

BIOCHEMISTRY & MOLECULAR BIOLOGY (BMB)

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BMB 400 Special Topics: Molecular Biology (1-3 Credit Hours)

Courses of half a semester to a semester on different topics of molecular biology, treated in depth with readings of the current literature.

Outcomes:

To learn about diverse areas of Molecular Biology which are not treated in regular courses

BMB 417 Molecular Biology (3 Credit Hours)

The Biochemistry and Molecular Biology course will cover diverse subjects of importance to modern cell and organismal biology from a molecular biology perspective.

BMB 471 Comp Molecular Genetics (3 Credit Hours)

This course introduces advanced students to the importance of genetics to a wide range of biological problems.

Outcomes:

Students will demonstrate an ability to read, think, write, and speak critically about various genetic approaches used to identify essential genes, mutagenesis and recombination, transcription, development, symbiosis, and pathogenesis

BMB 490 Special Topics in Molecular Biology (1-3 Credit Hours)

This course covers a specific topic in molecular biology. The topics can vary among different special topics courses.

BMB 499 Research in Molecular Biology (1-9 Credit Hours)

The students do mentored work in a laboratory on a research project. Their performance is evaluated by their mentor at the end of the year, and is given a pass/not pass grade.

Outcomes:

To develop the ability to organize a research project proposing hypotheses and testing them in the laboratory and against the current literature

BMB 501 Molecular Biology Journal Club (0-1 Credit Hours)

This is a weekly course where students take turns to present a scientific paper. Following the presentation there is a discussion by students and faculty. Students prepare the presentation under the supervision of a faculty mentor.

Outcomes:

To develop the ability to read and analyze a scientific paper and to develop oral presentation skills and appropriate visual aids

BMB 502 Seminar in Molecular Biology (0 Credit Hours)

Biweekly seminars where invited speakers from outside the institution present their work. The presentation is followed by a discussion by students and faculty.

Outcomes:

To become familiar with current research in different molecular biology areas by listening to the actual scientist developing the work

BMB 524 Molecular Biology & Genetics of Development (2 Credit Hours)

This is a weekly course on Molecular aspects of Developmental Biology, with a mixture of lectures, discussions of original papers and presentations by external speakers.

Course equivalencies: X-BICH524/MBIO524

Outcomes:

An understanding of the principles of developmental biology with emphasis in the molecular genetics of development

BMB 526 DNA Repair & Recombination (2 Credit Hours)

This is a weekly course on mechanisms of mutagenesis, genetic repair and recombination. The course uses a mixture of lectures and discussions of original scientific papers.

Course equivalencies: X-MBIO526/BICH526

Outcomes:

An understanding of the basic mechanisms of mutagenesis, genetic repair, homologous recombination, and non-homologous end joining

BMB 590 Molecular Biology of Oncogenesis (3 Credit Hours)

The course will cover different subjects in cancer molecular biology with a combination of lectures and discussions of original scientific papers.

Outcomes:

A basic knowledge about mechanisms of oncogenesis and the biology of cancer, and an ability to search and understand the classic as well as modern literature on the subject

BMB 595 Thesis Supervision (0 Credit Hours)

Supervised research and writing leading to the completion of the masters of science thesis and degree.

BMB 600 Dissertation Supervision (0 Credit Hours)

The students work on their dissertation under the supervision of their mentor and of their dissertation committee. Their progress is evaluated by their mentor and is given a letter grade.

Outcomes:

Development of the dissertation project, writing and defense of the dissertation