The course work requirements for Marine Geology & Geophysics (MG&G) graduate students are outlined below. As an individual student's program must reflect their background and areas of interest, waivers for School requirements should be referred to the Graduate Program Coordinator; waivers to MG&G requirements may be granted by the option. All waivers must be kept in the student's file.

**OCEAN 540 MARINE GEOLOGY AND GEOPHYSICS PROCESSES (3)** Synthesis of processes that form ocean basins and fill them with sediment, including: plate tectonics and the creation, evolution, and subduction of ocean crust; accumulation of terrestrial, biogenic, and authigenic sediments; and the history of paleoceanographic events recorded in the seafloor. (Nittrouer, Solomon)

**OCEAN 541 MARINE SEDIMENTARY PROCESSES (3)** Investigates fundamental process of marine sedimentation, including equations characterizing boundary-shear flows, initiation of grain motion, bedload and suspended-load transport, and sediment accumulation. Applies concepts to sediment dispersal in rivers, deltas, estuaries, beaches, continental shelves, slopes, and rises, with emphasis on the relationships between active processes and resulting deposits. (Ogston)

**OCEAN 544 SUBSEAFLOOR HYDROGEOLOGY AND GEOCHEMISTRY (3)** Introduces the occurrence, composition, and movement of groundwater in the ocean crust and its role in a wide range of geologic and biogeochemical processes. Includes basic theories of groundwater motion, heat transport, solute transport, and hydromechanics with applications to diverse subseafloor environments ranging from mid-ocean ridges to subduction zones. (Solomon)

**OCEAN 545 OCEANIC LITHOSPHERE (3)** Basic principles of elasticity, fluid flow, and heat transport with specific applications to the formation and evolution of the oceanic lithosphere. Includes deformation of the earth, flow in porous media, heat transport, and marine seismological and potential field techniques. Offered: jointly with ESS 568. (Wilcock)
SEMINARS

OCEAN 549A, the weekly seminar in Marine Geology & Geophysics is required and, after their first year, students are encouraged to present the results of their research. In addition, seminars on specialized facets of the field are offered to give students a wide perspective.

APPLIED MATHEMATICS COURSES

Students are required to complete an Applied Mathematics sequence, such as AMATH 401, 402, and 403.

ADVANCED COURSES

In consultation with their advisor and committee, each graduate student will develop a plan for the additional advanced coursework necessary to meet their specific educational and research objectives.

THE SCHOOL OUT-OF-OPTION REQUIREMENTS

Every graduate student is required to take a minimum of one 3-credit, numerically-graded, 500-level course from each option outside their own for a total of three courses and 9 credits. Each option will provide a list of courses that can be taken to fulfill this requirement. The student is expected to complete this breadth requirement prior to receiving an MS degree. A Graduate Student Affairs committee, chaired by the Graduate Program Coordinator, will address any requests for waivers.