Biotechnology Science & Engineering (BSE)

BSE 601 - CURRENT TOPICS IN BIOTECHNOLOG
Semester Hours: 3

Survey of current Biotechnology literature. Students will be required to critically evaluate the assigned literature, develop detailed written summaries and present their critical evaluations to the class and the instructor.

BSE 620 - INT BIOINFORMATICS: FUND/ METHOD
Semester Hours: 3

Students will learn how computational and mathematical techniques are being used to understand DNA and protein sequences, how the information from the genome is being used to understand phenomena at a macro-level. Pre/Corequisites: Graduate student admitted to the Ph.D. program in Biotechnology Science and Engineering. Graduate students in other programs may seek permission from the Director of the Biotechnology Science and Engineering Program to take this class.

BSE 621 - INT BIOINFORMATICS: COMP LAB AP
Semester Hour: 1

Students will use a variety of computational tools and software for data mining, sequence alignment, phylogenetic analysis, clustering, quantitative metabolic pathways analysis and other topics covered in BSE 620. Pre/Corequisites: Graduate student admitted to the Ph.D. program in Biotechnology Science and Engineering. Graduate students in other programs may seek permission from the Director of the Biotechnology Science and Engineering Program to take this class.

BSE 702 - LAB ROTATIONS IN BIOTECHNOLOGY
Semester Hours: 3

Acquire a broad background in biotechnology science and engineering through two 6-week rotations in an active research program under the director of faculty mentors. Students will pursue an independent research project and a detailed written report will be required at the end of each of the two 6-week rotations. Prerequisite: BSE 601.

BSE 703 - BIOTECHNOLOGY RESEARCH
Semester Hours: 6

Advanced research in a specific targeted topic under the direct supervision of a faculty member in collaboration with scientists and researchers at a biotechnology company or business or a research laboratory that has specific relevance to the biotechnology science and engineering program. Completion of this course will require a written report and an oral presentation to the faculty and students in the biotechnology program.

BSE 780 - BIOTECHNOLOGY SCI/ENG SEMINAR
Semester Hour: 1

Seminar for Biotechnology Science and Engineering. Current topics in Biotechnology and Bioengineering are discussed by visiting speakers from academic industries and industry.

BSE 799 - DOCTORAL DISSERTATION
Semester Hours: 3-9

Required each semester student is enrolled and receiving direction on a doctoral dissertation.