**OCEAN SCIENCE OPTION**

This option is offered within the following major(s):

- Earth Sciences - College of Earth, Ocean, and Atmospheric Sciences (http://catalog.oregonstate.edu/college-departments/earth-ocean-atmospheric-sciences/earth-sciences-bs-hbs)

Because of its interdisciplinary scope and quantitative rigor, the Ocean Science option is suitable for students interested in careers in all aspects of marine science, environmental sciences, science education, and in advanced graduate studies in a range of subjects.

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Select one of the following:

- CH 232  GENERAL CHEMISTRY
  & CH 262  and *LABORATORY FOR CHEMISTRY 232
- CH 122  *GENERAL CHEMISTRY

Select one of the following:

- PH 212  *GENERAL PHYSICS WITH CALCULUS
  & PH 222  and RECITATION FOR PHYSICS 212
- PH 202  *GENERAL PHYSICS

Select one of the following to complete a third term of either chemistry or physics:

- CH 233  GENERAL CHEMISTRY
  & CH 263  and *LABORATORY FOR CHEMISTRY 233
  or CH 123  *GENERAL CHEMISTRY
- PH 213  *GENERAL PHYSICS WITH CALCULUS
  & PH 223  and RECITATION FOR PHYSICS 213
  or PH 203  *GENERAL PHYSICS

Select two of the following for two additional courses in biology:

- BI 211  *PRINCIPLES OF BIOLOGY
- BI 212  *PRINCIPLES OF BIOLOGY
- BI 213  *PRINCIPLES OF BIOLOGY
- MTH 252  INTEGRAL CALCULUS
- OC 295  INTRODUCTION TO FIELD OCEANOGRAPHY
- OC 332  COASTAL OCEANOGRAPHY
- OC 333  OCEANS, COASTS, AND PEOPLE
- OC 334  *POLAR OCEANOGRAPHY
- OC 430  PRINCIPLES OF PHYSICAL OCEANOGRAPHY
- OC 440  BIOLOGICAL OCEANOGRAPHY
- OC 450  CHEMICAL OCEANOGRAPHY
- OC 460  GEOLOGICAL OCEANOGRAPHY

**Experiential Learning**

Select 6 credits of the following (combinations of these are allowed):

- OC 401  RESEARCH PROJECTS
- OC 403  THESIS
- OC 410  INTERNSHIP

Select 2 credits of the following for two terms of enrollment in a marine-oriented seminar series:

- OC 407  SEMINAR

**Electives**

Select at least 18 credits of the following:

- Biological
  - BI 211  *PRINCIPLES OF BIOLOGY
  - BI 212  *PRINCIPLES OF BIOLOGY
  - BI 213  *PRINCIPLES OF BIOLOGY
  - BI 351  MARINE BIOMARKERS
  - BI 370  ECOLOGY
  - FW 464  MARINE CONSERVATION BIOLOGY
  - GEO 484  INTRODUCTION TO BIOGEOCHEMISTRY
  - OC 434/FW 434  ESTUARINE OCEANOGRAPHY

- Climate
  - ATS 301  CLIMATE DATA ANALYSIS
  - ATS 310  METEOROLOGY
  - ATS 420  PRINCIPLES OF CLIMATE: PHYSICS OF CLIMATE AND CLIMATE CHANGE
  - ATS 421  CLIMATE MODELING
  - GEO 481  GLACIAL GEOLOGY
  - GEO 486  QUATERNARY PALEOClimatology
  - GEOG 323  *CLIMATOLOGY

- Fluids
  - CE 311  FLUID MECHANICS
  - CE 410  HYDROLOGY
  - OC 443  COASTAL AND ESTUARINE OCEANOGRAPHY

- Geological
  - GEO 370  STRATIGRAPHY AND SEDIMENTOLOGY
  - GEO 433  COASTAL GEOMORPHOLOGY
  - GEO 463  *GEOPHYSICS AND TECTONICS

- Remote Sensing
  - GEOG 370  GEOVISUALIZATION: CARTOGRAPHY
  - GEOG 480  REMOTE SENSING I: PRINCIPLES AND APPLICATIONS

**Total Hours**: 80

1. The program must contain at least 6 credits of experiential learning that may include an internship, research or senior thesis. Combinations of these are allowed (e.g., 3 credits of internship or 3 credits of research). Students are urged to work with advisors and the program head at an early stage of their study to plan their experiential learning.

2. Students could choose to focus on a specific area or sample from a wide range. Additional MTH courses would be appropriate for some students planning on graduate studies in ocean science.

*Baccalaureate Core Course

^ Writing Intensive Course (WIC)

**Option Code**: 659