SYLLABUS

Biology 171L: Introduction to Biology I Lab
Spring 2020 (01/13/20 - 05/07/20)

Course Instructor
Dr. Rosana Zenil-Ferguson
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Office Hours: TBA
Office Location
Edmondson Hall, Room 309

Lab Coordinator
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Office Hours: By appointment
Office Location
Edmondson Hall, Room 213

COURSE INFORMATION

Course Description This is an introductory biology course, designed for all life science majors. The skills that will be vital to your success in the future and that are most valued by employers now include critical thinking, problem solving, ability to collaborate, ability and willingness to learn new things, and the ability to communicate in both oral and written forms. Discipline specific skills, or hard skills are also important, but it may surprise you to learn that the soft skills are ranked more highly than your content. The rate at which knowledge is being generated means that your ability to learn new things and apply them will be one of the most important skills that you can develop.

The goals of this course are to help you start building the skills that you will need in whichever discipline you pursue. We will be focusing on collaboration, communication, and critical thinking, but we will use many other soft skills throughout the course. We will also work to solidify the foundational content knowledge that you will need to be successful in the introductory biology lecture and in upper division biology courses.

Writing Intensive Component This course includes a substantial writing component (at least 16 pages of writing), including a final lab report (6 - 10 pages) along with writing submitted for various homework assignments (10 - 12 pages). You will be provided with written feedback on your writing and in some cases will be given the opportunity to revise and improve your writing. Writing components of this course contribute more than 40% of your grade.

Course Content Material covered includes but is not limited to: Cell structure and chemistry; growth, reproduction, genetics, photosynthesis, evolution, phylogenetics, viruses, bacteria, and simple eukaryotes.

Course Communication Outside of materials distributed during class periods, all assignments and necessary materials can be found on the Laulima site associated with the course. If you have questions that cannot be answered during class or from Laulima, you are encouraged to email one of the TA's or lab coordinator, and/or visit them at their weekly office hours. Office hours are listed above, and on the course website for all TA's ('useful links').

Prerequisites CHEM (131, 151, 161, 171, or 181A) or concurrent, and BIOL 171L (or concurrent) or consent.

Course Objectives At the completion of the course, students will be able to:

- Communicate in writing
- Analyze and present data in graphs

- Know how energy is transferred from molecules to cells
- Know how information is transferred from gene to protein
- Value the process of 'learning how to learn'
- Value ethical collaboration(s) with peers
- Value curiosity about the natural world

Institutional Learning Objectives https://manoa.hawaii.edu/ovcaa/policies/pdf/M5.321.pdf

Textbook(s) & Other Resource Information
There is no traditional textbook required for this course (lecture or lab). Instead, we will be using OpenStax online resources and the online book linked below. The only text that is required to be purchased for this course is the writer's guide that is linked below.

Required Textbook(s)/Resource(s)

- https://books.coe.hawaii.edu/biology171/ (course textbook)
- **"Writer's Help 2.0"** http://www.macmillanhighered.com/writershelp/hacker/8380337 (writer's guide)

Optional Resources

- "Research Strategies for a Digital Age"

https://www.cengage.com/c/research-strategies-for-a-digital-age-5e-tensen/9781337091589 (information literacy guide)

COURSE SCHEDULE

Biology 171L Spring 2020			
WEEK OF	**LAB #**	**LAB TITLE***	**HOMEWORK DUE**
Jan 13	1	Writing in Science	
Jan 20	-	**NO LABS – Dr. Martin Luther King, Jr. Day**	**NO LABS**
Jan 27	2	Cell Structure	
Feb 03	3	Cellular Respiration	
Feb 10	4	Photosynthesis	
Feb 17	-	**NO LABS – Presidents' Day**	**NO LABS**
Feb 24	5	Replication, Transciption & Translation	
Mar 02	6	Cell Cycle, Mitosis and Meiosis	
Mar 09	7	Mendelian Inheritance	
Mar 16	-	**NO LABS – Spring Break**	**NO LABS**
Mar 23	-	**NO LABS – Prince Kuhio Day**	**NO LABS**
Mar 30	8	Population Biology	
Apr 06	-	**NO LABS – Good Friday**	**NO LABS**
Apr 13	9	Phylogenetics	
Apr 20	10	DNA Fingerprinting	
Apr 27	11	Antibiotic Resistance	

** Labs and assignments may be subject to change – additional worksheets and quizzes may be assigned at the discretion of the Instructor*

GRADING

Grading

Your final grade will be determined in the following way:

Grading Breakdown:

Prepare -	165 points	(11 labs x 15 pts. each)
Practice -	110 points	(11 labs x 10 pts. each)
Produce -	275 points	(11 labs x 25 pts. each)
Final Lab Report	60 points	
TOTAL =	610 points	

Assessment Descriptions

Each week students will need to complete assignments and/or activities in each of the above categories (Prepare, Practice, Produce).

