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 complete their coursework and 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

1. Complete the general university requirements (page 106. As part of the core curriculum requirements, complete MATH 200X or 272X.)

2. Complete the B.S. degree requirements (page 112. As part of the B.S. degree requirements, complete MATH 201X or STAT 401.)

3. Complete the following fisheries core requirements:* 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 .............................................................. 4 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/O2—Technical Writing (3) or ENGL 414W—Research Writing (3) .................................................. 3 FISH 336J—I—Introduction to Aquaculture (3) FISH 400W—Fisheries Science ............................................. 3 FISH 401W/O2—Fisheries Management ................................ 3 FISH 427W/O2—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

4. Complete electives* from the following:**

  1. ANTH 242—Native Cultures of Alaska ............................................. 3
  2. BA 307—Personnel Management .................................................. 3
  3. BIOL 305—I—Invertebrate Zoology ............................................. 5
  4. BIOL 317—Comparative Anatomy of Vertebrates ....................... 4
  5. BIOL 3280—Biologymarine Organisms ...................................... 3
  6. BIOL 342—Microbiology .......................................................... 4
  7. BIOL 407—Aquatic Entomology ................................................. 3
  8. BIOL 418W—Developmental Biology ......................................... 3
  9. BIOL 442W/O2—Bacteriology and Immunology ......................... 5
 10. BIOL 471W—Population Ecology ................................................ 3
 11. BIOL 472—Community Ecology ................................................. 3
 12. BIOL 480—Water Pollution Biology ........................................... 3
 13. CHEM 212—Chemical Equilibrium and Analysis ....................... 3
 14. CHEM 321—Organic Chemistry (3) and CHEM 322—Organic Chemistry (3) and CHEM 324—Organic Laboratory (4) .................................................. 10
 15. CHEM 451—General Biochemistry ............................................. 3
 16. CHEM 452W—Biochemistry Laboratory ..................................... 3
 17. GEOG 205—Elements of Physical Geography .............................. 3
 18. GEOG 302—Geography of Alaska ............................................. 3
 19. GEOG 338—Introduction to Geographic Information Systems .... 3
 20. GEOG 402—Resources and Environment .................................. 3
 21. GEOS 304—Geomorphology ..................................................... 3
 22. JRN 101—Introduction to Mass Communications .................... 3
 23. JRN 311W—Magazine Article Writing ..................................... 3
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/.