

**CATALOG YEAR** 2006-2007  
**(Please use separate form for each add/change)**

COLLEGE/SCHOOL : College of Arts and Sciences

Current Catalog Page(s) Affected pp. 260-261

**Course:** Add: X Delete: \_\_\_\_\_  
(check all that apply) Change: Number \_\_\_\_\_ Title \_\_\_\_\_ SCH \_\_\_\_\_  
Description \_\_\_\_\_ Prerequisite \_\_\_\_\_

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current catalog, copy and paste the text from the and indicate changes in red.

BIOL 5450 Molecular Genetics and Regulation of Gene Expression. Four semester hours. An advanced course on the molecular mechanisms by which genes are controlled and regulated. Topics include induction, activation, repression and RNA interference of gene function. Prerequisite: Graduate standing and permission of the instructor.

Justification: New course for the Master of Science in Biology program

Approvals:	Signature	Date
Chair Department Curriculum Committee	_____	_____
Chair Department	_____	_____
Chair College Curriculum Committee	_____	_____
Dean	_____	_____

# BIOL 5450

## Molecular Genetics and Regulation of Gene Expression.

### **Course Description:**

An advanced course on the molecular mechanisms by which genes are controlled and regulated. Topics include induction, activation, repression and RNA interference of gene function.

Prerequisite: Graduate standing and permission of the instructor.

### **Learning Outcomes:**

Upon successful completion of this course the student should:

1. Be able to explain the fine structure of a gene, with a clear understanding of the function of promoters, silencers, enhancers, attenuators, activators, and inducers.
2. Be capable of designing protocols to study major gene regulatory events and the role of RNA interference in studying gene function.
3. Have the capacity to describe the relationship between individual genes, gene circuits, gene regulatory cascades, and whole genome function and organization.