

**REGULATION OF PROKARYOTIC & EUKARYOTIC
Fall 2017 - GENE EXPRESSION (5112)**

**Rayford Auditorium Room 106-2
Biomedical Research Center II
Tuesdays & Thursdays
9:00 am – 11:00 am**

Course Director: Patricia Wight

DATE	LECTURE	INSTRUCTOR
Tue, 08/15/17	Prokaryotic Genome Organization	Jon Blevins
Thurs, 08/17/17	Operons	Jon Blevins
Tue, 08/22/17	Prokaryotic transcription	Chia Lee
Thurs, 08/24/17	Regulation of prokaryotic transcription	Chia Lee
Tue, 08/29/17	Prokaryotic replication, repair and recombination	Kevin Raney
Thurs, 08/31/17	EXAM 1 (8:30 – 11:30 AM) Includes lectures from 8/15/17 – 08/29/17	
Tue, 09/05/17	Eukaryotic Genome Organization	Helen Benes
Thurs, 09/07/17	Eukaryotic replication and repair	Kevin Raney
Tue, 09/12/17	Eukaryotic replication and repair	Robert Eoff
Thurs, 09/14/17	Eukaryotic RNA Polymerases and their promoters	Patricia Wight
Tue, 09/19/17	Eukaryotic Transcription; RNAPII Promoters/Enhancers	Patricia Wight
Thurs, 09/21/17	Eukaryotic Transcription Factors	Patricia Wight
Tue, 09/26/17	LCR, insulators, DNA methylation, and noncoding RNAs	Patricia Wight
Thurs, 09/28/17	Eukaryotic Gene Regulation	Helen Benes
Tue, 10/03/17	EXAM 2 (8:30 – 11:30 AM) Includes lectures from 9/05/17 – 09/28/17	
Thurs, 10/05/17	Genetic Recombination	Wayne Wahls
Tue, 10/10/17	Posttranscriptional processing	Xuming Zhang
Thurs, 10/12/17	CAREER DAY	
Tue, 10/17/17	RNA splicing	Xuming Zhang
Thurs, 10/19/17	RNA splicing	Xuming Zhang
Tue, 10/24/17	Reverse transcription	Xuming Zhang
Thurs, 10/26/17	EXAM 3 (8:30 – 11:30 AM) Includes lectures from 10/05/17 – 10/24/17	

DATE	LECTURE	INSTRUCTOR
Tue, 10/31/17	Prokaryotic & Regulation of Prokaryotic translation	Angus MacNicol
Thurs, 11/02/17	Eukaryotic translation	Angus MacNicol
Tue, 11/07/17	Regulation of Eukaryotic translation	Angus MacNicol
Thurs, 11/09/17	Eukaryotic Differentiation & Development as an Integrated Overview of Gene Regulation	Mari Davidson
Tue, 11/14/17	EXAM 4 (8:30 – 11:30 AM) Includes lectures from 10/31/17 – 11/09/17	

Prerequisites: It is recommended that students have taken an undergraduate course in biochemistry and/or molecular biology.

Objectives: The goal of this course is for students to acquire a working knowledge of the various methods by which gene expression can be controlled. A side-by-side comparison of these mechanisms for both prokaryotes and eukaryotes will be explored. It is anticipated that at the end of this course, students will become proficient at reading the primary literature relevant to gene expression.

Course Structure: The course is 3 credit hours which meet twice a week for 2 hours per session. The course will be conducted by didactic lectures, as well as, class discussion of current reviews and primary papers. The students will be assigned a grade solely based on exams, which will be in the format of short answer/essay questions. Grades will be scaled, with the class average typically set at a B. Plus/minus grades will be given in the course, but please note that the graduate school records only solid grades (no +/-).

Reading Material: Readings will mainly consist of recent reviews and primary articles as assigned by the individual Instructors. Lewin's Genes XII is recommended as a text for general background. A copy of the text has been placed on Reserve in the main library (2 hour intervals).

Course Evaluation: The course will be evaluated by the students as per standard UAMS procedures. Each Instructor will also be evaluated by the students.