

MARINE SCIENCE

School of Fisheries and Ocean Sciences
907-474-7824
www.sfos.uaf.edu/academics/

Minor only

Though the marine science minor is available to students in all degree programs, fisheries students will particularly benefit from the breadth this minor offers. The program will also appeal to students from other disciplines (e.g., political science, earth sciences, biology and wildlife, environmental science, resource management, and education) in which possible career paths may require and/or benefit from training in marine science (policy-making, resource management, education, the seafood industry, etc.).

Students who complete the minor in marine science will possess a knowledge base and skill set that will make them more competitive for a wide variety of agency and organization positions, particularly within the state of Alaska. The education and training will be applicable to jobs within government management agencies such as the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service, as well as Alaska Native organizations, non-profit conservation organizations, the seafood industry, or in other policy development, fisheries, education, or outreach capacities.

1. Complete the following:
MSL F211—Introduction to Marine Science I3
MSL F212—Introduction to Marine Science II.....3
MSL F213L—Marine Science Laboratory1
2. Complete 6 credits from the following:
MSL F317—Introduction to Marine Mammal Biology.....3
MSL F330—The Dynamic Alaskan Coastline.....3
MSL F403—Estuaries Oceanography.....3
MSL F412—Early Life Histories of Marine Invertebrates3
MSL F431—Polar Marine Science3
MSL F449 – Biological Oceanography3
MSL F463—Chemical Coastal Processes.....3

3. Complete 2 additional credits from the following:
Marine Science and Limnology
MSL F220—Scientific Diving2
MSL F317—Introduction to Marine Mammal Biology.....3
MSL F330—The Dynamic Alaskan Coastline.....3
MSL F403—Estuaries Oceanography.....2
MSL F412—Early Life Histories of Marine Invertebrates3
MSL F421—Field Course in Subtidal Studies.....2
MSL F431—Polar Marine Science3
MSL F449—Biological Oceanography3
MSL F450—Marine Biology and Ecology Field Course4
MSL F456—Kelp Forest Ecology.....4
MSL F463—Chemical Coastal Processes.....3
MSL F497—Marine Field Experience (Independent Study) 1 – 2
Fisheries
FISH F288/BIOL F288—Fish and Fisheries of Alaska3
FISH F301—Biology of Fishes.....3
FISH F425—Fish Ecology3
FISH F440—Oceanography for Fisheries3
Biology and Wildlife
BIOL F305—Invertebrate Zoology5
BIOL F473—Limnology4
Economics
ECON F235—Introduction to Natural Resource Economics.....3
4. Minimum credits required15

Baccalaureate Core Requirements

Communication 9 Credits

- ENGL F111X—Introduction to Academic Writing.....(3)
ENGL F190H may be substituted.

Complete one of the following:

- ENGL F211X—Academic Writing about Literature.....(3)
- ENGL F213X—Academic Writing about the Social and Natural Sciences.....(3)

Complete one of the following:

- COMM F131X—Fundamentals of Oral Communication: Group Context.....(3)
- COMM F141X—Fundamentals of Oral Communication: Public Context.....(3)

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Perspectives on the Human Condition 18 Credits

Complete all of the following four courses:

- ANTH F100X/SOC F100X—Individual, Society and Culture.....(3)
- ECON F100X or PS F100X—Political Economy.....(3)
- HIST F100X—Modern World History.....(3)
- ENGL/FL F200X—World Literature.....(3)

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Complete one of the following three courses:

- ART/MUS/THR F200X—Aesthetic Appreciation: Interrelationship of Art, Drama and Music.....(3)
- HUM F201X—Unity in the Arts.....(3)
- ANS F202X—Aesthetic Appreciation of Alaskan Native Performance.....(3)

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Complete one of the following six courses:

- BA F323X—Business Ethics.....(3)
- COMM F300X—Communicating Ethics.....(3)
- JUST F300X—Ethics and Justice.....(3)
- NRM F303X—Environmental Ethics and Actions.....(3)
- PS F300X—Ethics and Society.....(3)
- PHIL F322X—Ethics.....(3)

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Or complete 12 credits from the above courses plus one of the following:

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

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Mathematics 3 Credits

Complete one of the following:

- MATH F103X—Concepts and Contemporary Applications of Mathematics.....(3)
 - MATH F107X—Functions for Calculus*.....(4)
 - MATH F161X—Algebra for Business and Economics**.....(3)
 - STAT F200X—Elementary Probability and Statistics.....(3)
- * No credit may be earned for more than one of MATH F107X or F161X.

Or complete one of the following*:

- MATH F200X—Calculus I**.....(4)
- MATH F201X—Calculus II.....(4)
- MATH F202X—Calculus III.....(4)
- MATH F262X—Calculus for Business and Economics.....(4)
- MATH F272X—Calculus for Life Sciences.....(4)

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

** No credit may be earned for more than one of Math F200X, F262X or F272.

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Natural Sciences 8 Credits

Complete any two (4-credit) courses.

- ATM F101X—Weather and Climate of Alaska.....(4)
- BIOL F100X—Human Biology.....(4)
- BIOL F101X—Biology of Sex.....(4)
- BIOL F103X—Biology and Society.....(4)
- BIOL F104X—Natural History.....(4)
- BIOL F115X—Fundamentals of Biology I.....(4)
- BIOL F116X—Fundamentals of Biology II.....(4)
- BIOL F120X—Introduction to Human Nutrition.....(4)
- BIOL F213X—Human Anatomy and Physiology I.....(4)
- BIOL F214X—Human Anatomy and Physiology II.....(4)
- CHEM F100X—Chemistry in Complex Systems.....(4)
- CHEM F103X—Basic General Chemistry.....(4)
- CHEM F104X—Beginnings in Biochemistry.....(4)
- CHEM F105X—General Chemistry.....(4)
- CHEM F106X—General Chemistry.....(4)
- GEOG F111X—Earth and Environment: Elements of Physical Geography.....(4)
- GEOS F100X—Introduction to Earth Science.....(4)
- GEOS F101X—The Dynamic Earth.....(4)
- GEOS F106X—Life and the Age of Dinosaurs.....(4)
- GEOS F112X—History of Earth and Life.....(4)
- GEOS F120X—Glaciers, Earthquakes and Volcanoes.....(4)
- GEOS F125X—Humans, Earth and Environment.....(4)
- MSL F111X—The Oceans.....(4)
- PHYS F102X—Energy and Society.....(4)
- PHYS F103X—College Physics.....(4)
- PHYS F104X—College Physics.....(4)
- PHYS F115X—Physical Science I.....(4)
- PHYS F175X—Astronomy.....(4)
- PHYS F211X—General Physics.....(4)
- PHYS F212X—General Physics.....(4)
- PHYS F213X—Elementary Modern Physics.....(4)

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Library and Information Research 0 – 1 Credit

- Successful completion of library skills competency test or LS F100X or LS F101X prior to junior standing

0 – 1

Upper-Division Writing and Oral Communication

Complete the following at the upper-division level:

- Two writing intensive courses designated (W) and one oral communication intensive course designated (O), or two oral communication intensive courses designated (O/2) (see degree and/or major requirements)

Total credits required 38 – 39

All degrees (e.g. B.A., B.S., etc.) require additional courses.

Refer to specific degree and program requirements.

Students must earn a C- grade or better in each course used toward the baccalaureate core.