- Within the **Prepare** component, assignments will be done outside of class each week, and will be due ***at 11:55PM, the day before your*** lab.
- The **Practice** component will consist of activities done during class periods, with short in-lab assignments that will be due at the end of lab each week.
- The **Produce** section given for these components will vary with each week's lab and topics, and typically be ~1-2pp. These assignments will be due 30 minutes before the start time of your lab, e.g., 1:00PM for a lab that begins at 1:30PM.

Grading Scale standard letter grading (A-F)

Grading Policy Student achievement in this lab is designated by the following grades: A, (high achievement); B, (meets expectations); C, (below expectations); D, (inadequate performance); F (failure). No "+" or "-" grades will be assigned. Grades will not be curved.

*N.B. Biology majors are required to maintain a grade of C or higher for this lab to be accepted for graduation requirements. There is no extra credit and late work will not be accepted for any reason.

Lab skills/ preparedness

You will be evaluated weekly on your readiness and behavior during class. This assessment will be part of your **Practice** grade and will encompass your:

- Attendance (more info below)
- Behavior and engagement
- Prompt arrival to class and submission of required assignments
- Possession of appropriate attire and lab safety gear (see SAFETY below)
- Conduct, particularly as it relates to you adhering to Lab Safety guidelines during labs (see SAFETY below)
- Attentiveness to instructions and class information
- Proper cleanup of your area and replacement of materials that were used

STUDENT EXPECTATIONS

Attendance and Participation You are expected to attend ALL classes. There are multiple sections of this lab on various days but you are only allowed to attend the class that you are registered for. Do not show up for another lab without pre-approved authorization from the TA for that class and your TA. You will be turned away. Even if the TA allows you to stay, any work done

during the lab will receive no credit if you do not have not previously obtained permission from your TA.
If you already know you have a conflict with a class in the upcoming semester, let your TA know RIGHT AWAY. By registering for this course, you have committed to showing up for these classes and fulfilling your obligations.

Lab Safety Laboratories operate under a different set of regulations than a regular classroom. Laboratories are typically hazardous working environments. Consequently, the risks to your safety are higher than in a regular classroom, even when no experimentation is taking place. In order to minimize risk and maintain a safe working environment, you will be expected to dress appropriately and act appropriately, or you will be asked to leave.
Failure to come to class without appropriate personal protective equipment (PPE) means you will not be allowed to participate in the class (i.e., you will be sent home) and will receive a zero.

Closed-toed, covered shoes: **Always required.** Liquid must not be able to penetrate your shoes. Slippers, sandals, ballet-style flats and open-heeled shoes are not acceptable.
Long pants: Required for Labs 3, 4 and 6. You must wear pants that are long enough to cover your knees.
Long-sleeved shirt: Required for Labs 3, 4 and 6. You must wear a shirt or jacket, with sleeves to the wrist that can be button or zipped closed.
Lab Coats*: Optional for all lab experiments (Labs 3, and 6). If you have a lab coat, you do not need a long-sleeved shirt.
Safety goggles* and **Safety gloves:** will be provided when required

*If you are a Biology major, you will use these items in all of your required Biology courses and you may wish to purchase them now

Classroom Conduct

As mentioned above, classroom laboratories are potentially dangerous environments. In order to minimize the risk to yourself and your classmates, it is of paramount importance that you act in a professional and responsible manner whenever you are in the classroom. This means that you must act in a thoughtful and respectful manner at all times. This class is to be a "judgment –free zone" at all times. Respectful dissent is encouraged, provided it is civil and polite. The following behaviors will not be tolerated and will be grounds for asking you to leave the classroom for the remainder of the class period.

