

# Fisheries

School of Fisheries and Ocean Sciences  
Fisheries Program  
907-474-7289  
www.sfos.uaf.edu/academics/

## B.A., B.S. Degree

Minimum Requirements for Degrees: B.A.: 126 credits; B.S.: 126 credits

The undergraduate programs in fisheries offer students broad education and training, preparing graduates to work as professionals in fisheries management, research, conservation, education, policy, harvest and marketing organizations. The programs also provide a solid foundation for graduate study for students contemplating careers in advanced research and management, administration or teaching.

The B.S. degree in fisheries provides students with the knowledge base, skill sets and hands-on experience to obtain positions within state, federal and non-governmental fisheries and natural resources conservation and management agencies in Alaska and throughout North America. Graduates with this degree will be particularly qualified to work for traditional state, provincial, federal, Alaska Native, and Native American agencies in the areas of marine and freshwater fisheries biology and management and fisheries social science.

The B.A. degree in fisheries provides students with the knowledge base, skill sets, and hands-on experience to obtain positions within the fishing and seafood processing industries in Alaska and throughout North America. Graduates with this degree will be qualified to work for traditional fisheries governmental agencies in the areas of business administration, policy development, fisheries education and outreach, or as social scientists.

The minor gives students who are majoring in other areas (i.e. wild-life biology, natural resources management, business, rural and community development, journalism, etc.) a solid introductory background in fisheries.

Fisheries students have opportunities to work with professionals from federal, state, local, tribal and private groups during their required internship or research project. These organizations often hire fisheries students for summer internships, which can turn into full-time jobs after graduation.

The undergraduate fisheries program is administered through the UAF Fairbanks campus. Students have the option of completing their program in Fairbanks or Juneau, with many fisheries courses offered via distance education for students in other outlying areas. The undergraduate fisheries program is designed as a 2+2 program in which students may complete their first two years at UAF, UAS or UAA (or other local UA campus) and their last two years in either Fairbanks or Juneau as a UAF student. Students who are interested in the 2+2 option must contact the UAF fisheries program.

Fairbanks offers an excellent location for the study of Interior Alaska aquatic habitats with a number of subarctic streams and lakes within easy reach. The Juneau Center has ready access to both marine and freshwater habitats and freshwater and seawater wet labs. The Fishery Industrial Technology Center, located in Kodiak, has facilities for work in harvest technology, seafood technology, seafood biochemistry and microbiology.

## Major — B.A. Degree

1. Complete the general university requirements (page 131).
  2. Complete the B.A. degree requirements (page 135).
  3. Complete the following: \*
    - ACCT F261—Accounting Concepts and Uses I.....3
    - ACCT F262—Accounting Concepts and Uses II .....3
    - AIS F101—Effective Personal Computer Use.....3
    - ANTH F403W/O—Political Anthropology (3)
      - or ANTH F428—Ecological Anthropology and Regional Sustainability.....3
    - BA F307—Introductory Human Resources Management .....3
    - BA F343—Principles of Marketing.....3
    - BA F390—Organizational Theory and Behavior (3)
      - or BA F330—The Legal Environment of Business (4) ..... 3-4
    - ECON F200—Principles of Economics (4)
      - or ECON F235—Introduction to Natural Resources (3) ..... 3-4
    - ENGL F314 W/O—Technical Writing.....3
    - FISH F101—Introduction to Fisheries.....3
    - FISH F261—Introduction to Fisheries Utilization.....3
    - FISH F288—Marine and Freshwater Fishes of Alaska.....3
    - FISH F490—Experiential Learning Internship .....1
    - MSL F111X—The Oceans .....4
    - NRM F407—Environmental Law (3)
      - or PS F447—U.S. Environmental Politics (3)
        - or HIST F411—Environmental History (3).....3
    - RD F300W—Rural Development in a Global Perspective (3)
      - or RD F350O—Indigenous Knowledge and Community Research (3)
        - or RD F430—Indigenous Economic Development and Entrepreneurship (3) .....3
  - Upper division fisheries elective .....3
4. Minimum credits required .....126

\* Student must earn a C grade or better in each course.

## Major — B.S. Degree

1. Complete the general university requirements. (See page 131. As part of the core curriculum requirements, complete MATH F200X or F272X.)
2. Complete the B.S. degree requirements. (See page 136. As part of the B.S. degree requirements, complete STAT F401 or STAT F402.)

