

Approved List of Advanced Technical Elective Courses for BIOC Undergrads

– updated January 2023

APPROVED MCB/BIOC Courses

- MCB 300 Microbiology
- MCB 301 Experimental Microbiology
- MCB 314 Introduction to Neurobiology (NEUR 314)
- MCB 316 Genetics and Disease (cannot receive credit for both MCB 316 and MCB 317)
- MCB 317 Genetics and Genomics (4 hrs) – (cannot receive credit for both MCB 316 and MCB 317)
- MCB 320 Mechanisms of Human Disease
- MCB 400 Cancer Cell Biology
- MCB 401 Cell and Membrane Physiology
- MCB 402 Systems and Integrative Physiology
- MCB 403 Cell and Membrane Physiology Laboratory
- MCB 404 Systems and Integrative Physiology Laboratory
- MCB 408 Immunology
- MCB 410 Developmental Biology
- MCB 413 Endocrinology
- MCB 419 Brain, Behavior & Info Process (BIOP 419, NEUR 419)
- MCB 421 Microbial Genetics
- MCB 424 Microbial Biochemistry
- MCB 426 Bacterial Pathogenesis
- MCB 428 Bacterial Pathogens Laboratory
- MCB 430
- MCB 431 Microbial Physiology
- MCB 432 Computing in Molecular Biology
- MCB 433 Virology & Viral Pathogenesis (PATH 433)
- MCB 434 Food & Industrial Microbiology
- MCB 435 Microbial Ecology and Evolution
- MCB 436 – 1 credit hr. – Global Biosecurity
- MCB 442 Comparative Immunobiology (ANSC 450, PATH 410)
- MCB 458 Basic Human Pathology
- MCB 461 Cellular & Molecular Neuroscience (NEUR 461)
- MCB 462 Integrative Neuroscience (NEUR 462)
- MCB 471 Advanced Cell biology
- MCB 480 (Eukaryotic Cell Signaling)
- MCB 481 Developmental Neurobiology (NEUR 481)
- MCB 508 Intro to systems Neuroscience (PSYC 508)
- BIOC 492 Senior Thesis (no more than 7 hours applied to tech elects)**

Non-MCB Courses – Approved Advanced Technical Elective Courses

ABE 446 Biological Nanoengineering
BIOE 461 Cellular Biomechanics (TAM 461)
BIOP 432 Photosynthesis (IB 421, CPSC 489)
BIOP 498 EBP – Experimental Biophysics laboratory.
CB 467 Fundamental Pharm Disc & Devel
CHBE 471 Biochemical Engineering
CHBE 472 Techniques in Biomolecular Engr.
CHBE 473 Biomolecular Engineering
CHBE 475 Tissue engineering
CHEM 312 Inorganic Chemistry
CHEM 437 Organic Chem II Lab
CHEM 438 Advanced Organic Chemistry
CHEM 474 Drug Discovery and Development
CHEM 480 Polymer Chemistry (MSE 457)
CHEM 482 Polymer Physical Chemistry (MSE 458)
CHEM 492 - topics
CHEM 534 Advanced Organic Synthesis
CS 466 Introduction to Bioinformatics
FSHN 3**, 4**
IB 302 Evolution
IB 360 Evolution and Human Health (ANTH 360)
IB 361 Ecology and Human Health (ANTH 361)
IB 364 Bioinformatics and the Human Genome
IB 402 Molecular Evolution
IB 420 Plant Physiology (CPSC 484)
IB 424 Plant Development
IB 426 Env. and Evol. Physl. of Animals
IB 432 Genes and Behavior
IB 445 Chemical Ecology
IB 485 Environmental Toxicology & Health (CHLH 461, ENVS 431)
IB 487 Math Modeling in Life Sciences (ANSC 448, STAT 458)
MATH 4** - any 400 level math course
MATH 415 Applied Linear Algebra
MATH 453 Elementary Theory of Numbers
PHYS 404 Electronic Circuits
PHYS 420 Space Time & Matter (PHIL 420)
PHYS 475 Introduction to Biophysics
PSYC 403 Memory and Amnesia (NEUR 403)
PSYC 413 Psychopharmacology (NEUR 413)
PSYC 417 Neuroscience of Eating and Drinking
STAT 400 Statistics & Probability I (MATH 463)
STAT 420 – Method of Applied Statistics
STAT 430 – Topics of Applied Statistic (check sections)
STAT 551 Theory of Probability I (MATH 561)
TSM 435 Elec Computer CTRL Sys