

BACHELOR OF SCIENCE DEGREE IN FISHERIES & WILDLIFE

FOR ADDITIONAL INFORMATION, PLEASE CONTACT THE DEPARTMENT OF FISHERIES & WILDLIFE

(1) UNIVERSITY REQUIREMENTS

Writing Requirement

Tier I: LB 133 4
 Tier II: Satisfied by completing the Lyman Briggs College History, Philosophy & Sociology of Science & Senior requirements listed below.

Integrative Studies in Arts & Humanities (IAH)

IAH 201-210* 4
 IAH 211-241*† 4

Integrative Studies in Social, Behavioral & Economic Sciences (ISS)

ISS 200-level course* 4
 ISS 300-level course*‡ 4

*National, International, & Multicultural Diversity
 Students must include at least one "N" course & one "I" course in their Integrative Studies programs. A "D" course may meet either an "N" or an "I" requirement, but not both.

†Beginning Summer 2013, LB 331, 333, & 336 will fulfill the IAH "B" university requirement (IAH 211 or higher). Please consult your LBC advisor for specific details for your program.

‡Beginning Summer 2013, LB 332, 334, & 335 will fulfill the ISS 300-level university requirement. Please consult your LBC advisor for specific details for your program.

Mathematics, Biological & Physical Sciences
 Satisfied by the Lyman Briggs College requirements.

Minimum credits required: 120
 Minimum cumulative & major GPA: 2.0

(2) LYMAN BRIGGS COLLEGE REQUIREMENTS

Biological Sciences (9 cr.)

Complete ONE of the following groups of courses
 (1) LB 144 & 145* 9
 (2) BS 161, 162, 171, & 172 10

Honors biology courses are also acceptable

Chemistry (8-9 cr.)

Complete ONE of the following groups of courses
 (1) LB 171, 171L, 172, & 172L* 9
 (2) CEM 141, 142, & 161* 8

Physics (8 cr.)

Complete ONE of the following groups of courses
 (1) LB 273, 274* 8
 (2) PHY 231, 232, 251, & 252* 8

Mathematics (6-7 cr.)

Complete ONE of the following groups of courses
 (1) LB 118 & STT 231* 7
 (2) MTH 132 & STT 231* 6

History, Philosophy & Sociology of Science (11-12 cr.)

LB 133 4
 LB 330-336, 355, 490E; ENG 473A; HST 425; SOC 368 7-8

Senior Seminar (4 cr.)

LB 492 or substitute approved by advisor 4

*Biology, Chemistry, Physics & Mathematics courses also meet graduation requirements for major

3) MAJOR REQUIREMENTS**FW Core: Complete ALL of the following courses (19-20 cr.)**

| | | | |
|------|------|--------------------------------------|---|
| FW | 101 | Fish & Wildlife Fundamentals | 3 |
| FW | 101L | Fish & Wildlife Fundamentals* | 3 |
| FW | 238 | Intro Fish & Wildlife* | 2 |
| FW | 293 | Undergrad Seminar In Fish & Wildlife | 1 |
| FW | 364 | Ecological Problem Solving | 3 |
| FW | 424 | Population Analysis & Management | 4 |
| FW | 434 | Human Dimensions of FW Management | 3 |
| IBIO | 355 | Ecology | 3 |

*Complete FW 101L **OR** FW 238 (2-3 cr.)

Communication: Complete TWO of the following courses

| | | | |
|-----|-----|---------------------------------------|---|
| ACR | 205 | Agr & Nat. Res. Com Theory & Practice | 3 |
| ACR | 305 | Com for ANR Professionals | 3 |
| COM | 100 | Human Communication | 3 |
| COM | 225 | Intro to Interpersonal Comm | 3 |
| COM | 275 | Effects of Mass Communication | 3 |
| FW | 435 | Integrated Commun. For FW Prof | 3 |
| WRA | 320 | Technical Writing | 3 |
| WRA | 331 | Writing in the Public Interest | 3 |
| WRA | 341 | Writing Nature & Nature of Writing | 3 |
| WRA | 435 | Grant Proposal Writing | 3 |

Complete ONE of the following six concentrations**(1) Conservation Biology (24-26 cr.)**

Complete ALL of the following courses (12 cr.)

| | | | |
|------|-----|------------------------|---|
| FW | 443 | Restoration Ecology | 3 |
| FW | 444 | Conservation Biology | 3 |
| PLB | 441 | Plant Ecology* | 3 |
| IBIO | 370 | Intro to Zoogeography* | 3 |
| IBIO | 445 | Evolution | 3 |

*Complete PLB 441 **OR** IBIO 370 (3 credits)

Complete ONE of the following courses (3 to 4 cr.)

| | | | |
|------|-----|--------------------------|---|
| CSS | 350 | Intro. to Plant Genetics | 3 |
| IBIO | 341 | Fundamental Genetics | 4 |

