVE STUDIES REQUIREMENT: (24 cr.)

- **Arts & Humanities** (8 cr.)
  - ◆ complete one IAH course numbered below 211 (4 cr.)
  - ◆ complete one IAH course numbered 211 or higher (4 cr.).
- **Social Science** (8 cr.)
  - ◆ complete one 200-level ISS course (4 cr.)
  - ◆ complete one 300-level ISS course (4 cr.).
- **Biological & Physical Sciences** (8 cr.) *[alternative track]*
  - ◆ Biological Sciences (3 cr.) - Satisfied by completing BS 161, BS 162, LB 144 or LB 145
  - ◆ Physical Sciences (3 cr.) - Satisfied by completing CEM 141 (4 cr.), CEM 151 (4 cr.) or LB 171 (4 cr.).
  - ◆ Laboratory Experience (2 cr.) - Satisfied by completing (BS 171, BS 172, LB 144 or LB 145 ) and (CEM 161 or LB 171L)
- **Diversity**
  - ◆ Must complete at least two of the three types of diversity designated courses, as part of the IAH and/or ISS requirements listed above.

### COLLEGE OF AGRICULTURE AND NATURAL RESOURCES REQUIREMENTS:

- MATH: satisfied by completing MTH 124 (3 cr.), MTH 132 (3 cr.) or LB 118 (5 cr.).
- ECONOMICS: Complete EC 201 (3 cr.) *OR* EC 202 (3 cr.)
- CANR Courses: Complete at least 26 credits of CANR courses. The Conservation Biology, Fisheries Biology and Management, Wildlife Biology and Management, Water Sciences, Fish and Wildlife Disease Ecology and Management and Preveterinary concentrations listed below all require the minimum required CANR credits. Non-CANR courses substituted for courses in any of the concentrations listed below may require a student to complete additional CANR course credits to meet the College's 26 credit requirement.

## FISHERIES AND WILDLIFE MAJOR REQUIREMENTS:

### **BIOLOGICAL SCIENCES (9 to 10 cr.)**

Complete ONE of the following groups of courses

- |     |    |     |                                      |   |
|-----|----|-----|--------------------------------------|---|
| (1) | BS | 161 | Cell and Molecular Biology           | 3 |
|     | BS | 171 | Cells and Molecular Biology Lab      | 2 |
|     | BS | 162 | Organismal & Populations Biology     | 3 |
|     | BS | 172 | Organismal & Populations Biology Lab | 2 |
| (2) | LB | 144 | Biology I: Organismal Biology        | 4 |
|     | LB | 145 | Biology II: Cellular & Molecular Bio | 5 |

### **PHYSICAL SCIENCES (8 to 9 cr.)**

Complete ONE of the following groups of Chemistry courses

- |     |     |      |                                   |   |
|-----|-----|------|-----------------------------------|---|
| (1) | CEM | 141  | General Chemistry                 | 4 |
|     | CEM | 161  | Chemistry Laboratory I            | 1 |
| (2) | CEM | 151  | General and Descriptive Chemistry | 4 |
|     | CEM | 161  | Chemistry Laboratory I            | 1 |
| (3) | LB  | 171  | Principles of Chemistry I         | 4 |
|     | LB  | 171L | Introductory Chemistry Lab I      | 1 |

Complete ONE of the following Physics courses

- |     |     |                                      |   |
|-----|-----|--------------------------------------|---|
| LB  | 273 | Physics I                            | 3 |
| PHY | 183 | Physics for Scientists & Engineers I | 4 |
| PHY | 231 | Introductory Physics I               | 3 |

### **EARTH SCIENCE (3 to 4 cr)**

Complete ONE of the following Earth Science courses

- |     |     |                                |   |
|-----|-----|--------------------------------|---|
| CSS | 210 | Fund. of Soils & Landscape Sci | 3 |
| GEO | 203 | Introduction to Meteorology    | 3 |
| GEO | 206 | Physical Geography             | 3 |
| GLG | 201 | The Dynamic Earth              | 4 |

### **MATH and STATISTICS (6 to 7 cr.)**

Complete ONE of the following Calculus courses

- |     |     |                      |   |
|-----|-----|----------------------|---|
| MTH | 124 | Survey of Calculus I | 3 |
| MTH | 132 | Calculus I           | 3 |
| LB  | 118 | Calculus I           | 4 |

Complete ONE of the following Statistics courses

- |     |     |                                      |   |
|-----|-----|--------------------------------------|---|
| STT | 224 | Intro to Prob. & Stat for Ecologists | 3 |
| STT | 231 | Statistics for Scientists            | 3 |
| STT | 421 | Statistics I                         | 3 |

### **COMMUNICATION (6 cr.)**

Complete TWO of the following courses

- |      |      |  |   |
|------|------|--|---|
| COM  | 100  | Human Communication                    | 3 |
| COM  | 225  | Intro to Interpersonal Comm            | 3 |
| COM  | 275  | Effects of Mass Communication          | 3 |
| CSUS | 433  | Grant Writing & Fund Development (W)   | 3 |
| FW   | 435  | Integrated Commun. for FW Prof         | 3 |
| JRN  | 472  | Environmental Reporting Lab            | 3 |
| WRA  | 320* | Technical Writing                      | 3 |
| WRA  | 331* | Writing in the Public Interest         | 3 |
| WRA  | 341  | Nature, Environmental & Travel Writing | 3 |
| WRA  | 453* | Grant and Proposal Writing             | 3 |

\* Contact WRA for an override

### **ETHICS and PHILOSOPHY (3 cr.)**

Complete ONE of the following courses

- |     |     |                      |   |
|-----|-----|----------------------|---|
| FW  | 439 | Conservation Ethics  | 3 |
| GEO | 432 | Environmental Ethics | 3 |
| PHL | 340 | Ethics               | 3 |
| PHL | 342 | Environmental Ethics | 3 |
| PHL | 380 | Nature of Science    | 3 |

### **EXPERIENTIAL LEARNING (3 to 4 cr.)**

Complete ONE of the following courses

- |    |     |                             |   |
|----|-----|-----------------------------|---|
| FW | 493 | Prof. Internship in FW      | 3 |
| FW | 490 | Independent Study           | 3 |
| FW | 480 | International Studies in FW | 3 |
| FW | 499 | Senior Thesis in FW         | 4 |

### **FISHERES & WILDLIFE CORE (19 to 20 cr.)**

Complete ALL of the following courses

- |      |        |  |     |
|------|--------|--|-----|
| FW   | 101    | Fish & Wildlife Fundamentals               | 3   |
| FW   | 101L   | Fish & Wildlife Fundamentals Lab <b>OR</b> |     |
|      | FW 238 | Intro Fish & Wildlife Field Experience     | 2-3 |
| FW   | 293    | Undergrad Seminar in Fish & Wildlife       | 1   |
| FW   | 364    | Ecological Problem Solving                 | 3   |
| FW   | 424    | Population Analysis and Management         | 4   |
| FW   | 434    | Human Dimensions of FW Management          | 3   |
| IBIO | 355    | Ecology                                    | 3   |

### **CONCENTRATIONS**

Complete ONE of the following six transcriptable concentrations:

- (1) Conservation Biology;**
- (2) Fisheries Biology and Management;**
- (3) Wildlife Biology and Management;**
- (4) Water Sciences;**
- (5) Fish and Wildlife Disease Ecology and Management;**
- (6) Preveterinary;**