

Approved 300-400 Level Biotech Selectives

December 2020

Check the schedule of classes (<http://schedule.msu.edu/>) for the most up-to-date listing of course offerings.

Course Num. (Cr-Sem)	Course Name	Course Num. (Cr-Sem)	Course Name
ANS 314 (4)	Genetic Improvement of Domestic Animals (W)	MMG 301 (3)	Introductory Microbiology
ANS 315 (4)	Anatomy and Physiology of Farm Animals	MMG 302 (1)	Introductory Microbiology Laboratory
ANS 404 (3)	Introduction to Quantitative Genetics	*MMG 408 (3)	*Advanced Microbiology Laboratory (W)
ANS 407 (3)	Food and Animal Toxicology	MMG 421 (3)	Prokaryotic Cell Physiology
ANS 409 (4)	Problems, Controversies and Advancements in Reproduction (W)	MMG 431 (3)	Microbial Genetics
ANS 425 (3)	Animal Biotechnology	MMG 433 (3)	Microbial Genomics
ANS 427 (3)	Environmental Toxicology and Society	MMG 445 (3)	Microbial Biotechnology (W)
*BMB 472 (3)	*Advanced Molecular Biology Lab	MMG 451 (3)	Immunology
BMB 490 (1-3) OR BMB 499 (1-3)	Independent Research <i>(up to 3 credits for either)</i> Senior Thesis <i>(research component)</i>	NEU 310 (3)	Psychology and Biology of Human Sexuality
BMB 800- level courses	By Instructor Approval and Override	NEU 333 (3)	The Neurobiology of Food Intake and Overeating
BE 429 (3)	Fundamentals of Food Engineering	NSC 491(1)	Job Search Strategies or Science Majors <i>(Preference given to CNS Sophomore, Junior, and Senior students)</i>
BIO 405 (3)	Neural Basis of Animal Behavior	PHM 321 (3)	Common Drugs
BLD 446 (1)	Immunobiology of Neoplasia	PHM 351 (2)	Fundamentals of Drug Safety
BLD 447 (1)	Immunomodulation and Immunotherapy	PHM 421 (3)	Clinical Toxicology
BLD 439 (1)	Histocompatibility and Immunogenetics	PHM 422 (2)	Fundamentals of Neuropharmacology
CEM 482 (3)	Science and Technology of Wine Production <i>(by override from CEM)</i>	PHM 440 (1)	Principles of Drug Action
CEM 485 (3 – S even yrs)	Modern Nuclear Chemistry	PHM 450 (3)	Introduction to Chemical Toxicology
CHE 201 (3)	Material and Energy Balances	PHM 454 (3)	Leadership and Teams for Scientists and Health Professionals <i>(open to juniors and seniors only)</i>
CHE 321 (4)	Thermodynamics for Chemical Engineering	PHM 461 (2)	Tropical Medicine Pharmacology
CMSE 410 (3)	Bioinformatics and Computational Biology	PHM 483 (3)	Antimicrobial Chemotherapy
CMSE 411 (3–F even yrs)	Computational Medicine	PHM 492 (2)	Pharmacotherapy of Human Viral Infections
CSE 231 (4)	Introduction to Programming I	PLB 301 (3)	Introductory Plant Physiology
*CSS 350 (3)	*Introduction to Plant Genetics	PLB/PLP 402 (4 - F odd yrs)	Biology of Fungi
CSS 441 (3- S even yrs)	Plant Breeding and Biotechnology	PLB 415 (3)	Plant Physiology
*CSS 451 (3)	*Biotechnology Applications for Plant Breeding and Genetics	PLB 416L (2)	Plant Physiology Laboratory
CSS 455 (3)	Environmental Pollutants in Soil and Water	PLB 480 (3)	Epigenetics
FSC 325 (3)	Food Processing: Unit Operations	PLP 405 (3)	Plant Pathology
FSC 440 (3)	Food Microbiology	STT 231 (3)	Statistics for Scientists
FSC 441 (2)	Food Microbiology Laboratory	STT 464 (3)	Statistics for Biologists
FSC 455 (3)	Food and Nutrition Laboratory		
FOR 875 (3)	R Programming for Data Science <i>(by override from FOR)</i>		
GLG 435 (4)	Geomicrobiology		
HRT 486 (3- F even yrs)	Biotechnology in Agriculture: Applications and Ethical Issues		
*IBIO 341 (4)	*Fundamental Genetics		
IBIO 405 (3)	Neural Basis of Animal Behavior		
IBIO 425 (4)	Cells and Development (W)		
IBIO 450 (3)	Cancer Biology (W)		
LB 348 (3)	Research Experiences in Biology: Exploring Genomes and Person Genomics Data <i>(Restricted to Lyman Briggs Students)</i>		

* - Indicates courses that may be used if not already being used to fulfill another program requirement