

# FISHERIES

School of Fisheries and Ocean Sciences  
 Fisheries Program  
 907-474-7289  
[www.sfos.uaf.edu/academics/](http://www.sfos.uaf.edu/academics/)

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

Minimum Requirements for Degrees: 120 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 in state, federal and nongovernmental 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 in 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 (e.g., wildlife biology, natural resources management, business, rural and community development, journalism) 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 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 outlying areas. The undergraduate fisheries program is designed as a 2+2 program in which students may complete their first two years at any UAF, UAS or UAA campus and their last two years in either Fairbanks or Juneau as a UAF student. Students 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 sub-Arctic 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

### Concentrations: Fisheries Business and Social Science, Rural and Community Development

- Complete the general university requirements (page 163). *To graduate, all students must complete 39 upper-division credits.*
  - Complete the B.A. degree requirements (page 163).
  - Complete the following (major) requirements:\*
 

ENGL F314W/O—Technical Writing (3)	
or ENGL F414W—Research Writing (3) .....	3
FISH F102—Fact or Fishin: Case Studies in Fisheries .....	1
FISH F103—The Harvest of the Sea .....	2
FISH F110—Fish and Fisheries in a Changing World.....	3
FISH F261—Introduction to Fisheries Utilization .....	3
FISH F288—Fish and Fisheries of Alaska.....	3
FISH F411—Human Dimensions of Environmental Systems (3)	
or GEOG F312—People, Places, and Environment: Principles of Geography (3)**	
or SOC F440—Environmental Sociology (3)** .....	3
FISH F487W/O—Fisheries Management .....	3
FISH F490—Experiential Learning Internship .....	1
STAT F200X—Elementary Probability and Statistics.....	3
  - Complete one of the following concentrations:\*
 

**Fisheries Business and Social Science:\***

ANTH F403W/O—Political Anthropology (3)	
or ANTH F428—Ecological Anthropology and Regional Sustainability (3).....	3
BA F307—Introductory Human Resources Management (3)	
or BA F343—Principles of Marketing (3) .....	3
BA F390—Organizational Theory and Behavior (3)	
or BA F330—The Legal Environment of Business (4) .....	3-4
ECON F235—Introduction to Natural Resource Economics.....	3
FISH F340—Seafood Business .....	3
NRM F407—Environmental Law (3)	
or NRM F430—Resource Management Planning (3)	
or HIST F411—Environmental History (3) .....	3
PS F447—U.S. Environmental Politics (3)	
or PS F454—International Law and the Environment (3)	
or PS F455O—Political Economy of the Global Environment (3)	
or PS F458—Comparative Environmental Politics (3).....	3
RD F245—Fisheries Development in Rural Alaska (3)	
or RD F265—Perspectives on Subsistence in Alaska (3)	
or RD F300W—Rural Development in a Global Perspective (3)	
or RD F350O—Indigenous Knowledge and Community Research (3)	
or RD F351—Strategic Planning for Rural Communities (3)	
or ANS F350W,O—Cross Cultural Communication: Alaskan Perspectives (3)	
or ANS F401—Cultural Knowledge of Native Elders (3)** .....	3

**Rural and Community Development**

RD F245—Fisheries Development in Rural Alaska (3)	
or RD F265—Perspectives on Subsistence in Alaska (3)	
or ANTH F428—Ecological Anthropology and Regional Sustainability (3).....	3
RD F300W—Rural Development in a Global Perspective .....	3
RD F350O—Indigenous Knowledge and Community Research.....	3
RD F351—Strategic Planning for Rural Communities.....	3
RD F352—Rural Business Planning and Proposal Development .....	3
RD F450—Managing Rural Projects and Programs.....	3
RD F475W—Rural Development Senior Project.....	3
  - Minimum credits required .....120
- \* Students must earn a C- grade or better in each course.  
 \*\* Students who take GEOG F312 or SOC F440, ANTH F403 or ANS F401 should be aware that these four courses require additional prerequisites that are not part of the Bachelor of Arts in fisheries degree program.

