

BIOL S-110. Principles and Techniques of Molecular Biology (CRN: 31200)

Alain Viel PhD, Instructor in Dermatology, Harvard Medical School

Robert Lue PhD, Senior Lecturer on Molecular and Cellular Biology, Harvard University

The course will address both the fundamental principles and techniques of molecular biology. Students will gain an in-depth knowledge of nucleic acid structure, molecular genetics, and the biochemistry of transcription and protein synthesis. Other topics will include how mechanisms of gene regulation play a role in retroviral pathogenesis, embryonic development, and the generation of immune diversity. Each lecture will directly relate molecular biology to current laboratory techniques. The laboratory portion of the course will represent a complete experimental project. A combination of experiments will give students a broad exposure to several important techniques in molecular biology, together with the direct experience of an intensive research project. Experiments will include current approaches to mutation analysis, protein interaction assays, and recombinant cDNA cloning by PCR.