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

### Approved 300-400 Level Biotech Selectives

#### 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) | Food and Animal 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 (up to 3 credits for either Senior Thesis (research component)

NEU 310 (3) | Psychology and Biology of Human Sexuality

**BMB 800-level courses**

By Instructor Approval and Override

NEU 333 (3) | Job Search Strategies or Science Majors (Preference given to CNS Sophomore, Junior, and Senior students)

**BE 429 (3)**

Fundamentals of Food Engineering | NSC 491(1) | Fundamentals of Food Engineering

**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 (by override from CEM) | 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 (open to juniors and seniors only)

**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 (by override from FOR) | | |

**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 (Restricted to Lyman Briggs Students)

---

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