- Hostility of any sort.
- Swearing at, raising your voice to, or yelling at your classmates, Teaching Interns (TIs) or TA.
- Horseplay, or throwing of any object.
- Disregard for any of the classroom safety guidelines.

Safety Guidelines for the Classroom

- No food or beverages can be consumed in the classroom at any time.
- No gum is allowed.
- Wear the appropriate lab gear (see above).
- Do not sniff or taste any material or equipment in the classroom.
- Do not place your face over the opening of vessels that hold volatile or vaporous chemicals.
- Be aware of the location of MSDS sheets in the classroom. MSDS lists all the characteristics of chemicals you will be working with and their hazards.
- Know the location of the safety equipment in the classroom: first aid kit, fire extinguisher, eye-wash and safety shower.
- If a chemical comes into contact with your skin, remove any affected clothing and rinse with soap and water for at least 15 minutes.
- If a chemical or vapor comes into contact with your eyes, flush out with generous amounts of water

for at least 15 minutes.
- Watch where you point sharp instruments, they should not be pointing at yourself or other students.
- Return all materials to the original area or container.
- Follow the disposal instructions outlined by your instructor.
- Notify your teacher if **anything** happens or you feel even slightly unwell. Do not take any chances or dismiss even the smallest thing.

STUDENT ACCOMMODATIONS

Any student who feels s/he may need an accommodation based on the impact of a disability is invited to contact the instructor privately. The instructor and the *KOKUA Program* (Office for Students with Disabilities) will work with students to ensure reasonable accommodations in this course. KOKUA can be reached at (808) 956-7511 or (808) 956-7612 (voice/text) in room 013 of the Queen Lili'uokalani Center for Student Services.

TITLE IX

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. For more information regarding sex discrimination and gender-based violence, see University of Hawaii: Title IX.

If you wish to remain **ANONYMOUS**, speak with someone **CONFIDENTIALLY**, or would like to receive information and support in a **CONFIDENTIAL** setting, refer to the confidential resources available here:

UH Contact List of Reporting Options
UH Contact List of Confidential Resources

If you wish to **REPORT** an incident of sex or gender-based violence including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, or stalking as well as receive information and support, contact:

Dee Uwono
Director and Title IX Coordinator
Hawaii Hall 124
2500 Campus Road
Honolulu, HI 96822
(808) 956-2299
t9uhm@hawaii.edu

ACADEMIC DISHONESTY

Academic dishonesty concerns any unauthorized assistance given or received on an assignment. This includes:
- Obtaining questions or answers on quizzes or exams from other individuals or sources without the express approval of the instructor;
- Submitting any work that is not completely yours;
- Use of sources beyond those authorized by the instructor;
- Engaging in any behavior specifically prohibited by your instructor and this syllabus;
- Plagiarism

In all cases of academic dishonesty, ALL parties involved will automatically receive zeroes for the assignment in question and may be sent to the UH Conduct Board. This applies to both the individual who received the unauthorized assistance and the person giving it, *regardless of their intention or awareness of the fact*.

Plagiarism will not be tolerated. Many are familiar with plagiarism as the act of copying someone else's work (whether a fellow student's work or a literary source), but plagiarism covers much more than that. Plagiarism is utilizing someone else's words or ideas without giving proper credit. Any instance of plagiarism will result in a zero for that assignment with further consequences to be considered.

Please refer to the UH Student Code of Conduct for a more detailed explanation of the possible consequences of academic dishonesty.

In order to help you develop your understanding of the nature of plagiarism, you will be required to do a tutorial and print of a certificate of understanding at the following site: https://www.indiana.edu/~istd/

EMERGENCY EVACUATION PROCEDURES

If the fire alarm sounds, prepare to leave the room and building immediately. Do not stop to pack or pick things up. When leaving the classroom, exit to the right and meet at the designated area (the Mall between Edmondson and Bilger), or to a spot designated by Emergency Services personnel. Anyone with hearing problems or other disabilities will be helped by the TA. Once you have reassembled across the street, your TA will take attendance to account that everyone has safely evacuated. DO NOT LEAVE until your TA has taken attendance.

UNCLAIMED HOMEWORK

It is your responsibility to collect your homework. Neither the Biology Department nor your TA will store unclaimed homework. All student work not claimed by the date grades are finalized for the semester (e.g., May 19, 2020 for Spring 2020) will be shredded.