**MEDICAL GENETICS (MD GENET)**

**MD GENET/GENETICS/ZOOLOGY 562 — HUMAN CYTOGENETICS**
2 credits.

Fundamental principles of cytogenetics and special problems of human cytogenetics for biology and medical students.

**Requisites:** GENETICS 466, 468, BIOCORE 587, or BMOLCHEM/MD GENET 721

**Repeatable for Credit:** No

**Last Taught:** Spring 2017

**MD GENET/GENETICS 565 — HUMAN GENETICS**
3 credits.

Principles, problems, and methods of human genetics. Surveys aspects of medical genetics, biochemical genetics, molecular genetics, cytogenetics, quantitative genetics, and variation as applied to humans.

**Requisites:** Graduate standing, GENETICS 466, 468, or BIOCORE 587

**Repeatable for Credit:** No

**Last Taught:** Spring 2017

**MD GENET/BIOCHEM/GENETICS 620 — EUKARYOTIC MOLECULAR BIOLOGY**
3 credits.

This course focuses on the basic molecular mechanisms that regulate DNA, RNA, and protein metabolism in eukaryotic organisms. This course is intended for advanced undergraduates and first year graduate students with a firm knowledge of basic biochemistry.

**Requisites:** BIOCHEM 501 or 508 or graduate standing

**Repeatable for Credit:** No

**Last Taught:** Spring 2017

**MD GENET/BOTANY/GENETICS 629 — EVOLUTIONARY GENETICS**
3 credits.

Basic principles of phylogenetics, population genetics and quantitative genetics including the construction of gene trees, forces affecting the amount and distribution of genetic variation in populations, and the inheritance and evolution of multifactorial characters. Knowledge of intro calc stats or cons inst

**Requisites:** GENETICS 466 or Biocore 301 302 or equiv.

**Repeatable for Credit:** No

**Last Taught:** Fall 2015

**MD GENET/GENETICS 677 — ADVANCED TOPICS IN GENETICS**
1-3 credits.

Contents vary; consideration of subjects not included in the curriculum.

**Requisites:** Graduate standing or GENETICS 466, GENETICS 468 or BIOCORE 383

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Fall 2017

**MD GENET 699 — INDEPENDENT READING**
1-3 credits.

**Requisites:** Cons inst Sr st

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Fall 2015

**MD GENET 707 — GENETICS OF DEVELOPMENT**
3 credits.

A research-level analysis of the current status of the investigation of processes controlling differential gene activity and cellular behavior. The major emphasis is genetic. In successive years, the focus moves from the gene to the cell to the organism.

**Requisites:** GENETICS 466 or equiv, Biochem 602 or equiv

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2017

**MD GENET/GENETICS 708 — METHODS AND LOGIC IN GENETIC ANALYSIS**
3 credits.

Contemporary issues in genetic, developmental, cell, and molecular biology are addressed in a discussion format. Invited speakers give research lectures and reading material is taken from the primary literature. The discussion focuses on evaluating genetic approaches to biological problems.

**Requisites:** Declared in Genetics graduate program

**Repeatable for Credit:** No

**Last Taught:** Spring 2016

**MD GENET/GENETICS/NURSING/PEDIAT 731 — ADVANCED CLINICAL GENETICS CONCEPTS**
3 credits.

An advanced course covering clinical genetic concepts including phenotype, genetic mechanisms, approach to diagnosis (medical, clinical and genetic testing protocols), and natural history (including management approaches). While specific for Genetic Counselor Studies students other healthcare providers are allowed if they have sufficient genetic background knowledge.

**Requisites:** Declared in Master of Genetic Counselor Studies program

**Repeatable for Credit:** No

**Last Taught:** Fall 2017
Public health genomics uses knowledge gained from genetic and molecular research along with a consideration of ethical, legal, and social implications (ELSI) to prevent disease and improve the health of the population. Students enrolled in this course will be provided an introduction to public health genomics through a review of fundamental principles of genetics, followed by lectures and discussions on the use of genetic information in clinical and research settings and its implications for disease management and prevention. Students will also gain an awareness of policies that guide public health and will be able to discuss current ethical, legal, and social implications of these policies. These learning objectives will be met through readings and videos, lectures, and discussions of recent journal articles and current topics in public health genomics.

**Requisites**: Graduate or professional standing

**Repeatable for Credit**: No

**Last Taught**: Spring 2017

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**MD GENET 990 — RESEARCH**

1-12 credits.

**Requisites**: Consent of instructor

**Repeatable for Credit**: Yes, unlimited number of completions

**Last Taught**: Spring 2013

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**MD GENET 993 — SEMINAR IN GENETICS**

1 credit.

Sections deal with various aspects of genetics: Drosophila, maize, immunogenetics, developmental genetics, or other special topics. Students may enroll in two or more sections if they wish.

**Requisites**: Graduate or professional standing

**Repeatable for Credit**: Yes, unlimited number of completions

**Last Taught**: Summer 2017

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**MD GENET 999 — INDEPENDENT WORK**

1-3 credits.

**Requisites**: Consent of instructor

**Repeatable for Credit**: Yes, unlimited number of completions

**Last Taught**: Fall 2010