

## GENETICS

## GEN

### 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(1-0) A student may earn a maximum of 3 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 exam. R: Approval of college.

Techniques and challenges in teaching microbial, molecular, or human genetics at the college level.

#### 825 Molecular and Biochemical Bases of Human Disease

Spring. 3(3-0) Interdepartmental with Zoology. Administered by Zoology. RB: (ZOL 341) or equivalent general genetics course.

Medical genetics. Molecular, biochemical, and diagnostic issues related to human disease. Disease pathophysiology. Ethical, legal, and social issues related to human genetics research.

#### 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.

#### 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 Molecular Entomology

Fall of odd years. 3(3-0) Interdepartmental with Entomology. Administered by Entomology.

Analysis of molecular processes unique to insects, and their potentials for genetic engineering.

#### 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 only to Ph.D. majors in Genetics.

Participation in research with faculty members.

#### 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 120 credits in all enrollments for this course. R: Open only to doctoral students in the Genetics major.

Doctoral dissertation research.