BIOL 439

Term: FALL 2016

Course No. & Section: BIOL 439-01

Course Title: MOLECULAR BIO APPLICATIONS & LAB

Professor: DR. NANCY A. FUJISHIGE

Course Description:

Objectives:

 Students will learn and use the tools of molecular biology and molecular genetics in a research project-based lecture and laboratory course
 Students will familiarize themselves with contemporary techniques used in the study of biological systems

Content:

Presentation of the principles of recombinant DNA technology and the central dogma; descriptions of the various approaches to gene cloning, gene mapping, genetic engineering and other techniques in Molecular Biology; presentations of examples of the applications of some of these techniques to questions of the causes of inherited diseases, gene therapies, the alteration of living organisms genetically, and the creation of living protein factories.

Lab exercises will provide experimental validation in team-research projects.

Prerequisites/Recommended Background:

 Courses completed: Organic Chemistry (both semesters) and Genetics

Required Texts/References:

Lab manual
Selected papers from the literature

Course Work/Expectations:

 2 lectures, 2 lab meetings per week.
 Bi-weekly quizzes and homework assignments
 2 Midterm exams
 Final exam

Comments:

Fulfills upper division Molecular Biology requirement