

**List of Approved Courses for MS in MCB Program**  
**Effective for Fall 2020 and Spring 2021**

The MS in MCB degree program requires a minimum of 12 credit hours at the 400- or 500-level from this approved list. One 3- or 4-credit hour course from each of the 4 disciplinary areas is required. Remaining elective hours (6-8 cr. hrs.) may also be filled from this list.

*This document was last updated on 17 November 2020*  
*Course offerings are subject to change*

Term(s) Offered	Course Rubric	Course Title	Credit Hours	Disciplinary Area or level
SP	MCB 406	Gene Expression & Regulation	3	BIOC
SP	MCB 446	Physical Biochemistry	3	BIOC
FA, SP	MCB 450	Introductory Biochemistry	3	BIOC
FA	BIOC 440 <sup>+</sup>	Physical Chemistry Principles (sxn B only)	4	BIOC
SP	BIOC 455	Technqs Biochem & Biotech	4	BIOC
FA	MCB 493	Special Topics in Mol Cell Biol (Topics Change Regularly)		BIOC
FA	MCB 400	Cancer Cell Biology	3	CDB
SP	MCB 410	Developmental Biology, Stem Cells and Regenerative Medicine	3	CDB
NCBO	MCB 458	Basic Human Pathology	3	CDB
FA	MCB 471	Cell Structure and Dynamics	3	CDB
FA	MCB 493	Special Topics in Mol Cell Biol (Topics Change Regularly)		CDB
NCBO	MCB 421	Microbial Genetics	3	MICR
SP	MCB 424	Microbial Biochemistry	3	MICR
SP	MCB 426	Bacterial Pathogenesis	3	MICR
FA	MCB 428	Microbial Pathogens Laboratory	2	MICR
FA	MCB 431	Microbial Physiology	3	MICR
FA	MCB 432	Computing in Molecular Biology	3	MICR
SP	MCB 435	Evolution of Infection Disease	3	MICR
FA	MCB 436	Global Biosecurity	1	MICR
FA	MCB 493	Special Topics in Mol Cell Biol (Topics Change Regularly)		MICR
FA	MCB 401	Cell & Membrane Physiology	3	MIP
SP	MCB 402	Sys & Integrative Physiology	3	MIP
FA	MCB 413	Endocrinology	3	MIP
FA	MCB 461	Cell & Molecular Neuroscience	3	MIP
SP	MCB 462	Integrative Neuroscience	3	MIP
SP	MCB 465	Human Metabolic Disease	3	MIP

FA	MCB 493	Special Topics in Mol Cell Biol (Topics Change Regularly)		MIP
FA	MCB 501	Advanced Biochemistry	4	500-level
FA	MCB 502	Advanced Molecular Genetics	4	500-level
NCBO	MCB 513	Survey of Neurobiology	1	500-level
NCBO	MCB 521	Advanced Microbial Genetics	1	500-level
NCBO	MCB 526	Adv Bacterial Pathogenesis	1	500-level
FA, SP	MCB 529	Special Topics (Topics Change Regularly)		500-level
NCBO	MCB 532	Advanced Microbial Physiology	1	500-level
NCBO	MCB 534	Advanced Microbial Metabolism	1	500-level
NCBO	MCB 553	Enzyme Reaction Mechanisms	3 or 4	500-level
FA	MCB 555	Anlys Biochemical Literature	2	500-level

FA: Fall; SP: Spring; NCBO: Not currently being offered on a regular basis

MCB 450 is only available to students who have not already taken MCB 354 or the equivalent.

Courses, or their equivalents, taken as an UG prior to admission to this program, may not be counted toward the requirements for this program.

†BIOC 440B: Only Section B is approved to count toward the MS in MCB.

\*MCB 493 counts for different disciplinary areas depending on the content of each section of the course (e.g. MCB 493 sxn VIR).