

Fisheries

School of Fisheries and Ocean Sciences
 Fisheries Program
 (907) 474-7289
www.sfos.uaf.edu/fishdiv/acad/degrees.html

B.S. Degree

Minimum Requirements for Degree: 130 credits

The fisheries undergraduate program offers broad basic education and training, preparing graduates to work in management, law enforcement, public information and education. The program provides a solid foundation for graduate study for students contemplating careers in research, administration, advanced management or teaching. The undergraduate program is offered only on the UAF main campus.

Graduate students in fisheries attend classes and work with faculty in Juneau and/or Fairbanks. Students can develop academic programs in one of three subject areas: fisheries management (Juneau and Fairbanks), fish/invertebrate biology (Juneau and Fairbanks), and aquaculture (Juneau). Research assistantships are available. Applicants should contact the fisheries program for further information and application forms.

With a number of subarctic streams and lakes within easy reach, Fairbanks offers an excellent location for the study of interior Alaska aquatic habitats. Access to the marine environment from the Fairbanks campus is in Prince William Sound and Cook Inlet.

The Juneau Center, School of Fisheries and Ocean Sciences, houses the UAF fisheries science program near the Auke Bay National Marine Fisheries Service Laboratory north of Juneau. The Juneau Center has freshwater and seawater wet labs, computer labs and ready access to marine and freshwater habitats. The Fishery Industrial Technology Center, located in Kodiak, has new facilities for work in harvest technology, seafood technology, seafood biochemistry and microbiology.

Fisheries students in Fairbanks and Juneau have an opportunity to associate with personnel of federal and state conservation agencies and these agencies hire students for summer fieldwork. Bachelor of science candidates are strongly urged to obtain work experience in fisheries with public resource agencies or private firms. Faculty members can help students contact potential employers. Fisheries undergraduate students are asked each fall to describe their work experience of the previous year.

Major—B.S. Degree

- Complete the general university requirements (page 106. As part of the core curriculum requirements, complete MATH 200X or 272X.)
- Complete the B.S. degree requirements (page 112. As part of the B.S. degree requirements, complete MATH 201X or STAT 401.)
- Complete the following fisheries core requirements:*

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|---|-----|
| BIOL 105X—Fundamentals of Biology I** | 4 |
| BIOL 106X—Fundamentals of Biology II** | 4 |
| BIOL 271—Principles of Ecology | 4 |
| BIOL 310—Animal Physiology | 4 |
| BIOL 362—Principles of Genetics | 4 |
| BIOL 473W—Limnology (4) | |
| or MSL 411—Current Topics in Oceanographic Research (3) | 3-4 |
| CHEM 105X—General Chemistry** | 4 |
| CHEM 106X—General Chemistry** | 4 |
| CS or CIOS elective | 3 |
| ECON 200—Principles of Economics (4) | |
| or ECON 235—Introduction to Natural Resource Economics (3) | |
| or ECON 201—Principles of Economics I: Microeconomics (3) | |
| and ECON 202—Principles of Economics II: Macroeconomics (3) | 3-6 |
| ENGL 314W,O/2—Technical Writing (3) | |
| or ENGL 414W—Research Writing (3) | 3 |
| FISH 336-J—Introduction to Aquaculture (3) | |
| FISH 400W—Fisheries Science | 3 |
| FISH 401W,O/2—Fisheries Management | 3 |
| FISH 427W,O—Ichthyology (4) | |
| or BIOL 305—Invertebrate Zoology (5) | 4-5 |
| MSL 111X—The Oceans** | 4 |
| NRM 101—Natural Resources Conservation and Policy | 3 |
| PHYS 103X—College Physics** | 4 |
| PHYS 104X—College Physics** | 4 |
| STAT 200—Elementary Probability and Statistics (3) | |
| or STAT 300—Statistics (3) | 3 |
- Complete electives* from the following:****

| | |
|---|----|
| ANTH 242—Native Cultures of Alaska | 3 |
| BA 307—Personnel Management | 3 |
| BIOL 305—Invertebrate Zoology | 5 |
| BIOL 317—Comparative Anatomy of Vertebrates | 4 |
| BIOL 328O—Biology of Marine Organisms | 3 |
| BIOL 342—Microbiology | 4 |
| BIOL 407—Aquatic Entomology | 3 |
| BIOL 418W—Developmental Biology | 3 |
| BIOL 442W,O/2—Bacteriology and Immunology | 5 |
| BIOL 471W—Population Ecology | 3 |
| BIOL 472—Community Ecology | 3 |
| BIOL 480—Water Pollution Biology | 3 |
| CHEM 212—Chemical Equilibrium and Analysis | 3 |
| CHEM 321—Organic Chemistry (3) | |
| and CHEM 322—Organic Chemistry (3) | |
| and CHEM 324—Organic Laboratory (4) | 10 |
| CHEM 451—General Biochemistry | 3 |
| CHEM 452W—Biochemistry Laboratory | 3 |
| GEOG 205—Elements of Physical Geography | 3 |
| GEOG 302—Geography of Alaska | 3 |
| GEOG 338—Introduction to Geographic Information Systems | 3 |
| GEOG 402—Resources and Environment | 3 |
| GEOS 304—Geomorphology | 3 |
| JRN 101—Introduction to Mass Communications | 3 |
| JRN 311W—Magazine Article Writing | 3 |



