

Kelp Forest Ecology  
MSL 456/656

**Course Description:**

This four-week class will emphasize the existing knowledge, hypotheses, and disputes regarding kelp forest ecology. A strong focus will be on the ecological interactions that influence kelp forest structure and dynamics. During the class, students will critically read published literature and will learn local Alaska subtidal flora and fauna. Students will be given an opportunity to work underwater by conducting their own ecological research including: formulating questions, collecting and analyzing ecological data, writing reports based on such data, and giving and receiving critical feedback. This course takes place at the Kasitsna Bay Lab.

**Prerequisites:**

College course in Biology or ecology

Current Open Water Diver

Current American Academy of Underwater Sciences Scientific Diver

**Principle Goals:**

1. To introduce students to the existing knowledge, hypotheses, and disputes regarding the components of kelp forest communities and the ecological interactions that influence their structure and dynamics.
2. To familiarize students with critically reading primary published literature in marine kelp forest ecology.
3. To familiarize students with local Alaska marine subtidal flora and fauna.
4. To give students an opportunity to work underwater.
5. To provide students with experience in doing ecological research of their own including: formulating questions, collecting and analyzing ecological data, writing reports based on such data, and giving and receiving critical feedback.
6. \*Graduate students will also be required to conduct their own research project.

**Grading:**

**Undergraduates**

Paper Discussions:	20
Group Projects	20
Participation in grad projects	20
Organism Exam	20
Final Exam	20

**Graduates**

Paper Discussions:	20
Group Projects	20
Individual Projects	20
Organism Exam	20
Final Exam	20

**Recommended Courses:** Invertebrate Zoology, Fish Biology, Ecology, Statistics

**Recommended General Books:**

1. Coyer, J., D. Steller and J. Witman. 1999. A Guide to Methods in Underwater Research: The Underwater Catalog, Shoals Marine Lab.
2. Heine, J. N. 1999. Scientific Diving Techniques. Best Publishing Company. 225pp.

**Recommended Organism Books:**

1. Abbott, I. A. and G. J. Hollenberg. 1982. Marine Algae of California. Stanford University Press. 827pp.
2. Gotshall, D. W. 1989. Pacific Coast Subtidal Marine Fishes. Sea Challengers Inc. 96pp.
3. Gotshall, D. W. and L. L. Laurent. 1979. Pacific Coast Subtidal Marine Invertebrates. Sea Challengers Inc. 107pp.
4. Kessler, D. W. 1985. Alaska's Saltwater Fishes and Other Sea Life. Alaska Northwest Publishing Co. 358pp.
5. O'Clair, R. M. and S. C. Lindstrom. 2000. North Pacific Seaweeds. Plant Press. Auke Bay, AK.
6. O'Clair, R. M. and C. E. O'Clair. 1998. Southeast Alaska's Rocky Shore Animals. Plant Press, Auke Bay, AK.