

INTERDISCIPLINARY MARINE AND ESTUARINE SCIENCES

College of Science and Engineering

Dean: Dr. Carmen Domingo

Based at the Estuary & Ocean Science Center, Romberg Tiburon Campus

Website: <http://riptides.sfsu.edu/training/coursework> (<http://riptides.sfsu.edu/training/coursework/>)

Graduate Coordinator: Ellen M. Hines (ehines@sfsu.edu)

The Masters of Science (MS) in Interdisciplinary Marine and Estuarine Sciences (IMES) program is an interdisciplinary program offered at San Francisco State University (SF State) by the College of Science and Engineering, based at the Estuary & Ocean Science Center, Romberg Tiburon Campus (EOS Center; <http://eoscenter.sfsu.edu> (<http://eoscenter.sfsu.edu/>)). This program is based on the National Science Foundation Research Traineeship (NRT) "Research Intensive Pedagogical Training of Interdisciplinary Estuarine Scientists (RIPTIDES)" which is the first NRT award made entirely to a stand-alone Masters training program.

Faculty mentors in the program are from a range of Departments including Biology, Chemistry and Biochemistry, Physics, Geography & Environment, Earth & Climate Sciences, Public Administration, and the College of Ethnic Studies.

Program Scope

The MS in IMES program provides the opportunity for students to develop a transdisciplinary knowledge base at the intersection of global change, coastal marine, and estuarine ecosystems, and societal challenges faced in urbanized areas. Students develop an applied knowledge in one or more fields of marine and estuarine sciences through conducting independent research under the guidance of faculty from a broad spectrum of physical, biological and social sciences. That applied knowledge is combined with professional internships and training in professional skills to prepare graduates for a range of careers including scientific research, natural resource management, and science communication. Through the EOS Center, the program provides extensive laboratory resources and access to field sites for advanced study in marine and estuarine sciences.

Master of Science in Interdisciplinary Marine and Estuarine Sciences

Admission to the Program

Prospective students from a variety of undergraduate backgrounds are encouraged to apply. Applications are administered by the EOS Center and must comply with the application procedures and deadlines outlined here: <http://riptides.sfsu.edu/admissions> (<http://riptides.sfsu.edu/admissions/>). Note, the MS in IMES is distinct from the MS in Biology with a Concentration in Marine Biology, though some faculty may participate in both programs.

Interdisciplinary Marine and Estuarine Sciences (M.S.) – minimum 33 units

Requirements

| First Semester | | Units |
|---|---|------------|
| BIOL 708 | Scientific Methods for Professional Aquatic Scientists | 3 |
| MSCI 709 | Foundations in Global Change in Urbanized Coasts and Estuaries | 6 |
| | | Units 9 |
| Second Semester | | |
| BIOL 716 | Skills for Scientific Proposal Writing | 3 |
| Graduate Seminar – Select One: | | 2-4 |
| BIOL 863 | Advances in Marine Biology | |
| GEOG 857 | Issues in Marine and Estuarine Conservation | |
| ERTH 795 | Selected Topics in the Geosciences | |
| or Equivalent | | |
| or an Elective on Advisement ¹ | | |
| Research – Select One: | | 3 |
| BIOL 897 | Research | |
| CHEM 897 | Research | |
| GEOG 896 | Directed Reading in Geography | |
| ERTH 897 | Research Project | |
| or Equivalent | | |
| | | Units 8-10 |
| Third Semester | | |
| BIOL 883 | Seminar: Marine Biology ² | 2 |
| MSCI 717 | Professional Skills Workshop I: Data Analysis and Visualization | 2 |
| MSCI 788 | Professional Internship in Marine and Estuarine Sciences | 3 |
| Graduate Seminar – Select One: | | 2-4 |
| BIOL 863 | Advances in Marine Biology | |
| GEOG 857 | Issues in Marine and Estuarine Conservation | |
| ERTH 795 | Selected Topics in the Geosciences | |
| or Equivalent | | |
| or an Elective on Advisement ¹ | | |

| | | |
|-----------------------------|---|-------|
| Research – Select One: | | 2 |
| BIOL 897 | Research | |
| CHEM 897 | Research | |
| GEOG 896 | Directed Reading in Geography | |
| ERTH 897 | Research Project | |
| or Equivalent | | |
| | Units | 11-13 |
| Fourth Semester | | |
| MSCI 718 | Writing and Professional Skills Workshop II | 2 |
| BIOL 883 | Seminar: Marine Biology | 2 |
| Thesis – Select One: | | 3-4 |
| BIOL 898 | Master's Thesis | |
| GEOG 857 | Issues in Marine and Estuarine Conservation | |
| ERTH 898 | Master's Thesis | |
| or Equivalent on Advisement | | |
| | Units | 7-8 |
| | Total Units | 35-40 |

¹ **Electives**

Include but are not limited to:

- BIOL 863 Advances in Marine Biology (2 units)
- GEOG 857 Issues in Marine and Estuarine Conservation (3 units)
- ERTH 795 Selected Topics in the Geosciences (3 units)
- BIOL 582 Biological Oceanography (4 units)
- CHEM 680 Chemical Oceanography (3 units)
- ERTH 870 Physical Oceanography (4 units)
- ERTH 834 Coastal Processes (3 units)
- BIOL 534 Wetland Ecology (4 units)
- BIOL 585 Marine Ecology (3 units)
- BIOL 702 Biology of the Algae (3 units)
- GEOG 629 Coastal and Marine Applications of GIS (3 units)
- Electives taught at SF State, MLML, or elsewhere (e.g. UC Berkeley) on advisement. e.g., Biometry, Animal Physiology, Conservation Biology, etc

- ² **Seminar: Marine Biology (BIOL 883, 2 units)** MS in IMES students are expected to participate each semester in this research colloquium that is the Wednesday RTC lecture series. Students are expected to enroll in BIOL 883 each semester, though the course can only count twice (4 units total) towards the degree. This course does not fulfill the graduate seminar requirement.

Moss Landing Marine Laboratories Courses

Most courses for the MS in Interdisciplinary Marine and Estuarine Sciences are offered at SF State's Romberg Tiburon Center and on the main campus. Students may also take elective courses at the Moss Landing Marine Laboratories on advisement. Consult the current Moss Landing Marine Laboratories course schedule for more information: <https://gradprog.mlml.calstate.edu/class-schedule> (<https://gradprog.mlml.calstate.edu/class-schedule/>).