Complete ONE of the following courses (3cr.)

| | | | |
|----|-----|--------------------------------|---|
| FW | 410 | Upland Ecosystem Management | 3 |
| FW | 414 | Aquatic Ecosystem Management | 3 |
| FW | 416 | Marine Ecosystem Management | 3 |
| FW | 417 | Wetland Ecology and Management | 3 |
| FW | 479 | Fisheries Management | 3 |

Complete ONE of the following courses (3 cr.)

| | | | |
|------|-----|--|---|
| EEP | 255 | Ecological Economics | 3 |
| ESA | 430 | Law & Resource | 3 |
| FOR | 464 | Forest Resource Economics | 3 |
| FOR | 466 | Natural Resource Policy | 3 |
| FW | 445 | SocioEconomics & Policy of Conservation of Biology | 3 |
| FW | 481 | Global Issues in Fisheries & Wildlife | 3 |
| MC | 450 | International Environmental Law & Policy | 3 |
| IBIO | 446 | Environmental Issues & Public Policy | 3 |

Complete ONE of the following courses (3 to 4cr.)

| | | | |
|------|-----|----------------------------------|---|
| ENT | 422 | Aquatic Entomology | 3 |
| FOR | 204 | Forest Vegetation | 4 |
| FW | 471 | Ichthyology | 3 |
| PLB | 218 | Plants in Michigan | 3 |
| PLB | 418 | Plant Systematics | 3 |
| IBIO | 360 | Biology of Birds | 4 |
| IBIO | 361 | Michigan Birds | 4 |
| IBIO | 365 | Biology of Mammals | 4 |
| IBIO | 384 | Biology of Amphibians & Reptiles | 4 |

(2) Fisheries Biology & Management (25-27 cr.)

Complete ALL of the following courses (13 cr.)

| | | | |
|----|-----|-------------------------|---|
| FW | 420 | Stream Ecology* | 3 |
| FW | 472 | Limnology* | 3 |
| FW | 471 | Ichthyology | 4 |
| FW | 479 | Fisheries Management | 3 |
| FW | 474 | Limnological Techniques | 3 |

*Complete FW 420 **OR** FW 472 (3 credits)

Complete ONE of the following courses (3 cr.)

| | | | |
|----|-----|--------------------------------|---|
| FW | 414 | Aquatic Ecosystem Management | 3 |
| FW | 416 | Marine Ecosystem Management | 3 |
| FW | 417 | Wetland Ecology and Management | 3 |

Complete ONE of the following courses (3 or 4 cr.)

| | | | |
|------|-----|----------------------|---|
| ENT | 422 | Aquatic Entomology | 3 |
| IBIO | 306 | Invertebrate Biology | 4 |

Complete ONE of the following courses (3 cr.)

| | | | |
|-----|-----|-------------------|---|
| PLB | 418 | Plant Systematics | 3 |
| PLB | 424 | Algal Biology | 3 |

Complete ONE of the following courses (3 or 4 cr.)

| | | | |
|------|-----|--------------------------------------|---|
| FW | 473 | Enviro. Fish Physiology | 3 |
| IBIO | 328 | Comparative Anat. & Biology of Vert. | 4 |
| IBIO | 341 | Fundamental Genetics | 4 |
| IBIO | 483 | Environmental Physiology | 4 |

(3) Wildlife Biology & Management (24-25 cr.)

Complete ALL of the following courses (9 cr.)

| | | | |
|----|-----|-------------------------------------|---|
| FW | 410 | Upland Ecosystem Management | 3 |
| FW | 417 | Wetland Ecology & Management | 3 |
| FW | 413 | Wildlife Research & Mgmt Techniques | 3 |

Complete TWO of the following courses (8 cr.)

| | | | |
|------|-----|----------------------------------|---|
| IBIO | 360 | Biology of Birds* | 4 |
| IBIO | 361 | Michigan Birds* | 4 |
| IBIO | 365 | Biology of Mammals | 4 |
| IBIO | 384 | Biology of Amphibians & Reptiles | 4 |

*Complete IBIO 360 OR IBIO 361 (4 cr.)

Complete ONE of the following courses (3 or 4 cr.)

| | | | |
|-----|-----|--------------------|---|
| FOR | 204 | Forest Vegetation | 4 |
| PLB | 218 | Plants of Michigan | 3 |
| PLB | 418 | Plant Systematics | 3 |

Complete ONE of the following courses (4 cr.)

| | | | |
|------|-----|--|---|
| CSS | 350 | Introduction to Plant Genetics | 3 |
| IBIO | 328 | Comparative Anatomy & Biology of Vertebrates | 4 |
| IBIO | 341 | Fundamental Genetics | 4 |
| IBIO | 483 | Environmental Physiology | 4 |

(4) Water Sciences (24-27 cr.)

