BIOLOGICAL OCEANOGRAPHY


Doctor of Philosophy in Biological Oceanography

Core Subject
7.470 Biological Oceanography 12

Foundational Statistics 12

Select one of the following:
1.010 Probability and Causal Inference
18.05 Introduction to Probability and Statistics
IDS.013[J] Statistical Thinking and Data Analysis
IDS.014[J] Fundamentals of Statistics

Quantitative Methods of Data Analysis and/or Modeling 12

Select one of the following: 1
7.440 An Introduction to Mathematical Ecology
9.014 Quantitative Methods and Computational Models in Neurosciences
12.586 Modeling Environmental Complexity
12.747 Modeling, Data Analysis, and Numerical Techniques for Geochemistry
12.823 Modeling the Biology and Physics of the Ocean

Graduate-Level Oceanography or Marine Science 2, 3 24
12.702 Elements of Modern Oceanography
12.710 Geological Oceanography
12.739 Marine Microbiology and Biogeochemistry
12.741 Marine Bioinorganic Chemistry
12.742 Marine Chemistry
12.743 Geochemistry of Marine Sediments
12.744 Marine Isotope Chemistry
12.800 Fluid Dynamics of the Atmosphere and Ocean
12.808 Introduction to Observational Physical Oceanography
12.862 Coastal Physical Oceanography
7.430 Topics in Quantitative Marine Science
7.431 Topics in Marine Ecology

7.432 Topics in Marine Physiology and Biochemistry
7.433 Topics in Biological Oceanography
7.434 Topics in Zooplankton Biology
7.435 Topics in Benthic Biology
7.436 Topics in Phytoplankton Biology
7.437 Topics in Molecular Biological Oceanography
7.438 Topics in the Behavior of Marine Animals
7.439 Topics in Marine Microbiology

Specialization 36

Individually designed program leading to a specialized area of study. Options include but is not limited to benthic ecology, microbial ecology and biogeochemistry, biogeography and systematics, environmental toxicology and developmental biology, plankton ecology, marine mammals, and mathematical ecology and conservation

Thesis and Research
Pre-Thesis Research 4 96
Thesis (.THG subject of home department) 4 288-396

Total Units 480–588

1 Harvard courses OEB137 Experimental Design and Statistics for Ecology and MCB 112 Biological Data Analysis may also be used to satisfy this requirement.
2 Other relevant courses can be requested by petition to the Joint Committee on Biological Oceanography.
3 Up to 12 of the 24 units may come from Topics subjects.
4 Biological oceanography students whose home department is Civil and Environmental Engineering register for 1.THG whether they are completing pre-thesis or thesis research, for a total of 384–492 units of 1.THG over the course of the five-year doctoral program