

# MOLECULAR GENETICS & CELL BIOLOGY (MGCB)

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## **MGCB 802 MOLECULAR CELL BIOLOGY 2 Credit Hours**

Introduction to fundamental concepts of cell structure, cell division, and death, and the mechanisms of cellular transport/trafficking, communication, and adhesion.

Typically Offered: FALL

## **MGCB 823 FUNDAMENTALS IN GENETICS AND GENOMICS 2 Credit Hours**

This course will introduce basic concepts in classical and modern molecular genetics as well as state of the art genomic analysis.

Crosslisted: GCBA 823

Typically Offered: SPRING

## **MGCB 825 HUMAN HISTOLOGY 5 Credit Hours**

A study of cells, fundamental tissues, organ systems at both the light and ultramicroscopic level. Include section on tissue cell fixational and processing for light and advanced microscopy.

Typically Offered: SPRING

## **MGCB 826 HUMAN HISTOLOGY 3 Credit Hours**

A study of cells, fundamental tissues and organ systems at both the light and ultramicroscopic level.

Prerequisite: Permission of instructor.

Typically Offered: SUMMER

## **MGCB 896 RSCH OTHER THAN THESIS 1-9 Credit Hours**

Student research that is clearly distinct from ongoing or planned thesis/dissertation work, or research/lab rotations performed prior to selecting a permanent advisor or supervisor.

Typically Offered: FALL/SP/SU

## **MGCB 899 MASTERS THESIS 1-9 Credit Hours**

Independent student research related to the masters thesis.

## **MGCB 902 SPECIAL TOPICS 1-3 Credit Hours**

Current problems, techniques, and literature pertaining to the major subdivisions of the field of anatomy. The student may participate in selected research topics, under the supervision of a selected instructor.

Prerequisite: Permission of instructor.

Typically Offered: FALL/SP/SU

## **MGCB 903 JOURNAL CLUB 1 Credit Hour**

Typically Offered: FALL/SPR

## **MGCB 907 TEACHING AND RESEARCH PRESENTATION SKILLS 2 Credit Hours**

This is a required course for PhD seeking students. This course focuses on the development of the fundamental skills required for making effective presentations in both a classroom and research context.

Prerequisite: Permission of instructor.

Typically Offered: SPRING

## **MGCB 912 MODERN APPROACHES IN CELL BIOLOGY & MOLECULAR GENETICS 3 Credit Hours**

This advanced-level course will focus on current techniques and concepts in cell biology and genetics. This course includes a didactic component as well as discussion section where the students will be asked to present their interpretations and ideas on cutting edge research. Hands on workshops and demonstrations are also conducted weekly.

Prerequisite: Permission of instructor.

Typically Offered: SPRING

## **MGCB 945 STEM CELL AND DEVELOPMENT BIOLOGY 2 Credit Hours**

An in depth study of the basic science of stem cell biology and the application of tissue engineering principles to generate stem cell-based solutions to significant clinical problems. Special emphasis is placed on embryonic stem cells, adult stem cells, and stem cell plasticity and the interaction between stem cells and the microenvironment.

Prerequisite: IPBS 801-803

Typically Offered: SUMMER

## **MGCB 970 SEMINAR 1 Credit Hour**

Attendance at weekly seminars offered by the department/program, or other activities specific to the degree program (contact the program director for more information).

Typically Offered: FALL/SPR

## **MGCB 999 DOCTORAL DISSERTATION 1-15 Credit Hours**

Independent student research related to the PhD dissertation. This course may be utilized before or after successful completion of the comprehensive exam.

Typically Offered: FALL/SP/SU