Complete TWO of the following courses (6 cr.)

| | | | |
|----|-----|------------------------------|---|
| FW | 472 | Limnology | 3 |
| FW | 420 | Stream Ecology | 3 |
| FW | 417 | Wetland Ecology & Management | 3 |

Complete the following course (3 cr.)

| | | | |
|----|-----|-------------------------|---|
| FW | 474 | Limnological Techniques | 3 |
|----|-----|-------------------------|---|

Complete ONE of the following courses (3 cr.)

| | | | |
|----|-----|------------------------------|---|
| FW | 414 | Aquatic Ecosystem Management | 3 |
| FW | 416 | Marine Ecosystem Management | 3 |
| FW | 479 | Fisheries Management | 3 |

Complete ONE of the following courses (3-4 cr.)

| | | | |
|------|-----|----------------------|---|
| IBIO | 306 | Invertebrate Biology | 4 |
| ENT | 422 | Aquatic Entomology | 3 |
| FW | 471 | Ichthyology | 4 |

Complete ONE of the following courses (3 cr.)

| | | | |
|-----|-----|-------------------|---|
| PLB | 418 | Plant Systematics | 3 |
| PLB | 424 | Algal Biology | 3 |

Complete TWO of the following courses (6-8cr.)

| | | | |
|------|-----|------------------------------------|---|
| FW | 454 | Enviro. Hydrology & Watershed Mgmt | 3 |
| FW | 473 | Environmental Fish Physiology | 3 |
| GLG | 303 | Oceanography | 3 |
| GLG | 421 | Environmental Geochemistry | 4 |
| MMG | 425 | Microbial Ecology | 3 |
| MMG | 426 | Biogeochemistry | 4 |
| IBIO | 341 | Fundamentals Genetics | 4 |
| IBIO | 353 | Marine Biology | 4 |
| IBIO | 483 | Environmental Physiology | 4 |

(5) Fish & Wildlife Disease Ecology & Management (30-32 cr.)

Complete ALL of the following courses (17 cr.)

| | | | |
|------|------|---|---|
| MMG | 301 | Introductory Microbiology | 3 |
| FW | 423 | Principles of Fish & Wildlife Disease | 3 |
| FW | 423L | Principles of Fish & Wildlife Disease Lab | 1 |
| FW | 444 | Conservation Biology | 3 |
| IBIO | 445 | Evolution | 3 |
| EP | 390 | Disease in Society | 4 |

Complete ONE of the following courses (3-4 cr.)

| | | | |
|-----|-----|-----------------------------|---|
| CEM | 143 | Survey of Organic Chemistry | 4 |
| CEM | 251 | Organic Chemistry I | 3 |

Complete ONE of the following courses (4 cr.)

| | | | |
|------|-----|---|---|
| ANS | 314 | Genetic Improvement of Domestic Animals | 4 |
| IBIO | 341 | Fundamental Genetics | 4 |

Complete ONE of the following courses (3 cr.)

| | | | |
|----|-----|------------------------------|---|
| FW | 410 | Upland Ecosystem Management | 3 |
| FW | 414 | Aquatic Ecosystem Management | 3 |
| FW | 416 | Marine Ecosystem Management | 3 |
| FW | 417 | Wetland Ecology Management | 3 |
| FW | 479 | Fisheries Management | 3 |

Complete ONE of the following courses (3-4 cr.)

| | | | |
|------|-----|----------------------------------|---|
| FW | 471 | Ichthyology | 4 |
| IBIO | 306 | Invertebrate Biology | 4 |
| IBIO | 316 | General Parasitology | 3 |
| IBIO | 360 | Biology of Birds | 4 |
| IBIO | 361 | Michigan Birds | 4 |
| IBIO | 365 | Biology of Mammals | 4 |
| IBIO | 384 | Biology of Amphibians & Reptiles | 4 |

(6) Pre-veterinary (32 cr.)

Complete ALL of the following courses (28 cr.)

| | | | |
|-----|------|---|---|
| ANS | 313 | Principles of Animal Feeding & Nutrition | 4 |
| BMB | 401 | Basic Biochemistry | 4 |
| CEM | 251 | Organic Chemistry | 3 |
| CEM | 252 | Organic Chemistry II | 3 |
| CEM | 255 | Organic Chemistry Lab | 2 |
| FW | 423 | Principles of Fish & Wildlife Disease | 3 |
| FW | 423L | Principles of Fish & Wildlife Disease Lab | 2 |
| MMG | 301 | Introductory Microbiology | 3 |
| MMG | 302 | Introductory Microbiology Laboratory | 1 |
| MMG | 409 | Eukaryotic Cell Biology | 3 |

Complete ONE of the following courses (4 cr.)

| | | | |
|------|-----|---|---|
| ANS | 314 | Genetic Improvement of Domestic Animals | 4 |
| IBIO | 341 | Fundamental Genetics | 4 |