3. Complete the following fisheries core requirements:\*
  - BIOL F115X—Fundamentals of Biology I\*\* .....4
  - BIOL F116X—Fundamentals of Biology II\*\* .....4
  - BIOL F271—Principles of Ecology .....4
  - BIOL F310—Animal Physiology .....4
  - BIOL F362—Principles of Genetics .....4
  - BIOL F473W—Limnology (4)
  - or MSL F411—Current Topics in Oceanographic Research (3)
  - or BIOL F476—Ecosystem Ecology (3)
  - or BIOL F483—Stream Ecology (3) .....3 – 4
  - CHEM F105X—General Chemistry\*\* .....4
  - CHEM F106X—General Chemistry\*\* .....4
  - ECON F200—Principles of Economics (4)
  - or ECON F235—Introduction to Natural Resource Economics (3)
  - or ECON F201—Principles of Economics I: Microeconomics (3)
  - and ECON F202—Principles of Economics II: Macroeconomics (3)
  - ENGL F414W—Research Writing (3) .....3 – 4
  - FISH F101—Introduction to Fisheries .....3
  - FISH F288—Marine and Freshwater Fishes of Alaska .....3
  - FISH F315—Freshwater Fisheries Techniques .....3
  - FISH F425—Fish Ecology .....3
  - FISH F427—Ichthyology .....4
  - FISH F490—Experiential Learning Internship .....1
  - FISH F487W,O—Fisheries Management .....3
  - MSL F111X—The Oceans\*\* .....4
  - PHYS F103X—College Physics\*\* .....4
  - STAT F200X—Elementary Probability and Statistics .....3
  - STAT F401—Regression and Analysis of Variance .....4
  - or STAT F402—Scientific Sampling .....3
4. Complete 12 credits of electives\* from Fisheries, Biology or Natural Resource Management (of which 7 credits must be upper division).
5. Complete 4 credits of electives\* from Chemistry, Geology or Physics.
6. Complete 5 upper-division credits of other electives\*.
7. Minimum credits required .....126

\* 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.  
 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 or wildlife.

**Minor**

1. Complete the following:
  - FISH F101—Introduction to Fisheries (3)
  - or NRM F101—Natural Resources Conservation and Policy (3) .....3
  - FISH F288—Marine and Freshwater Fishes of Alaska .....3

2. Complete at least 6 credits from the following:
  - FISH F261—Introduction to Fisheries Utilization .....3
  - FISH F336—Introduction to Aquaculture .....3
  - FISH F421—Fish Population Dynamics .....4
  - FISH F425—Fish Ecology .....3
  - FISH F436—Salmon Culture .....3
  - FISH F487—Fisheries Management .....3
3. Complete at least 3 credits from one of the following concentrations:
  - Fisheries Science**
    - BIOL F305—Invertebrate Zoology .....5
    - BIOL F310—Animal Physiology .....3
    - BIOL F328—Biology of Marine Organisms .....3
    - BIOL F441—Animal Behavior .....3
    - BIOL F471—Population Ecology .....3
    - BIOL F472W—Community Ecology .....3
    - BIOL F473W—Limnology .....4
    - BIOL F476—Ecosystem Ecology .....3
    - BIOL F483—Stream Ecology .....3
    - NRM F370—Introduction to Watershed Management .....3
  - Fisheries Business Administration and Economics**
    - ACCT F261—Accounting Concepts and Uses I .....3
    - ACCT F262—Accounting Concepts and Uses II .....3
    - BA F151—Introduction to Business .....4
    - BA F307—Introductory Human Resources Management .....3
    - BA F325—Financial Management .....3
    - BA F343—Principles of Marketing .....3
    - BA F390—Organizational Theory and Management .....3
    - ECON F200—Principles of Economics .....3
    - ECON F235—Introduction to Natural Resources Economics .....3
    - ECON F335—Intermediate Natural Resource Economics .....3
    - ECON F434—Environmental Economics .....3
  - Fisheries Policy and Rural Development**
    - ANTH F242—Native Cultures of Alaska .....3
    - ANTH F403W/O—Political Anthropology .....3
    - ANTH F428—Ecological Anthropology and Regional Sustainability .....3
    - HIST F411—Environmental History .....3
    - NRM F407—Environmental Law .....3
    - NRM F430—Resource Management Planning .....3
    - PS F101—Introduction to American Government and Politics .....3
    - PS F447—U.S. Environmental Politics .....3
    - RD F200—Community Development in the North .....3
    - RD F245—Fisheries Development in Rural Alaska .....3
    - RD F265—Perspectives on Subsistence in Alaska .....3
    - RD F350O—Indigenous Knowledge and Community Research .....3
4. Minimum credits required .....15



