

# MOLECULAR BIOLOGY AND GENETICS

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Courses taught by the Department of Molecular Biology and Genetics faculty are offered through School of Medicine Core Courses and through the Biochemistry, Molecular, and Cellular Biology (BCMB) graduate program (<https://e-catalogue.jhu.edu/medicine/graduate-programs/biochemistry-cellular-molecular-biology-phd/#text>).

## Graduate Program

Students are accepted for graduate work leading to the degree of Doctor of Philosophy (see Graduate Programs (<https://e-catalogue.jhu.edu/medicine/graduate-programs/>)).

### ME.260.709 Molecular Biology and Genomics

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 model will cover genes and genomes, transcription and the RNA world, replication, chromosome structure and function and genome instability.

Target Audience: First year graduate students. Post graduates with approval of course director.

Prerequisites: None