Fisheries

School of Fisheries and Ocean Sciences
Program in Fisheries
(907) 474-7289
www.sfos.uaf.edu/fishdiv/acad/degrees.html
Degrees: B.S., M.S., Ph.D.
Minimum Requirements for Degrees: B.S.: 130 credits; M.S.: 30 credits; Ph.D.: 18 thesis credits

The fisheries undergraduate program provides broad basic education and training. Graduates of the program are qualified to work in management, law enforcement, public information-education and other phases of fisheries work. Students contemplating careers in research, administration, advanced management or teaching find the undergraduate program a solid foundation for graduate study. The undergraduate program is only offered on the UAF main campus.

Graduate degree program students attend classes and work with faculty in Juneau and/or Fairbanks. Academic programs can be developed in one of the following 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.

Fairbanks' geographic location is advantageous for the study of interior Alaska aquatic habitats. A number of subarctic streams and lakes are within easy reach. Main 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 in southeast Alaska. The Juneau Center has well-equipped labs, including freshwater and seawater wet labs and computer labs. There is ready access to both marine and freshwater habitats. The Juneau Center is located near the Auke Bay National Marine Fisheries Service Laboratory north of Juneau. The Fishery Industrial Technology Center is located in Kodiak. It 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 field work.

Bachelor of science candidates are strongly urged to obtain work experience in fisheries-related positions with public resource agencies or private firms. Faculty members can help students contact potential employers. Fisheries undergraduate students will be asked each fall to describe their work experience of the previous year.

UNDERGRADUATE PROGRAM

MAJOR

Fisheries—B.S. Degree

1. Complete the general university requirements (page 28). (As part of the core curriculum requirements, complete MATH 200X or 272X.)
2. Complete the B.S. degree requirements (page 34). (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 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)
or FISH 380W,O—Marine Fishes of Alaska (3)
or FISH 384—Freshwater Fish of Alaska (3) 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

4. 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
   - 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.

GRADUATE PROGRAM

Fisheries—M.S. Degree

1. Complete the following admission requirements:
a. Prerequisites: calculus, elementary statistics, ichthyology or invertebrate zoology and computer competency.
b. Submit GRE scores.
2. Complete the general university requirements (page 43).
3. Complete the master's degree requirements (page 46).
4. Complete the following:
   - FISH 699—Thesis ... 6-12
   - STAT 401—Regression and Analysis of Variance ... 4
   - Electives ... 12-18
   - Graduate seminars ... 2
5. Minimum credits required ... 30

Note: Students working in subject areas involving significant non-English literature may be expected to read the appropriate foreign language.

Fisheries—Ph.D. Degree

1. Complete the following admission requirement:
a. Complete a master's degree in a fisheries-related field.
b. Submit GRE scores.
2. Complete the general university requirements (page 43).
3. Complete the Ph.D. degree requirements (page 48).
4. Complete at least 1 year of full-time coursework, as approved by the student's advisory committee.
5. Complete a thesis.
6. Minimum credits required ... 18

University of Alaska Fairbanks

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