BIOL 4580(6580), Molecular Genetics

Summer Semester II 2021, Section A (CRN# 52597, 4 Credit hours) & 6580 (CRN# 52598)
Department of Biology, College of Science & Math, Valdosta State University

Lecture (BC 1202): T & R 11:10 a.m. ±2:10 p.m.

Laboratory (BC 2071): T & R 2:30 p.m. - 5:20 p.m.

Instructor : Dr. Brian C. Ring
Office: BC 2084
Office hours: W 12:00 p.m. ±3:00 p.m. in office or via Microsoft Teams
Phone: 249-4841 (Dept. office 333-5759)
Email: bcring@valdosta.edu

Pre-Requisites: BIOL 3200 or permission of instructor.

Course Description : The study of the molecular nature of eukaryotic genomes, with emphasis on biotechnology. The lecture will focus on using modern molecular genetic techniques as a means to understanding complex eukaryotic genomes. Emphasis will be placed on reading current, relevant scientific literature. The laboratory will involve hands-on experience in which the student will learn the latest technology of molecular genetic analysis and manipulation.

Course Outcomes : Upon completion of this course the student should be able to:

1) Comprehend the central dogma of molecular biology as illustrated through elegant experimental studies of the phage lambda (BO3, BO4, & GE4, & GE7);
2) Understand how genomes are experimentally investigated using bio techniques such as molecular biology, genomics, gene expression, and transgenics (BO3, BO4, & GE4);
3) Develop practical laboratory knowledge and skills through inquiry based experimentation employing molecular genetic techniques (BO1, BO4, GE5 & GE7).

These course outcomes support the VSU Biology Department Outcomes # 1, 3, & 4 and the University General Educational Outcomes # 4, 5 & 7 as listed in the VSU Undergraduate Catalogue (see below).

VSU Biology Department Objectives :

BO1. Develop and test