# B.S., Fisheries and Ocean Sciences

## Concentrations: Fisheries Science, Ocean Sciences

Minimum Requirements for Degree: 120 credits

Students must earn a C- grade or better in each course.

### General University Requirements

Complete the general university requirements. ([http://catalog.uaf.edu/bachelors](http://catalog.uaf.edu/bachelors))

### General Education Requirements

Complete the general education requirements. ([http://catalog.uaf.edu/bachelors/general-education-requirements](http://catalog.uaf.edu/bachelors/general-education-requirements))

As part of the general education requirements, complete:

- **BIOL F115X** Fundamentals of Biology I
- **BIOL F116X** Fundamentals of Biology II
- **ECON F201X** Principles of Economics I: Microeconomics or **ECON F235X** Introduction to Natural Resource Economics
- **MATH F230X** Calculus Essentials with Applications or **MATH F251X** Calculus I

### B.S. Degree Requirements

Complete the B.S. degree requirements. ([http://catalog.uaf.edu/bachelors/summary-of-bachelors-degrees-reqs/#bachelorofsciencetext](http://catalog.uaf.edu/bachelors/summary-of-bachelors-degrees-reqs/#bachelorofsciencetext))

As part of the B.S. degree requirements, complete:

- **CHEM F105X** General Chemistry I
- **CHEM F106X** General Chemistry II
- **STAT F200X** Elementary Probability and Statistics

### Program Requirements

Complete 9 credits of electives* from fisheries, biology, marine sciences and limnology or natural resource management (of which at least 5 credits must be upper-division).

### Concentrations

**Fisheries Science**

- **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 Human Geography or **SOC F440** Environmental Sociology
- **FISH F425** Fish Ecology 3 or **FISH F426** Behavioral Ecology of Fishes or **FISH F428** Physiological Ecology of Fishes or **FISH F433** Pacific Salmon Life Histories
- **FISH F427** Ichthyology 4
- **FISH F487** Fisheries Management 2 3

Complete 4 credits of electives from chemistry, geology or physics

**Total Credits 23**

1 Students who take GEOG F312 or SOC F440 should be aware that these two courses require additional prerequisites that are not part of the fisheries science concentration.

2 FISH F487 and MSL F499 will serve as the capstone course for fisheries science and ocean sciences concentrations, respectively.

### Ocean Sciences

Complete one from the following concentrations:

- **Fisheries Science**
- **Ocean Sciences**

**Total Credits 65**

Note: Fisheries and ocean science majors are encouraged to reinforce their fisheries qualifications by earning a minor in a program related to fisheries and ocean sciences. Some examples are biology, fisheries (ocean sciences concentration only), marine science (fisheries science concentration only), business management, chemistry, economics, mathematics, natural resources management (animal science), Northern studies, statistics or wildlife.
### B.S., Fisheries and Ocean Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MSL F411</td>
<td>Current Topics in Oceanographic Research</td>
</tr>
<tr>
<td>MSL F412</td>
<td>Early Life Histories of Marine Invertebrates</td>
</tr>
<tr>
<td>MSL F419</td>
<td>Concepts in Physical Oceanography</td>
</tr>
<tr>
<td>MSL F421</td>
<td>Field Course in Subtidal Studies</td>
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<tr>
<td>MSL F431</td>
<td>Polar Marine Science</td>
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<tr>
<td>MSL F440</td>
<td>Oceanography for Fisheries</td>
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<tr>
<td>MSL F449</td>
<td>Biological Oceanography</td>
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<tr>
<td>MSL F461</td>
<td>Chemical Oceanography</td>
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<tr>
<td>MSL F463</td>
<td>Chemical Coastal Processes</td>
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<tr>
<td>MSL F464</td>
<td>Ecological and Evolutionary Genomics</td>
</tr>
<tr>
<td>MSL F467</td>
<td>Introduction to Marine Macroalgae</td>
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<tr>
<td>MSL F492</td>
<td>Seminar</td>
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Additional electives to complete minimum credits required.

Total Credits: 23

1. FISH F487 and MSL F499 will serve as the capstone course for fisheries science and ocean sciences concentrations, respectively.