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)

General Education Requirements

Complete the 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 4
- BIOL F116X Fundamentals of Biology II 4
- ECON F201X Principles of Economics I: Microeconomics 3
  or ECON F235X Introduction to Natural Resource Economics
- MATH F230X Calculus Essentials with Applications 3-4
  or MATH F251X Calculus I

B.S. Degree Requirements

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

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

- CHEM F105X General Chemistry I 4
- CHEM F106X General Chemistry II 4
- STAT F200X Elementary Probability and Statistics 3

Program Requirements

- BIOL F260 Principles of Genetics 4
- BIOL F371 Principles of Ecology 4
- 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 F315 Freshwater Fisheries Techniques 3
  or FISH F414 Field Methods in Marine Ecology and Fisheries
  or MSL F450 Marine Biology and Ecology Field Course
  or MSL F456 Kelp Forest Ecology
- FISH F490 Experiential Learning – Fisheries Internship 1
- MSL F211 Introduction to Marine Science I 3
- MSL F212 Introduction to Marine Science II 3
- MSL F213L Marine Science Laboratory 1
- PHYS F103X College Physics I 4
  or PHYS F115X Physical Sciences
  or PHYS F211X General Physics I
- STAT F401 Regression and Analysis of Variance 4
  or STAT F402 Scientific Sampling
  or MATH F252X Calculus II

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

Complete one from the following concentrations: 23

- Fisheries Science
- Ocean Sciences

Total Credits 90-91

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.

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 3

Complete 4 credits of electives from chemistry, geology or physics 4

Total Credits 23

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.

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

OCEAN SCIENCES

- MSL F499 Senior Thesis 1 3

Select 20 credits from the following: 20

- MSL F215 Marine Geological Drama and Undersea Catastrophes
- MSL F216 The Oceans and Global Change
- MSL F220 Scientific Diving
- MSL F317 Introduction to Marine Mammal Biology
- MSL F403 Estuaries Oceanography
- MSL F411 Current Topics in Oceanographic Research
- MSL F412 Early Life Histories of Marine Invertebrates
### B.S., Fisheries and Ocean Sciences

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<th>Course Code</th>
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<tr>
<td>MSL F419</td>
<td>Concepts in Physical Oceanography</td>
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<tr>
<td>MSL F421</td>
<td>Field Course in Subtidal Studies</td>
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<td>MSL F431</td>
<td>Polar Marine Science</td>
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<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.