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

## Baccalaureate Core Requirements

### COMMUNICATION (9)

Complete the following:

ENGL F111X .....(3) \_\_\_\_\_  
*ENGL F190H may be substituted.*

Complete one of the following:

ENGL F211X OR ENGL F213X .....(3) \_\_\_\_\_

Complete one of the following:

COMM F131X OR COMM F141X .....(3) \_\_\_\_\_

### PERSPECTIVES ON THE HUMAN CONDITION (18)

Complete all of the following four courses:

ANTH F100X/SOC F100X .....(3) \_\_\_\_\_  
 ECON F100X OR PS F100X .....(3) \_\_\_\_\_  
 HIST F100X .....(3) \_\_\_\_\_  
 ENGL/FL F200X .....(3) \_\_\_\_\_

Complete one of the following three courses:

ART/MUS/THR F200X, HUM F201X OR ANS F202X .... (3) \_\_\_\_\_

Complete one of the following six courses:

BA F323X, COMM F300X, JUST F300X, NRM F303X,  
 PS F300X OR PHIL F322X .....(3) \_\_\_\_\_

OR complete 12 credits from the above courses PLUS

- two semester-length courses in a single Alaska Native language or other non-English language OR
- three semester-length courses (9 credits) in American Sign Language taken at the university level.

### MATHEMATICS (3)

Complete one of the following:

MATH F103X, MATH F107X, MATH F161X OR  
 STAT F200X .....(3 - 4) \_\_\_\_\_

*\* No credit may be earned for more than one of MATH F107X or F161X.*

OR complete one of the following:\*

MATH F200X, MATH F201X, MATH F202X,  
 MATH F262X OR MATH F272X .....(4) \_\_\_\_\_

*\*Or any math course having one of these as a prerequisite.*

### NATURAL SCIENCES (8)

Complete any two (4-credit) courses:

ATM F101X .....(4) \_\_\_\_\_  
 BIOL F100X .....(4) \_\_\_\_\_  
 BIOL F103X .....(4) \_\_\_\_\_  
 BIOL F104X .....(4) \_\_\_\_\_  
 BIOL F111X .....(4) \_\_\_\_\_  
 BIOL F112X .....(4) \_\_\_\_\_  
 BIOL F115X .....(4) \_\_\_\_\_  
 BIOL F116X .....(4) \_\_\_\_\_  
 CHEM F100X .....(4) \_\_\_\_\_  
 CHEM F103X .....(4) \_\_\_\_\_  
 CHEM F104X .....(4) \_\_\_\_\_  
 CHEM F105X .....(4) \_\_\_\_\_  
 CHEM F106X .....(4) \_\_\_\_\_  
 GEOG F111X .....(4) \_\_\_\_\_  
 GEOS F100X .....(4) \_\_\_\_\_  
 GEOS F101X .....(4) \_\_\_\_\_  
 GEOS F112X .....(4) \_\_\_\_\_  
 GEOS F120X .....(4) \_\_\_\_\_  
 GEOS F125X .....(4) \_\_\_\_\_  
 MSL F111X .....(4) \_\_\_\_\_  
 PHYS F102X .....(4) \_\_\_\_\_  
 PHYS F103X .....(4) \_\_\_\_\_  
 PHYS F104X .....(4) \_\_\_\_\_  
 PHYS F115X .....(4) \_\_\_\_\_  
 PHYS F116X .....(4) \_\_\_\_\_  
 PHYS F175X .....(4) \_\_\_\_\_  
 PHYS F211X .....(4) \_\_\_\_\_  
 PHYS F212X .....(4) \_\_\_\_\_  
 PHYS F213X .....(4) \_\_\_\_\_

### LIBRARY AND INFORMATION RESEARCH (0 - 1)

Successful completion of library skills competency test OR  
 LS F100X or F101X prior to junior standing.....(0 - 1) \_\_\_\_\_

### UPPER-DIVISION WRITING AND ORAL COMMUNICATION (0)

Complete the following:

Two writing intensive courses designated (W) .....(0) \_\_\_\_\_  
 and one oral communication intensive course  
 designated (O).....(0) \_\_\_\_\_

OR two oral communication intensive courses designated  
 (O/2), at the upper-division level (see degree and/or major  
 requirements).....(0) \_\_\_\_\_

CORE CREDITS REQUIRED ..... 38 - 39

Minimum credits required for degree ..... 120