

# FISHERIES

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

## MS, PhD Degrees

Minimum Requirements for Degrees: MS: 30 credits;  
PhD: 18 thesis credits

Fisheries graduate students take classes and undertake research on a diverse set of fisheries-related topics. Program strengths include quantitative science, fisheries management and human dimensions, biology and ecology, and seafood technology. Students are typically based in Juneau, Fairbanks or Kodiak, but most courses are video-delivered to locations throughout Alaska.

Traditionally, the Juneau location emphasizes the marine environment; Fairbanks, the freshwater; and Kodiak, seafood science. However, students at each location are engaged in a wide variety of research topics. All locations have excellent laboratory facilities, access to pristine environments and healthy fisheries, and strong connections to state and federal agency scientists and managers as well as to participants in commercial, sport and subsistence fisheries.

Most students are supported as research assistants for some or all of their tenure. Agencies such as the National Atmospheric and Oceanic Administration, the U.S. Fish and Wildlife Service, and the Alaska Department of Fish and game are collaborators on research projects and employ many of our graduates.

### MS Degree

1. Complete the following admission requirements:
  - a. Prerequisites: calculus, elementary statistics, ichthyology, biology of fish, invertebrate zoology and computer competency.
  - b. Submit GRE scores.
2. Complete the general university requirements (page 202).
3. Complete the master's degree requirements (page 206).
4. Complete the following:

FISH F699—Thesis .....	6 – 12
STAT F401—Regression and Analysis of Variance .....	4
Graduate seminars .....	2

### 5. Complete one emphasis area:

#### Fisheries Emphasis

Students must complete one of the following under each area:

- a. Biology and ecology of fish and shellfish

FISH F626—Behavioral Ecology of Fishes .....	3
FISH F628—Physiological Ecology of Fishes .....	3
FISH F633—Pacific Salmon Life Histories .....	3
FISH F650—Fish Ecology .....	3
FISH F651—Fishery Genetics .....	4
MSL F615—Physiology of Marine Organisms .....	3
MSL F640—Fisheries Oceanography .....	4
MSL F652—Marine Ecosystems .....	3
- b. Quantitative population dynamics of fish and shellfish

FISH F421—Fisheries Population Dynamics .....	4
FISH F601—Quantitative Fisheries Science .....	3
FISH F621—Estimation of Fish Abundance .....	3
FISH F622—Quantitative Fish Population Dynamics II .....	3

- c. Management and human dimensions of fisheries

FISH F411—Human Dimensions of Environmental Systems .....	3
FISH F487—Fisheries Management .....	3
FISH F640—Management of Renewable Resources .....	3
FISH F645—Bioeconomic Modeling and Fisheries Management .....	3
FISH F670—Quantitative Analysis for Marine Policy Decisions .....	3
FISH F675—Political Ecology of the Oceans .....	3

### Seafood Science Emphasis

Students must complete one course from two of the three core areas of the Fisheries emphasis and the two following courses:

- |   |   |
|---|---|
| FISH F661—Seafood Processing and Preservation ..... | 3 |
| FISH F662—Seafood Composition and Analysis .....    | 3 |

6. Minimum credits required .....30  
*Note: Only 9 credits of the required 30 MS degree credits can be at the 400-level.*

### PhD Degree

1. Complete the following admission requirement:
  - a. Complete a master's degree in a fisheries-related field or meet the requirements as outlined below to be accepted directly into a PhD program without a master's degree.
  - b. Submit GRE scores.
2. Complete the general university requirements (page 202).
3. Complete the PhD degree requirements (page 207).
4. Complete at least one year of full-time course work, as approved by the student's advisory committee.
5. Complete a thesis.
6. Minimum credits required .....18

### Admission to PhD program directly from bachelor's program:

Entering graduate students whose highest earned degree is the baccalaureate are normally admitted as master of science candidates. However, exceptionally able and accomplished students in this category are eligible for direct admission to the PhD program. Criteria for direct admission to the PhD program from the baccalaureate are:

1. Endorsement by proposed chair of graduate advisory committee AND 2 or 3 below.
2. At least one first-authored manuscript published or accepted for publication in a peer-reviewed scientific journal or receipt of an NSF, NIH, or similar prestigious pre-doctoral fellowship. OR
3. Demonstrated research proficiency (e.g. undergraduate thesis, Research Experiences for Undergraduates or other intensive research experience) documented in the application AND either (1) attained a GPA of at least 3.5 at the undergraduate level, or (2) scored at the 80% level in two of three categories in the GRE.

Students who elect this route must fulfill course requirements as outlined for BOTH the MS and PhD degrees. Applicants who do not meet these criteria may enter the graduate program as MS candidates, and in exceptional cases may petition for conversion to the PhD program after Advancement to Candidacy (for the MS). Such petitions must be approved both by the student's current (MS) and proposed (PhD) advisory committee and the department director or designee.