ME.260 (MOLECULAR BIOLOGY AND GENETICS)

ME.260.300. Research Practicum. 0 Credits.
N/A

ME.260.699. Molecular Biology and Genetics Elective. 0 Credits.
For Medical Students only. Specialized Topics in Molecular Biology and Genetics. Refer to Medical Student Electives Book located at https://www.hopkinsmedicine.org/som/students/academics/electives.html.

ME.260.708. Fundamentals of Genetics. 2 Credits.
This module covers fundamental principles of genetics, focusing on eukaryotic model systems. Problem sets are an integral learning tool in this course. The course is taught by faculty from the Departments of Molecular Biology and Genetics, Biological Chemistry, Cell Biology, and Physiology.

ME.260.709. Molecular Biology and Genomics. 1.5 Credits.
This course covers the molecular biology and genomics of both prokaryotes (using E. coli as the model organism) and eukaryotes, with a focus on "model organisms" including yeast, flies, worms, mice as well as humans. Both the molecular biology (reductionist) perspective and the genomics (systems biology) perspective will be provided on each topic, and there will be heavy emphasis on mechanism and regulation of fundamental processes in biological information transfer DNA->RNA->protein. This lecture module will cover genes and genomes, transcription and RNA world, replication, chromosome structure and function and genome instability.

ME.260.710. Epigenetics. 1 Credit.
While the human genome sequence has been available for over a decade, it has become increasingly clear that epigenetic mechanisms are key to understanding gene regulation, cell differentiation, and disease states. Genome function appears to be governed by its architecture, including chromatin compaction, looping, long- and short-range chromosomal interactions, as well as interactions with sub-compartments such as the nuclear periphery. This course will present recent advances in epigenetics, including Chromatin Biochemistry, Cancer Epigenetics, Epigenetic Epidemiology and Epigenetic Pharmacology.

ME.260.711. Transcription Mechanisms. 1 Credit.
Discussion of current topics in transcription regulation.

ME.260.712. Introductory Molecular Immunology. 0 Credits.
This is an overview course focusing on the fundamental processes involved in the development, activation and regulation of an immune response. The course will draw upon biochemical, genetic, molecular and cellular biological principles.

ME.260.714. Genome Rearrangements. 0 Credits.

ME.260.802. Special Studies and Research. 0 Credits.
Opportunities to carry out special studies and research in various branches of immunology will be made available not only to candidates for advanced degrees but also to other qualified students. Arrangements for such work must be made with individual members of the faculty.

ME.260.811. Special Studies and Research. 0 Credits.
Thesis Research