**MNS 353, Topics in Marine Science.**

Two lecture hours and one laboratory hour a week for one semester. May be repeated for credit when the topics vary. Prerequisite: Upper-division standing and consent of instructor.

**Topic 2: Fish Adaptations to Coastal Ecosystems.** Quantitative ecological comparisons of zoogeographical abundance and distribution with population, metabolic, and growth parameters. Additional prerequisite: Fifteen semester hours of coursework in biology and/or zoology.

**Topic 4: Current Research.** Research instruction/participation in marine science. Laboratory and field activity with emphasis on faculty contact.

**Topic 5: Seafloor Mining.** Study of seafloor mineral resources, including problems and policies related to exploration, mining, environmental concerns, assessment, and industrial development.


**Topic 7: Marine Sedimentology.** Selected topics and problems concerning the depositional processes, controls, and distribution of marine sediments.

**Topic 8: Marine Chemistry.** Study of the processes controlling the chemistry of natural waters, the oceans as a chemical system, and the impact of human activities on these systems.

**Topic 14: Marine Isotope Geochemistry.** The use of isotopes (stable, radiogenic, uranium series, and anthropogenic) in the study of marine science.

**Topic 15: Interdisciplinary Classroom Field Methods.** Uses the interdisciplinary nature of marine science to focus on inquiry-based instruction, constructivist-oriented teaching strategies, and field explorations.

**Topic 17: Marine Fish Physiology.** Physiology of major organ systems of marine fishes, with emphasis on adaptations to marine environments. Includes osmoregulation, nutrition, circulation, excretion, reproduction, sensory physiology, and endocrine control. Additional prerequisite: Biology 311D, and Chemistry 302 or 302H.