Approved Advanced Biotechnology Classes

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

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

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

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