

GENETICS OF MARINE DIVERSITY

JULY 20 – AUGUST 3, 2009

BIOSM 4720: 4 Semester credits

PREREQUISITES: One full year of college level biology or permission of the instructor.

Students who should take this course: students who want a basic course in molecular genetic techniques, students who are familiar with the techniques but want a course in field application, any student with an interest in evolutionary genetics.

FACULTY: Dr. Andrew Shedlock, Museum of Comparative Zoology, Harvard University



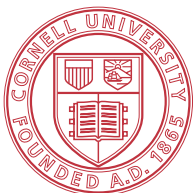
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COURSE DESCRIPTION: (also see: http://www.sml.cornell.edu/sml_cc_molec.html)

Why are species so similar or so different? Biological diversity reflects a complex interplay between DNA, organisms and their environment and inheritance of molecular information across generations through time and space. BIOSM 4720 provides an introduction to basic concepts in evolutionary genetics that underlie patterns of biological diversity we see in nature, emphasizing molecular ecology, systematics, conservation, and genomics of marine organisms. Students integrate field sampling techniques and curation of specimens from Appledore Island and surrounding waters with molecular diagnostics and bioinformatics completed in the laboratory. Standard methods for DNA purification, amplification, sequencing and genotyping are used to address questions about species phylogeny, population structure, kinship, and behavior.

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