

## Genetics – BISC 336 Lab – Spring 2020– Shoemaker 527

### The Genetics Lab Dream Team

<b>Na me</b>	<b>E-Mail</b>	<b>Office</b>	<b>Lab Sections</b>
Dr. Linda Mota Lab Coordinator	lcmota@olemiss.edu	Shoemaker 525	
Chaz Hyseni	chyseni@go.olemiss.edu	Shoemaker 302	2; M 11:00-12:50 5; M 5:00-6:50 7; T 11:00-12:50
Laura West	lrwest@go.olemiss.edu	Shoemaker	1; M 9:00-10:50 3; M 1:00-2:50 4; M 3:00-4:50
Xia Li	xli13@go.olemiss.edu	Shoemaker 410	6; T 9:00-10:50

#### **Description:**

The laboratory segment of BISC 336 is designed to illustrate the principles of genetics that you are learning in the lecture. Students are expected to have read the lab-related material before lab. **YOU are responsible for printing handouts, homework, and other related material BEFORE LAB through Blackboard. Posted protocols will be accompanied by e-mails.**

#### **Overall Lab Objective**

- 1) **Develop knowledge of genetics through laboratory experiments revolving around Mendel (Classical) genetics, Molecular Genetics, and Sequencing Technology.**
- 2) **Improve and reinforce laboratory technical and critical thinking skills.**

#### **Expectations**

It is expected that you understand the fundamentals involving biological concepts, definitions, and vocabulary (this includes terminology related to Mendelian inheritance material). Secondly, it is expected that you attend every lab **on time** and **prepared**. This includes printing out the relevant material for the lab of the week. TAs will offer an office hour for any questions relating to lab material. These office hours will be held in the respective TA's offices.

#### **Students with Disabilities**

The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are approved through SDS, you must log in to your Rebel Access portal at <https://sds.olemiss.edu> to request approved accommodations. If you are NOT approved through SDS, you must contact Student Disability Services at 662-915-7128 so the office can: 1. determine your eligibility for accommodations, 2. disseminate to your instructors a Faculty Notification Letter, 3. facilitate the removal of barriers, and 4. ensure you have equal access to the same opportunities for success that are available to all students."

## Plagiarism & Cheating

There is a **zero tolerance policy** for plagiarism and cheating. Rearranging the sequence of words or replacement of words is considered plagiarism just as improperly citing (or lack thereof) a source or direct usage of information without citation. Whether done maliciously or “innocently,” plagiarism is considered a form of cheating and will not be tolerated. All parties involved will receive a 0 for that assignment. If a presentation is found to commit plagiarism, every group member will receive a zero for the presentation.

## Lab Grade Breakdown

Each assignment has an associated “weight.” This reflects the importance/influence of the assignment on your overall lab grade. We will be working in groups of 4, each table splitting in two groups. This will be the group you work with in all presentations as well. Although working in groups can facilitate teamwork, please make sure you are comfortable with all related material.

<u>Assignment</u>	<u>x</u>	<u>Weight</u>	<u>=</u>	<u>Weighted points</u>
Lab Notebook	x	0.25	=	<u>62.5</u>
Lab Report 1	x	0.10	=	<u>25</u>
Lab Report 2	x	0.10	=	<u>25</u>
Lab Report 3	x	0.10	=	<u>25</u>
Presentation	x	0.25	=	<u>62.5</u>
Participation	x	0.20	=	<u>50</u>

Total Points = 250 pts

\*\*Assuming attending all labs\*\*

## Presentation

There will be a group presentations during this semester. Every group member will need to contribute equally to a 10-15 minute powerpoint presentation. Presentations will be graded/constructively critiqued by your TA as well as your peers.

## Lab Reports

At the end of each module you will submit a lab report regarding information you have concluded from the exercises. To assist in the process a lab notebook will be kept individually where feedback will be provided by your TA as well as your peers. Although the work during the semester is done as a group, this lab report assignment is to be made in **your own words** (e.g., DO NOT PLAGIARIZE).

## Lab Notebook

Lab notebook must be kept individually. You will turn in a lab notebook entry at the beginning of the lab for each week. Further instructions will be provided by the TA

## ATTENDANCE IS REQUIRED

If you know you will be absent due to a court date, university approved function, etc., you are expected to contact your TA as soon as possible. In the case of absence, it is your responsibility to maintain contact with your group members and to be certain you do not miss any information. If the absence is excused ahead of time, you will have the opportunity to attend another lab section. You will have **until the end of the week** to submit documentation. If official documentation is not submitted by the end of the week (whether hard copy or electronic), your absence will be regarded as an unexcused absence. Approval of excused lab absence is done per **Dr. Linda Mota**. Four unexcused absences will incur a 0% participation grade. If you continuously arrive late to lab your participation grade will be affected.

**Materials:**

You may need calculators throughout the course and will need to bring them for the lab.

**Make up Labs:**

You MAY have the opportunity to make up a lab if an absence is excused by attending an earlier or later lab. If this is the case to ensure enough materials are available for you in a new lab, you **MUST** contact your TA as well as the TA of the lab you would like to attend. Without doing both, you will not be allowed to attend the make-up lab. **YOU WILL NOT BE ABLE TO MAKE UP MISSED LABS WITHOUT VALID DOCUMENTATION.**

*Registering to BISC 336 and the corresponding lab section translates to full recognition and acknowledgement of the expectations, policies, guidelines, and information stated above.*

**\*The schedule and syllabus are subject to change at the discretion of the instructor \***

**Please make sure you pay attention to blackboard and print out required protocol(s) before lab if need so.**

### **BISC 336 Spring 2020 Lab Tentative Schedule Layout**

Date	Week	Lab Agenda
1/27	1	Meiosis Practice; Pipetting Skills; Experimental yeast evolution introduction; Lab Notebook
2/3	2	Observing characteristics of <i>Drosophila melanogaster</i> . Set-up F1xF1 crosses; Set up Yeast Evolution Experiment P1
2/10	3	F1xF1 Parent Removal; Mendel genetics; Chi-Square & Product law in-lab work; Passage yeast P2
2/17	4	F2 Data collection; Statistical analysis; Excel demo; Passage yeast P3
2/24	5	Phenotypic beginning and mid-point assessment of experimental evolution; Aseptic Technique; Serial dilutions; Passage yeast P4
3/2	6	Observing beginning and midpoint assessment yeast; 24 hr absorbance Reading; <b>Lab Report 1 Due</b> ; Passage yeast P5
3/9	7	<b>SPRING BREAK NO LABS</b>
3/16	8	Taste Allele I: Extraction DNA and set up PCR; Passage yeast P6
3/23	9	Taste Allele II: Enzyme Digestion; Passage yeast P7
3/30	10	Taste Allele III: Run gels; Population Genetics: Hardy Weinberg; Passage yeast P8
4/6	11	Journal Article Instructions; Passage yeast P9; <b>Lab Report 2 Due</b>
4/13	12	Phenotypic endpoint experimental evolution assessment, serial dilutions and plating; 24 hr absorbance reading.
4/20	13	Observing phenotypic endpoint experimental evolution assessment, counting colonies and morphology; Bioinformatics experimental evolution.
4/27	14	Journal Article Presentations; <b>Lab Report 3 Due</b>