



Marine Science Fellowship Program ELO Guidelines

Course Description:

This is a semester-long course designed to give high school sophomores, juniors, or seniors an opportunity to have a hands-on experience learning about the field of marine science. Students will learn first-hand about various topics that encompass marine science. They will be able to discuss career paths that marine science has to offer as well as meet different scientists within the field. They will also have the opportunity to create their own research project during the semester. Students may also have an opportunity for extending their learning opportunity for credit through their school. Students can be involved for one or two semesters. The second semester will allow students to engage in marine science topics in greater depth, continue their research project, and present their research to others.

Course Objectives:

- To give students a greater understanding of the field of Marine Biology through inquiry, investigation, and hands-on experiences at Seacoast Science Center, and by fostering individuals' special interests
- To expose students to a range of careers in marine biology and provide opportunities for them to engage with visiting professionals
- To engage the students in research and presentation skills and techniques they will be able to use later
- To educate students about the impact they have on the ocean, the challenges facing our climate, and how they can contribute to a sustainable and healthy ocean

Time Commitment:

This is a 10-week course with an expected time commitment of 3-4 hours per week, with an option for additional hours. The course schedule includes Saturday mornings from 10am to 1pm, plus additional study, project, and/or volunteer time to be conducted on the student's own time, as arranged with the program leader. If a student is unable to make a Saturday session, they can attend the following Wednesday afternoon, from 3:30-6pm. This program allows for flexible scheduling.

Typical Class:

Classes will cover various topics that coincide with the field of marine science. Some examples of these topics may include: coral reefs, climate change, ocean currents, marine mammals, coastal and ocean geology, marine ecosystems, and many more. As each topic is discussed, students will learn about potential careers that focus on the subject matter. This gives students a chance to explore what careers are available in the field of marine science. One topic will be discussed in detail during each class. Students will have the opportunity to engage in discussions and participate in hands-on activities and experiments that relate to the class. The

students will also have the chance to gain experience in data collection and field research with many of the topics.

Research Project:

Students will be required to complete a research project and will present their research at the end of the semester. During this project, students will have the opportunity to independently explore the course topics in greater depth. Students will design research studies and set up independent experiments. The students will be asked to formulate their own question, hypothesize an outcome and do an in-depth experiment or conduct research of possible solutions to the questions they asked. Students will learn the standard sections of scientific research. Students will present their findings by creating a scientific poster that includes the standard sections of scientific research. This poster will be presented to classmates and others.

Presentation: Students will present their research in the format of a science symposium at the end of the semester. The presentations will take place at the Seacoast Science Center and will be open to the general public as well as families and their fellow students.

Class Log:

During the semester, the student will be learning about different marine science topics. Each topic discussed in class will come with a handout for the students to refer back too. The student will also be asked to keep a log about what they have learned in each class and ask questions about what they would like to continue to discover on that topic. These entries and the handouts will be counted towards participation in the class. At the end of each class students will have a chance to write in their logs. The logs will be checked at the start of each week.

Upon Completion:

Each student who completes the course will receive a certificate of completion. The students will be asked to reflect on their time spent in the course in a constructive way. They will also be asked to complete evaluations of the course. The evaluations will be taken into consideration on how to improve the class for the future.

Questions/Contact:

For more information, please contact Sean McKenna at s.mckenna@sscnh.org or 603-436-8043, ext. 31