## Major — B.S. Degree

1. Complete the general university requirements. (See page 164. As part of the core curriculum requirements, complete MATH F232X or F251X.) *To graduate, all students must complete 39 upper-division credits.*
  2. Complete the B.S. degree requirements. (See page 164. As part of the B.S. degree requirements, complete STAT F401 or STAT F402.)
  3. Complete the following:\*
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| BIOL F115X—Fundamentals of Biology I**   | 4   |
| BIOL F116X—Fundamentals of Biology II**  | 4   |
| BIOL F260—Principles of Genetics   | 4   |
| BIOL F310—Animal Physiology (4)<br>or BIOL F213X—Human Anatomy and Physiology I (4)<br>and BIOL F214X—Human Anatomy and Physiology II (4)  | 4-8 |
| BIOL F371—Principles of Ecology  | 4   |
| CHEM F105X—General Chemistry I**   | 4   |
| CHEM F106X—General Chemistry II**  | 4   |
| ECON F235—Introduction to Natural Resource Economics (3)<br>or ECON F201—Principles of Economics I:<br>Microeconomics (3)  | 3   |
| ENGL F414W—Research Writing  | 3   |
| FISH F102—Fact or Fishin: Case Studies in Fisheries  | 1   |
| FISH F103—The Harvest of the Sea   | 2   |
| FISH F110—Fish and Fisheries in a Changing World   | 3   |
| FISH F261—Introduction to Fisheries Utilization  | 3   |
| FISH F288—Fish and Fisheries of Alaska   | 3   |
| FISH F427—Ichthyology(4)<br>or BIOL F305—Invertebrate Zoology (4)  | 3   |
| FISH F315—Freshwater Fisheries Techniques (3)<br>or FISH F414—Field Methods in Marine Ecology<br>and Fisheries (3)   | 3   |
| FISH F411—Human Dimensions of Environmental Systems (3)<br>or GEOG F312—People, Places, and Environment:<br>Principles of Geography ****(3)<br>or SOC F440—Environmental Sociology ****(3) | 3   |
| FISH F425—Fish Ecology (3)<br>or FISH F426—Behavioral Ecology of Fishes (3)<br>or FISH F428—Physiological Ecology of Fishes (3)  | 3   |
| FISH F487W,O—Fisheries Management  | 3   |
| FISH F490—Experiential Learning Internship   | 1   |
| PHYS F103X—College Physics** (4)<br>or PHYS F115X—Physical Science I** (4)<br>or PHYS F211X—General Physics** (4)  | 4   |
| STAT F200X—Elementary Probability and Statistics   | 3   |
| STAT F401—Regression and Analysis of Variance*** (4)<br>or STAT F402—Scientific Sampling*** (3)  | 3-4 |
4. Complete 9 credits of electives\* from Fisheries, Biology, Marine Science and Limnology or Natural Resource Management (of which at least 5 credits must be upper-division).
  5. Complete 4 credits of electives\* from Chemistry, Geology or Physics.
  6. Additional electives\* to complete minimum credits required.
  7. Minimum credits required .....120
- \* Students 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.  
\*\*\* STAT F401 or STAT F402 may be used to meet the B.S. degree mathematics requirements.  
\*\*\*\* Students who take GEOG F312 or SOC F440 should be aware that these two courses require additional prerequisites that are not part of the Bachelor of Science in fisheries degree program.
- 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—Fish and Fisheries of Alaska.....3
2. Students must take at least 6 additional credit hours designated FISH, with the exception of any FISH F492 courses.
3. Students may apply at most 3 credit hours 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.....3  
BIOL F476—Ecosystem Ecology .....3  
BIOL F483—Stream Ecology .....3  
NRM F370—Introduction to Watershed Management .....3  
**Fisheries Business Administration and Economics**  
ACCT F261—Principles of Financial Accounting.....3  
ACCT F262—Principles of Managerial Accounting.....3  
BA F151—Introduction to Business .....4  
BA F307—Introductory Human Resources Management .....3  
BA F325—Financial Management .....3  
BA F330—The Legal Environment of Business.....3  
BA F343—Principles of Marketing.....3  
BA F390—Organizational Theory and Management .....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**  
ANS F350W,O—Cross Cultural Communication:  
Alaskan Perspectives.....3  
ANS F401—Cultural Knowledge of Native Elders .....3  
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  
PS F454—International Law and the Environment .....3  
PS F455O—Political Economy of the Global Environment.....3  
PS F458—Comparative Environmental Politics.....3  
RD F200—Community Development in the North .....3  
RD F245—Fisheries Development in Rural Alaska .....3  
RD F256—Co-management of Renewable Resources .....3  
RD F265—Perspectives on Subsistence in Alaska .....3  
RD F300W—Rural Development in a Global Perspective .....3  
RD F350O—Indigenous Knowledge and Community Research .....3  
RD F430—Indigenous Economic Development  
and Entrepreneurship .....3
4. Minimum credits required .....15