

BISI Course Electives

MOCB Electives:

Current elective offerings include:

- Virology
- Microbial Pathogenesis
- Microbial Genetics
- Immunology and Host Defense
- Bioinformatics
- Cell biology II (Signal Transduction)
- Plant Biology: Plant Development and Physiology

PSYS Electives

Additional courses may be added with the permission of the Concentration Area Director and the first year committee:

- BIOE603: Electrophysiology of the Cell (3 credits)
- BIOE602: Cellular and Tissue Biomechanics (3 credits)
- BIOL622: Membrane Transport Phenomena (3 credits)
- BIOL651: Physical Chemistry for Biologists (3 credits)
- BIOL708L: Quantitative Analysis of Biological Data (4 credits)
- BIOL708o: Cell Biology from a Biophysical Perspective (3 credits)
- CBMG688W: principles of Microscopy (2 credits)
- NACS643: Computational Neuroscience (4 credits)
- NACS644: Cellular and Molecular Neuroscience (4 credits)
- Developmental Biology
- Microscopy

CBBG Electives

Current elective offerings suggested for CBBG elective credit include (but are not limited to):

- CMSC423 - Bioinformatic Algorithms, Databases, and Tools (Dr. Kingsford)
- MOCB640 - Protein Structure and Function
- BIOL671-[Molecular Evolution \(Dr. Cummings\)](#)
- CBMG688n- Bioinformatics - Comparative Methods (Dr. Delwiche)
- CBMG688o- Molecular Systematics (Dr. Delwiche)
- NACS643 - Computational Neuroscience (Dr. Butts)
- CMSC858L - Network Algorithms for Biology (Dr. Kingsford)
- CMSC858w - Algorithms for Biosequence Analysis (Dr. Pop)
- CMSC858e - Advanced Topics in Theory of Computing-Bioinformatics for Metagenomics (Dr. Pop)
- CMSC828h- Advanced Topics in Information Processing - Computational Gene Finding and Genome Assembly (Dr. Salzberg)
- Introduction to R for Computation and Anaysis in Ecology and Evolutionary Biology (Dr. Gruner)
- BIOM601/602/603 - Biostatistics I, II, III
- BIOM688E - Computational and Statistical Genomics (Dr. Song)
- CBMG688f - Genetics I (Gene expression) (Dr. Dinman)
- CBMG688i- Genetics II (Genomics/Genetics),
- Genetics of Eukaryotic Model Systems (Dr. Mount)

BEES Electives

ANSC 446 Physiology of Mammalian Reproduction
 ANSC 447 Physiology of Mammalian Reproduction Lab
 ANSC 455 Applied Animal Behavior
 ANSC 608 Seminar in Animal Sciences
 ANSC 661 Physiology of Reproduction
 ANTH 420 Origins of Human Evolution
 ANTH 428 Special Topics in Bioanthropology
 ANTH 428 Fieldwork in Bioanthropology
 BIOL 625 Mathematical Biology
 BIOL 627 Behavioral Endocrinology
 BIOL 677 Ecology of Marine Communities
 BIOL 708 Advanced Topics in BEES
 BSCI 410 Molecular Genetics
 BSCI 460 Plant Ecology
 BSCI 461 Plant Ecology Lab
 BSCI 462 Advanced Population Ecology
 BSCI 463 Laboratory and Field Ecology
 BSCI 464 Microbial Ecology
 BSCI 466 Experimental Aquatic Ecology
 BSCI 467 Freshwater Biology

BSCI 495 Animal-Plant Interactions Lab
 BSCI 4XX Bioinformatics and Genomics in Evolution
 BSCI 4XX Photosynthetic Life
 BIOM 603 Biostatistics III: Linear Models/Regression
 BIOM 688B Multivariate Statistics
 CMSC 421 Introduction to Artificial Intelligence
 CMSC 723 Natural Language Processing
 CMSC 726 Machine Learning
 CMSC 727 Neural Modeling
 CMSC 762 Numerical Solution of Nonlinear Equations
 ENTM 798 Seminar in Entomology
 GEOL 432 Biostratigraphy
 GEOL 434 Micropaleontology
 GEOL 472 Tectonics
 GEOL 632 Biostratigraphy and Paleocology
 GEOL 634 Micropaleontology
 MEES 611 Systems Ecology of Estauries
 MEES 621 Ecology of Estaurine and Marine Environments
 MEES 650 Wetland Ecology
 MEES 721 Plankton Dynamics
 MEES 698R Community and Ecosystem Ecology
 MOCB 630 Advanced Eukaryotic Genetics
 MOCB 639 Advanced Cell Biology

BSCI 471 Molecular Evolution
BSCI 472 Evolutionary Biology of Plants
BSCI 473 Marine Ecology
BSCI 480 Insect Form and Function
BSCI 481 Insect Diversity and Classification
BSCI 484 Biology of Marine and Estuarine Invertebrates
BSCI 485 Protozoology
BSCI 486 Systematic Microbiology
BSCI 487 Managing Pests without Pesticides
BSCI 491 Advanced Plant Taxonomy
BSCI 494 Animal-Plant Interactions

MOCB 640 Protein Structure and Function
PHIL 456 Philosophy of Biology
PHIL 458 Topics in Philosophy of Science
PSYC 401 Biological Basis of Behavior Lab
PSYC 403 Animal Behavior
PSYC 759 Seminar in Auditory Mechanisms
PSYC 764 Comparative Neuroanatomy
PSYC 888 Research Methods in Psychology