

## BIO 343 GENETICS LAB

### Genetics Lab Syllabus

**Instructor:** Lisa Dorn, HS 45; [dorn@uwosh.edu](mailto:dorn@uwosh.edu)

Section A01L: Tues 9:40-11:40am in HS50

Section A02L Tues 1:20-3:20 pm in HS50

**Instructor:** Rosemary Shade HS 142; [shade@uwosh.edu](mailto:shade@uwosh.edu)

**Section A03L:** Thurs 9:40 – 11:40 am in HS 50

**OBJECTIVES:** Welcome to the laboratory portion of Biology 343. This course is designed to give you hands-on experience with modern genetics techniques. It is not designed to coincide very much with your lecture material but it will on occasion. You will learn molecular lab techniques that are useful for genetics, learn to debug those techniques, as well as how to interpret your results and what that means for understanding genes and their function. These exercises are based on molecular biology concepts you should have learned in 105 and 323. Therefore, we will use some lab time to review those molecular biology concepts. Despite this course's position as a core course there are only two hours a week devoted to laboratory. That means that your exercises will stretch out over a period of weeks. We will help you keep track. It may help if you use the schedule presented in another document as a checklist.

**ORGANIZATION:** The course consists of three basic sections or “modules”. Within each module are a series of exercises designed to teach the topics covered by that module. The first module *Basic Lab Techniques* teaches the basic techniques you will need for the rest of the semester. For some of you with experience in professors' labs this module will be *very basic* at times. Please be patient. Remember this course is a required course for all biology majors even those who are not pursuing research that requires these techniques. Those of you with research experience may find that using your expertise to help less-experienced students a useful exercise. Last, some of these exercises are designed to at least partially fail so do not get discouraged.

**ATTENDANCE POLICY:** We will take attendance during lab. You will lose 5 pts for every unexcused absence relative to the report page due during that time. **Arriving >= one half hour late will count as an absence.**

**GRADING:** The lab part of the course is worth **105** points toward your total grade. There are four quizzes and five reports as shown in the table below.

<b>Quiz/ Report</b>		<b>Points</b>
<b>Quiz 1:</b> Nucleic Acids Review		10
<b>Quiz 2:</b> Replication		10
<b>Report 1:</b> Electronic PCR		10
<b>Quiz 3:</b> Optimization/ Polymorphisms		20
<b>Report 2:</b> Polymorphisms		15
<b>Report 3:</b> Marker Map		10
<b>Quiz 4:</b> Gene Expression		10
<b>Report 4:</b> RT-PCR		10
<b>Report 5:</b> Gene Families		10
	Total points	105

The schedule for lab will be posted separately.

**There are no labs the first week or Thanksgiving week.**