

**GENETICS**

**GEN**

**Genetics Program  
College of Natural Science**

**800 Genetics Seminar**  
Fall, Spring, Summer. 1(1-0) A student may earn a maximum of 12 credits in all enrollments for this course.  
Critical analysis of current literature. Student presentations.

**810 Theory and Practice of Teaching Genetics**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: One year of graduate coursework and satisfactory completion of an undergraduate-level genetics course. International students must have passed the SPEAK test. R: Open to graduate students in the College of Natural Science.  
Techniques and challenges in teaching microbial, molecular, or human genetics at the college level.

**835 Eukaryotic Molecular Genetics**  
Spring. 3(3-0) Interdepartmental with Microbiology and Molecular Genetics. Administered by Microbiology and Molecular Genetics. RB: BMB 462 and ZOL 341 R: Open only to graduate students in the colleges of Agriculture and Natural Resources, Engineering, Human Medicine, Natural Science, Osteopathic Medicine, and Veterinary Medicine.  
Gene structure and function in animals, plants, and fungi. Basic aspects of modern human genetics and the genetic basis for disease. Molecular genetic analyses. Eukaryotic modeling systems.

**840 Genetics Writing Skills**  
Fall, Spring, Summer. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students in the Genetics major. Approval of department.  
Development of a genetics research proposal: content, composition, and peer review through a graduate writing group.

**842 Population Genetics, Genealogy and Genomics**  
Fall. 3(3-0) Interdepartmental with Animal Science and Crop and Soil Sciences and Forestry and Fisheries and Wildlife and Horticulture. Administered by Forestry. RB: Pre-calculus, basic genetics  
Population genetic processes underlying patterns of molecular genetic variation. Genealogical approaches to the study of genomic diversity, phylogenetic reconstruction, and molecular ecology.

**851 Insect Physiology and Molecular Biology**  
Fall of odd years. 3(3-0) Interdepartmental with Entomology. Administered by Entomology. RB: General entomology (ENT 404 or equivalent); general biology (organismal and cellular); genetics  
Structure and function of physiological systems in insects, and current understanding of how these systems work at the molecular level.

**880 Laboratory Rotation**  
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to doctoral students in the Genetics major.  
Participation in research with faculty members.

**890 Independent Study**  
Fall, Spring, Summer. 1 to 9 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open to graduate students in the Genetics major or approval of department.  
Non-thesis research for Plan B master's students

**891 Selected Topics in Genetics**  
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course.  
Genetics topics, trends, or issues of current interest.

**899 Master's Thesis Research**  
Fall, Spring, Summer. 1 to 9 credits. A student may earn a maximum of 36 credits in all enrollments for this course.  
Master's thesis research.

**999 Doctoral Dissertation Research**  
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open to doctoral students in the Genetics major.  
Doctoral dissertation research.