

Advanced Elective Courses for Biochemistry Graduate Students (rev. 2/9/2024)*

RUBRIC	Title	Hrs
ACES 509 -	Advanced Bioenergy Systems	3
ANSC 445	Statistical methods	4
ANSC 446	Population Genetics	3-4
BIOE 461/TAM 461	Cellular Biomechanics	4
BIOE 498 BNM	Applications in Cancer & Mechanobiology	3
BIOE 502	Bioengineering Professionalism	1
BIOP 401	Introduction to Biophysics	3
BIOP 432	Photosynthesis	3
BIOP 590C SP10	Comput'l Struct'l Biol	2
CB 467	Fund'l Pharm Disc & Devel	2
CB 550	Detect/Analyze Gene Transcripts	4
CB 554	Systems Toxicology	3
CDB 529	Scientific Writing	1-2
CS 411	Database Systems	3-4
CHBE 473	Biomolecular Engineering	4
CHBE 474	Metabolic Biology	3/4
CHBE/MCB 571	Bioinformatics	4
CHEM/BIOP 470	Computational Chemical Biology	4
CHEM 474	Drug Discovery & Development	3
CHEM 494	Lab Safety Fundamentals	1
CHEM 512	Advanced Inorganic Chemistry	4
CHEM 516	Physical Inorganic Chemistry	4
CHEM 518A/B	Bio Inorganic Chemistry	2-3
CHEM 522	Experimental Spectroscopy	4
CHEM 530	Structure & Spectroscopy	4
CHEM 532	Physical Organic Chemistry	4
CHEM 536	Organic Chemistry Research	1
CHEM 540	Quantum Mechanics	4
CHEM 542	Quantum Mechanics & Spectroscopy	4
CHEM 544	Statistical Thermodynamics	4
CHEM 570	Concepts in Chemical Biology	4
CHEM 571	Chemical Biology Laboratory	4
CHEM 572/MCB 553	Enzyme Reaction Mechanisms	4
CHEM 573	Isotopically Labeled Compounds	2-4
CHEM 574/MCB 554	Genomics, Proteomics, Bioinfo	4
CHEM 578	Combinatorial Chemistry	4
CPSC/ANSC 440	Applied Statistical Methods I	4
CPSC 565	Perl & UNIX for Bioinformatics	2
CPSC 567	Bioinformatics and Systems Biology	4
FSHN 420	Nutritional Aspects of Disease	3
FSHN/NUTR 426	Biochemical Nutrition I	3
FSHN/NUTR 427	Biochemical Nutrition II	3
FSHN 480	Basic Toxicology	3
IB 405	Ecological Genetics	3
IB 420/CPSC 484	Plant Physiology	3
IB 432	Genes and Behavior	3
MCB 400	Cancer Cell Biology	4
MCB 401	Cell and Membrane Physiology	3
MCB 402	Sys & Integr Physio	3
MCB/BIOC 406	Gene Expression	3
MCB 408	Immunology	3
MCB 410	Dev Biology	4
MCB 412	Cell Molec Neurobiology	3
MCB 413	Endocrinology	3
MCB 419	Brain, Behavior & Info Process	3
MCB 421	Microbial Genetics	3

MCB 424	Microbial Biochemistry	3
MCB 426	Bacterial Pathogenesis	3
MCB 427	Infection & Immunity	3
MCB 429	Cellular Microbiology & Disease	3
MCB 431	Microbial Physiology	3
MCB 432	Computing in Molecular Biology	3
MCB 433	Virology & Viral Pathogenesis	3
MCB 434	Food & Industrial Microbiology	3
MCB 435	Evolution of Infectious Disease	3
MCB 442	Comparative Immunology	3
MCB 461	Cell &Molecular Neuroscience	3
MCB 465	Human Metabolic Disease	3
MCB 480	Eukaryotic Cell Signaling	3
MCB 484	Model Organisms & Epigenetics	3
MCB 481	Developmental Neurobiology	3
MCB 492	Advanced Cell Biology	3
MCB 493	Various Topics	
MCB 512	Advanced Endocrinology	2
MCB 528	Evolution in a Microbial World	3
MCB 529	Graduate Skill Development	1
MCB 529	Current Topics: Metabolic Disease & Aging	2
MCB 540	Scientific Writing	2
MCB 551	Adv Top Biochemistry	1-4
MCB 532	Advanced Microbial Physiology	1
MCB 571	Bioinformatics	3
MSE 403	Synthesis of Materials	3
MSE 470	Design and Use of Biomaterials	3
MSE 474	Biomaterials and Nanomedicine	3
NEUR 433	Evolutionary Neuroscience	4
PATH 519/MCB 561	Mechanisms Viral Pathogenesis	3
PATH 544	Immunobiological Methods	3
PHYS 404/CHEM 423	Electronic Circuits I	4
PHYS 475	Biological Physics	3-4
PHYS/BIOP 550	Biomolecular Physics	4
PHYS 598	special topics	4
PHYS 598 BP	Modern Methods of Biophysics	4
PSYC/NEUR 444	Hormones and Behavior	4
STAT 400	Statistics & Probability I	4
STAT425	Applied Regression and Design	4
VB 550	Det. & Analysis Gene	4
VB 594	Veterinary Biosciences (Lab)	1-4

* - Other courses may be available. See Biochemistry Student Academic Affairs Office for updated list or approval.