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| NRM 204—Public Lands Law and Policy | 3 |
| NRM 277—Introduction to Conservation Biology | 3 |
| NRM 303X—Environmental Ethics and Actions..... | 3 |
| NRM 370—Introduction to Watershed Management | 3 |
| NRM 407—Environmental Law..... | 3 |
| PS 201—Comparative Politics | 3 |
| PS 212—Introduction to Public Administration..... | 3 |
| PS 263—Alaska Native Politics | 3 |
| PS 302—Congress and Public Policy | 3 |
| SOC 309—Urban Sociology | 3 |
| STAT 402—Scientific Sampling..... | 3 |
| WLF 303W—Wildlife Management Techniques | 3 |
| WLF 419O/2—Waterfowl and Wetlands Ecology and Management | |
| 4 | |

5. Minimum credits required.....130

- * Student must earn a C grade or better in each course.
 - ** Courses completed in the fisheries core may be used to meet the core natural sciences or B.S. degree natural science requirements but not both.
 - *** Courses completed in the fisheries core may be used to meet the core mathematics or B.S. degree mathematics requirements, but not both.
 - **** Recommended electives. Other courses may be substituted.
- Note: Fisheries majors are encouraged to reinforce their fisheries qualifications by earning a minor in a program related to fisheries. Some examples are biology, business management, chemistry, economics, mathematics, natural resources management (animal science), northern studies, statistics and wildlife.

Note: Page numbers refer to the UAF 2004-2005 academic catalog, which can be viewed online at www.uaf.edu/catalog/.

General University Requirements

All degrees (e.g. B.A., B.S., etc.) require additional courses. Refer to specific degree and program requirements.

COMMUNICATIONS (9)

Complete the following:

| | | |
|------------------------|-----|-------|
| ENGL 111X..... | (3) | _____ |
| ENGL 211X OR 213X..... | (3) | _____ |
| COMM 131X OR 141X..... | (3) | _____ |

LIBRARY & INFORMATION SKILLS (0-1)

Complete the following:

| | | |
|----------------------|-------|-------|
| LS 100X OR 101X..... | (0-1) | _____ |
|----------------------|-------|-------|

OR Successful completion of library skills competency test.

PERSPECTIVES ON THE HUMAN CONDITION (18)

Complete either the following six courses:

| | | |
|--|-----|-------|
| ANTH 100X OR SOC 100X..... | (3) | _____ |
| ECON/PS 100X..... | (3) | _____ |
| HIST 100X..... | (3) | _____ |
| ART/MUS/THR 200X, HUM 201X OR ANS 202X..... | (3) | _____ |
| ENGL/FL 200X..... | (3) | _____ |
| PHIL 322X, NRM 303X, COMM 300X, PS 300X OR JUST 300X..... | (3) | _____ |

OR Complete 12 cr from the above list PLUS two semester-length courses in a single non-English or Alaska Native language at the university level OR three semester-length courses (9 cr) in American Sign Language.

MATHEMATICS (3-4)

Complete 3-4 credits from the following:

| | | |
|------------------------------------|-----|-------|
| MATH 107X..... | (3) | _____ |
| OR MATH 131X (except for BBA)..... | (3) | _____ |
| OR MATH 161X..... | (3) | _____ |
| MATH 200X..... | (4) | _____ |
| MATH 201X..... | (4) | _____ |
| MATH 202X..... | (4) | _____ |
| MATH 262X..... | (4) | _____ |
| MATH 272X..... | (3) | _____ |

NOTE: Additional 3 cr of math needed for degree requirements.

NATURAL SCIENCES (8)

Complete 8 credits from the following:

| | | |
|--------------------------------|-----|-------|
| ATM 101X..... | (4) | _____ |
| BIOL 103X OR 104X..... | (4) | _____ |
| BIOL 105X-106X..... | (8) | _____ |
| BIOL 111X-112X..... | (8) | _____ |
| CHEM 100X..... | (4) | _____ |
| CHEM 103X-104X..... | (8) | _____ |
| CHEM 105X-106X..... | (8) | _____ |
| GEOG 205X..... | (4) | _____ |
| GEOS 100X OR 120X OR 125X..... | (4) | _____ |
| GEOS 101X-112X..... | (8) | _____ |
| MSL 111X..... | (4) | _____ |
| PHYS 102X OR 175X..... | (4) | _____ |
| PHYS 103X-104X..... | (8) | _____ |
| PHYS 211X-212X..... | (8) | _____ |
| PHYS 211X-213X..... | (8) | _____ |
| PHYS 212X-213X..... | (8) | _____ |