

FT S110 – Fundamentals of Fisheries Oceanography

Upon successful completion of this course, students will be able to:

1. Demonstrate how the biological, physical and chemical aspects of the oceans interact
2. Compare and contrast the major oceanographic characteristics of different regions
3. Differentiate and define the key characteristics of gyres, currents, and waves
4. Describe the ocean as an environment for life listing examples of plankton, nekton and benthos

FT S111 – Fisheries Management Techniques Lab

Upon successful completion of this course, students will be able to:

1. Demonstrate lab and field data collection protocols
2. Identify potential safety hazards in the lab and field
5. Utilize basic outdoor skills and assess weather considerations
6. Demonstrate an understanding of basic common lab and field monitoring protocols
7. Demonstrate an understanding of stream and intertidal assessments
8. Identify stream habitat variables and juvenile salmonids
9. Describe proper maintenance and calibration of lab and field equipment

FT S120 – Introduction to Fisheries of Alaska

Upon successful completion of this course, students will be able to:

1. Demonstrate a comprehensive understanding of basic biology, ecology, reproduction and life cycles of various fisheries species covered in the course.
2. Compare and contrast the various fishing and fisheries capture techniques used in Alaskan fisheries.
3. Identify and compare different management strategies for both state and federally managed fisheries species.
4. Demonstrate a basic understanding of current fisheries issues and research topics from around Alaska.

FT S122 – Alaska Salmon Culture I

Upon successful completion of this course, students will be able to:

1. Describe the development of the Alaska private non-profit hatchery system from its inception to current times.
2. Understand and be able discuss the similarities and differences between five species of Pacific Salmon commonly cultured in Alaska's enhancement programs.
3. Provide observations of daily hatchery (or other enhancement program) activities by providing a semester-long log from a project they have monitored.
4. Explain various types of spawning and incubation techniques utilized in Alaska through lecture material as well as contacting a facility of their choice and investigating its techniques.
5. Describe how water quality parameters which affect success or failure of Alaska hatchery operations.

FT S211 – Fisheries Management Techniques

Upon successful completion of this course, students will be able to:

1. Demonstrate lab and field data collection protocols
2. Identify potential safety hazards in the lab and field
3. Utilize basic outdoor skills and assess weather considerations
4. Demonstrate an understanding of basic common lab and field monitoring protocols
5. Demonstrate an understanding of stream and intertidal assessments
6. Identify stream habitat variables and juvenile salmonids
7. Describe proper maintenance and calibration of lab and field equipment

FT S222 – Alaska Salmon Culture II:

Upon successful completion of this course, students will be able to:

1. Develop daily, weekly and monthly feeding tables for a large salmon production facility
2. Demonstrate their knowledge of project budgeting and planning which will engage them in the management and planning process.
3. Make observations of overall fish health issues associated with rearing Pacific salmon so that they can provide detailed information for AK Department of Fish and Game Pathology lab staff.
4. Calculate rearing densities in both fresh and saltwater rearing containers and understand threshold densities associated with a health rearing environment

FT S230 – Alaska Salmon Culture Lab

Upon successful completion of this course, students will be able to:

1. Describe salmon culture practices used by today enhancement industries
2. Practice current salmon culture techniques under the guidance of industry professionals
3. Describe fisheries management practices and operational procedures
4. Describe the role of fisheries managers, hatchery operators and the fishing industry work together in the salmonid enhancement industry

FT S270 – Introduction to Limnology

Upon successful completion of this course, students will be able to:

1. Demonstrate a comprehensive understanding of the basic biology, ecology, and physical properties of how freshwater ecosystems function.
2. Illustrate an understanding of the linkages between freshwater aquatic ecosystems and the terrestrial systems.
3. Identify and contrast different management practices and strategies with regard to freshwater resources and ecosystems.

FT S272 – Fisheries Management Law and Economics

Upon successful completion of this course, students will be able to:

1. Demonstrate a basic understanding of International, Federal, and State fisheries laws.
2. Describe overarching fisheries management principals including sustainable yield, surplus production, and ecosystem based management.
3. Describe basic fisheries economics principals including supply and demand, Fisheries markets and marketing, economic impacts of various fisheries management techniques.
4. Compare and contrast important pieces of fisheries legislation between state, federal, and international jurisdictions.
5. Analyze and compare key concepts of fisheries management techniques and contrast benefits and deficits of each.
6. Evaluate the economic impacts of various fisheries actions, both regulatory and legal, and be able to compare different actions from an economic standpoint.

FT S273 – Fundamentals of Fisheries Biology

Upon successful completion of this course, students will be able to:

1. Describe how a fish swims. Give emphasis on swimming styles, scales, fin and tail types, and differences in musculature
2. Diagram how the respiratory system of a fish works
3. Describe fish metabolism and growth
4. Differentiate different strategies in fish reproduction
5. Describe how fish interact with the environment. Give emphasis on ion balance, buoyancy, sensory systems, competition and predation and ecology

FT S291 – Fisheries Technology Internship

Upon successful completion of this course, students will be able to:

1. Synergize theoretical information learned in the classroom and apply toward a real-world industry
2. Document real-world experience working in the fisheries industry