

Elective Course List

Microbiology electives MUST include 3 MIP electives (2 must include lab component).

To reach 12 credits, additional electives may be chosen from "Other Science Electives" list.*

*A maximum of 3 credits of variable hours (MIP 298, 384, 495 & 498) can be counted as MIP Electives.

◆ Courses that fulfill the formal microbiology laboratory component.

◇ Electives recommended for students planning to apply to a Medical Technology program.

Microbiology Electives

Course	Title	Terms Offered	Prerequisites	Credits
◆ MIP 150	Introduction to Research Methods	F, S	None	3
MIP 192	Microbiology First Year Seminar		None/New freshman only	2
MIP 260	World of Parasites	S	BZ 110 or LIFE 102; CHEM 111	3
MIP 275	Microcomputing Applications in Microbiology	S	None	2
MIP 298	Introductory Research	F, S, SS	Completion of form with sponsor	variable
MIP 303	General Microbiology—Honors Recitation	F, S	Participation in Honors Program	1
MIP 315	Animal and Human Disease	F, S		3
MIP 334	Food Microbiology	S	MIP 300	3
◆ MIP 335	Food Microbiology Laboratory	F—odd years	MIP 302; MB 334 or concurrent	2
◆ ◇ MIP 343	Immunology Laboratory	S	MIP 302; MIP 342 or concurrent	2
MIP 350	Microbial Diversity	F	MIP 300	3
◆ ◇ MIP 352	Medical Microbiology Laboratory	S	MIP 302; MIP 351 or concurrent	3
MIP 384	Supervised College Teaching	F, S, SS	Completion of form with sponsor	variable
MIP 400A-G	Capstones in Microbiology (if not taken as capstone);[See Catalog for complete list; topics rotate]	F, S	MIP 342; MIP 351 or MIP 420 or concurrent; (add. prerequisites required for some sections)	2
◆ ◇ MIP 425	Virology and Cell Culture Laboratory	F	MIP 302; MIP 420 or concurrent	2
MIP 432	Microbial Ecology	S—even years	MIP 302	3
◆ MIP 433	Microbial Ecology Lab	S—even years	MIP 432 or concurrent	1
◆ ◇ MIP/BSPM/BZ 462	Parasitology and Vector Biology	F	BZ 110 or LIFE 103; MIP 302	5
MIP 495	Independent Study	F, S, SS	Completion of form with sponsor	variable
MIP 498	Research (if not taken as capstone)		Completion of form with sponsor	variable
MIP 530	Advanced Molecular Virology	S—even years	BC 351 or BC 401; MIP 450	3
MIP 540	Biosafety in Research Laboratories	S	MIP 300	2
MIP 543	RNA Biology	F—odd years	BSPM/BZ/MIP 462 or MIP 563	2
◆ MIP 550	Microbial and Molecular Genetics Laboratory	S	MIP 302; MIP 450; instructor consent	4
MIP 555	Principle and Mechanisms of Disease	F	BMS 300	3
MIP 570	Functional Genomics	F	MIP 300 and 302; MIP 443 and MIP 450 or instructor consent	3
MIP 563	Biology of Disease Vectors	S—odd years	MIP 462 or instructor consent	3
MIP/BZ 577	Computer Analysis in Population Genetics	F	MIP/BZ 578 or concurrent	1
MIP/BZ 578	Genetics of Natural Populations	F	One course each in genetics and statistics	4

