

## Joint Program Course Cadence

Course #	Course Title	Units	Last Taught	Anticipated Offering	Annual (1) Biennial (2)
1.69	Introduction to Coastal Engineering	12	FA 23	FA 25	2
1.76	Aquatic Chemistry	12	FA 24	FA 26	2
2.681	Environmental Ocean Acoustics	12	FA 24	FA 25	
2.682	Acoustical Oceanography	12	SP 12		As needed
2.683	Marine Bioacoustics & Geoacoustics	12	SP 24	SP 26	2
2.684	Wave Scattering by Rough Surfaces & Inhomogeneous Media	12	FA 20	SP 25	
2.686	Sonar, Radar & Seismic Signal Processing	12	FA 08		As needed
2.687	Time Series Analysis & System Identification	12	SU 13		As needed
2.688	Principles of Oceanographic Instrument Systems	12	FA 24	FA 25	1
6.702	Array Processing	12	FA 21	SP26	
7.411-.419	Seminars in Biological Oceanography	Arranged			As needed
7.421	Special Problems in Biological Oceanography	Arranged			As needed
7.430	Topics in Quantitative Marine Science	6	SP 25	FA 25	Varies
7.431	Topics in Marine Ecology	6	FA 24	FA 25	Varies
7.432	Topics in Marine Physiology and Biochemistry	6	SP 20		Varies
7.433	Topics in Biological Oceanography	6	SP 24	SP 25	Varies
7.434	Topics in Zooplankton Biology	6	FA 06		Varies
7.435	Topics in Benthic Biology	6	FA 11		Varies
7.436	Topics in Phytoplankton Biology	6	FA 12		Varies
7.437	Topics in Molecular Biological Oceanography	6	SP 16		Varies
7.438	Topics in the Behavior of Marine Animals	6	SP 21		Varies
7.439	Topics in Marine Microbiology	6	FA 20		Varies
7.440	An Introduction to Mathematical Ecology	12	SP 24	SP 26	2
7.470	Biological Oceanography	12	SP 25	SP 26	1
12.521	Computational Geophysical Modeling	12	SP 16		Varies
12.522	Geological Fluid Mechanics	12	FA 12		Varies
12.525	Mechanisms of Faulting & Earthquakes	12	SP 16		Varies
12.701	Classic Papers in Physical Oceanography	6	SP 25	SP 26	1
12.702	Elements of Modern Oceanography	12	FA 24	FA 26	2
12.703	Presenting Scientific Research	6	SP 25	FA 25	1
12.708	Special Topics in Paleoclimatology	6	FA 24	FA 25	1
12.710	Geological Oceanography	12	FA 24	FA 25	1
12.712	Advanced Marine Seismology	9	FA 15		Varies
12.714	Computational Data Analysis	12	SP 16		Varies
12.715	Environmental Bioinformatics (formerly 12.756)	12	FA 23	FA 25	2
12.716	Essentials of Oceanic Petrology	9	FA 18		Varies
12.717	Coastal Geomorphology	12	SP 24		Varies
12.718	Kinetics and Mass Transport	9	SP 06		Varies
12.739	Marine Microbiology & Biogeochemistry	12	SP 22	FA 25	
12.741	Marine Bioinorganic Chemistry	9	FA 22	SP 26	
12.742	Marine Chemistry	12	FA 24	FA 25	1
12.743	Geochemistry of Marine Sediments	12	SP 21	SP 25	
12.744	Marine Isotope Chemistry	12	SP 21	SP 25	
12.746	Marine Organic Geochemistry	9	SP 24	SP 26	2
12.747	Modeling, Data Analysis & Numerical Techniques for Geochemistry	12	FA 22	SP 25	
12.749	Solid Earth Geochemistry	12	SP 16		Varies

## Joint Program Course Cadence

Course #	Course Title	Units	Last Taught	Anticipated Offering	Annual (1) Biennial (2)
12.752*	Oceanic Faulting & Earthquakes	6	FA 11		As needed
12.752*	Marine Geodynamics Seminar (P/D/F)	6	SP 25	SP 26	1
12.753*	Marine Geodynamics Seminar (letter-graded)	6	SP 25	SP 26	1
12.754*	Active Source Marine Seismology	12	FA 06		As needed
12.754*	Collecting Marine Geophysical Data	6	FA 17		--
12.757*	The Arctic System: An Interdisciplinary Approach	6	FA 18		As needed
12.757*	Climate Change Science	6	FA 24	FA 25	1
12.757*	Science & Society	6	FA 08		As needed
12.759*	Marine Chemistry Seminar	6	SP 24	SP 25	1
12.800	Fluid Dynamics of the Atmosphere & Ocean	12	FA 24	FA 25	1
12.801	Large-Scale Ocean Dynamics	12	SP 25	SP 26	1
12.802	Waves, Instability & Turbulence at Small Scales	12	SP 25	SP 26	1
12.805	Data Analysis in Physical Oceanography	12	FA 23	FA 25	2
12.808	Introduction to Observational Physical Oceanography	12	FA 24	FA 25	1
12.809	Hydraulic Phenomena in Geophysical Flows	12	FA 17		As needed
12.820	Turbulence in Ocean & Atmosphere	12	SP 24		Varies
12.823	Modeling the Biology & Physics of the Ocean	9	SP 21	SP 25	
12.843	Large-Scale Atmosphere & Ocean Dynamics	15	FA 24	FA 25	1
12.850	Computational Ocean Modeling	12	SP 24	SP 26	2
12.860	Climate Variability & Diagnostics	12	FA 24	SP 26	2
12.862	Coastal Physical Oceanography	12	FA 24	FA 26	2
12.870	Air-Sea Interaction: Boundary Layers	12	SP 21	SP 25	
12.910	Communicating Ocean Science	9	SP 24	SP 26	2
12.951	Seminar in Physical Oceanography	6	FA 24	FA 26	Varies

\* 12.751-12.759: Various Seminars in Oceanography at Woods Hole for CO, MGG, and PO.

12.753, 12.754, 12.755 and 12.756 are letter-graded; all others are Pass/D/Fail. Topics may vary from term to term.