



<b>Course Number</b> <b>Course Name</b>	<b>BIOL 202L PRINCIPLES OF GENETICS LAB</b>
<b>Credit Value</b> <b>(Breakdown of theory and lab credits)</b>	1 Laboratory
<b>Catalog Course Description</b>	You will experiment in genetics with a focus on bacterial, yeast, plant, and Drosophila models, with an emphasis on supporting concepts from the lecture.
<b>Student Learning Outcomes/Objectives /Competencies of the Course</b>	<ol style="list-style-type: none"> <li>1. Be able to conduct library-based research to produce an annotated bibliography or research paper that demonstrates the ability to distill and synthesize the primary literature.</li> <li>2. Be able to verbally present a synthesis and interpretation of a published paper from the primary literature.</li> <li>3. Be able to demonstrate critical thinking skills by interpreting scientific data, formulating a scientific hypothesis, and proposing an experiment to test a scientific hypothesis. (HED Area 3, Competency 1,2,4,5)</li> <li>4. Be able to solve genetics problems involving single-gene, X-linked, and non-Mendelian inheritance patterns.</li> <li>5. Be able to conduct Chi-Square statistical analysis on genetics data.</li> <li>6. Be able to describe the processes of DNA replication, transcription and translation.</li> <li>7. Be able to compare and contrast the processes of gene regulation in prokaryotes versus eukaryotes.</li> <li>8. Be able to understand how high-throughput experiments are carried out and analyzed. (HED Area 3, Competency 3,4)</li> <li>9. Be able to apply understanding of recombinant DNA techniques and RNA-sequencing analysis in the biomedical sciences, biotechnology and/or bioengineering.</li> <li>10. Be able to describe applications of structural, functional or comparative genomics in the biomedical sciences, biotechnology and/or bioengineering.</li> </ol>
<b>College-Wide Student Learning Outcomes</b>	<i>This lab will be assessed in conjunction with the associated lecture/theory course which is a co-requisite.</i>