Other Science Electives

Course	Title	Terms Offered	Prerequisites	Credits
ANEQ 460	Meat Safety	F	Three credits of 100 level chemistry	2
BC 404	Comprehensive Biochemistry Lab	F, S	(BC 401 or conc) & (CHEM 245 or C343) & (LIFE 212)	2
BIOM 533/ECE 533	Biomolecular Tools for Engineers	F	BMS 300 or MIP 300	3
◇ BMS 300	Prin of Human Physiology	F, S, SS	LIFE 102; CHEM 111	4
BMS 301	Human Gross Anatomy	F, S, SS	LIFE 102	5
BMS 305	Domestic Animal Gross Anatomy	F, S, SS	LIFE 102	4
BZ 310	Cell Biology	F, S	"C" in CHEM 245 or CHEM 341; BZ 110 or BZ 120 or LIFE 103	4
BZ 333	Introductory Mycology	F	LIFE 103	4
BZ 350	Molecular and General Genetics	F	LIFE 102 or LIFE 103; STAT 301 or STAT 307 or concurrent	4
BZ 418	Ecology of Infectious Diseases	S	LIFE 320	4
CHEM 334	Quantitative Analysis Laboratory	F, S	CHEM 113 and CHEM 335 or concurrent	1
CHEM 335	Quantitative Analysis Laboratory	F, S	CHEM 113 (C or better); CHEM 334 or concurrent	3
ERHS 320	Environmental Health Water Quality	F	MIP 300 or concurrent	3
ERHS 332	Principles of Epidemiology	S	MIP 149 or concurrent MIP 300; STAT 307 or concurrent	3
ERHS 502	Fundamentals of Toxicology		BMS 300 or BMS 360; CHEM 245 or CHEM 341 or CHEM 345	3
ERHS 567	Cell & Molecular Toxicology Techniques	F	MIP 301 or MIP 302	3
FTEC 420	Quality Assessment of Food Products	S	FTEC 110; LIFE 205	3
FTEC 460	Brewing Science and Technology	F, S	CHEM 245; MATH 118; age 21; comple	3
FTEC 572	Food Biotechnology	S	MIP 334	2
HORT 477	Enology—History and Winemaking	F	CHEM 107/108 concurrent or CHEM 111	3
LIFE 103	Biology of Organisms	F, S, SS	LIFE 102	4
LIFE 201B	Introductory Genetics	S	LIFE 102	3
LIFE 203	Genetic Mechanisms Lab	S	LIFE 201B or concurrent	2
LIFE 210	Introductory Eukaryotic Cell Biology	F	LIFE 102; CHEM 111, CHEM 112, or concurrent	3
LIFE 211	Eukaryotic Cell Biology Recitation	F	LIFE 210 or concurrent	1
LIFE 212	Introductory Cell Biology Laboratory	F	CHEM 112; LIFE 210 or concurrent BZ 101 or BZ 104 or BZ 120 or LIFE 102 and MATH 141 or MATH 155 or	2
LIFE 320	Ecology	F,S	MATH 160	3
SOCR 455	Soil Microbiology	F	MIP 300 or SOCR 240	3
SOCR 456	Soil Microbiology Lab	F	SOCR 455 or concurrent	1

Biology Electives

MIP Major: 1 Biology Elective Required

Note: If a course is used to fulfill AUCC Category 3A or departmental elective, it may not be used to fulfill the required biology elective.

◆ Electives recommended for students planning to apply to a Medical Technology program.

Biology Electives						
	Course	Title	Terms Offered	Prerequisites	Credits	
◆	BMS 300	Prin of Human Physiology	F, S, SS	LIFE 102; CHEM 111	4	
	BMS 301	Human Gross Anatomy	F, S, SS	LIFE 102	5	
	BMS 305	Domestic Animal Gross Anatomy	S	LIFE 102	4	
	BZ 310	Cell Biology	F, S	"C" in CHEM 245 or CHEM 341; BZ 110 or BZ 120 or LIFE 103	4	
	BZ 333	Introductory Mycology	F	LIFE 103	4	
	BZ 350	Molecular and General Genetics	F	LIFE 102 or LIFE 103; STAT 301 or STAT 307 or concurrent	4	
	LIFE 103	Biology of Organisms	F, S, SS	LIFE 102	4	
	LIFE 201B	Introductory Genetics	S	LIFE 102	3	
	LIFE 203	Genetic Mechanisms Lab	S	LIFE 201B or concurrent	2	
	LIFE 210	Introductory Eukaryotic Cell Biology	F	LIFE 102; CHEM 111, CHEM 112, or concurrent	3	
	LIFE 211	Eukaryotic Cell Biology Recitation	F	LIFE 210 or concurrent	1	
	LIFE 212	Introductory Cell Biology Laboratory	F	CHEM 112; LIFE 210 or concurrent	2	
	LIFE 320	Ecology	F,S	BZ 101 or BZ 104 or BZ 120 or LIFE 102 and MATH 141 or MATH 155 or MATH 160	3	
	SOCR 455	Soil Microbiology	F	MIP 300 or SOCR 240	3	