



Dana and David Dornsife College of Letters, Arts and Sciences

# BISC 103Lxg: General Biology for the Environment and Life 4 units Spring 2020—Tuesday/Thursday— 9:30 - 10:50 am

Location: THH 212

Instructor: Dr. John Heidelberg Office: AHF B16 Office Hours: T/TH 11:00 am – 12:00 pm Contact Info: Office Phone: 213-740-5791 Email: jheidelb@usc.edu

Instructor: Dr. Trond Sigurdsen Office: ZHS 256 Office Hours: Wednesday 11:00 am – 1:00 pm Contact Info: Email: <u>sigurdse@usc.edu</u>

Laboratory Manager: Eric Noakes Office: ZHS 353 Office Hours: By Appointment / Open Door Policy Contact Info: enoakes@usc.edu

Teaching Assistant: TBD Contact Info: TBD

Teaching Assistant: TBD Contact Info: TBD

## **Required Texts:**

- Biology: Concepts & Connections, by Campbell, 9th edition. Benjamin Cummings
- General Biology for the Environment and Life Laboratory Manual, Spring 2019 edition. USC Custom Publishing

## **Course Description**

This is a one-semester introductory biology lecture and laboratory course that covers important aspects of general biology. This fast-paced biology overview will provide a background in cell- and organismal biology, including the evolution and diversity of animals and plants. You will learn about how biology and evolution are affected by environmental conditions and how populations interact with each other.

## **Learning Objectives**

Students will gain basic skills and knowledge in biology, including key concepts of evolution, systematics, ecology, genetics, molecular biology, physiology, and anatomy through lectures and

lab experiments. They should also be able to present topics in biology orally using proper scientific terminology.

Students will be able to:

- 1. Understand basics of biological concepts and the scientific method
- 2. Explain the specific principles of biological evolution and natural selection
- 3. Demonstrate understanding of the intricate nature of relationships among organisms in functioning ecosystems
- 4. Describe key groups of the major domains of life, including prokaryotes and eukaryotes
- 5. Explain basic nutrient cycles and how nutrients affect biology and ecology
- 6. Discuss issues in conservation biology in light of ecology and biological diversity
- 7. Think critically and creatively when describing how biology and the environment interact

#### Prerequisite(s): None

#### Co-Requisite(s): None

Recommended Preparation: CHEM 103L: General Chemistry for the Environment and Life

### **Course Notes**

While the text and outline are similar to introductory courses taught at other universities, this course is tailored more specifically to Environmental Studies and other life science studies at USC. In order to provide a rigorous one-semester survey, BISC 103L will not address all specialized concepts in many areas traditionally covered in biology classes. This course is not appropriate for medical school preparation and will not serve as a prerequisite for many upper division courses in biology. Students majoring in biology, chemistry, other natural sciences, or engineering will normally register in the BISC 120L sequence. Consult your advisor and the instructor immediately if you have questions about BISC103L vs. BISC 120L. Students majoring in neuroscience should take BISC 220, for which this course is not a substitute.

Fundamental concepts in chemistry are required for an understanding of biology. The student should have a working knowledge of high school chemistry, and is urged to take the companion chemistry course, CHEM 103L: *General Chemistry for the Environment and Life*. The chemical concepts that we shall use regularly throughout the course will reinforce those of CHEM 103L.

Attendance to both lectures and labs is important. Chronic missed classes will adversely affect your performance. More than two unexcused absences in the lab can result in a failing grade for the lab portion of the course.

#### **Email Communication:**

To ensure privacy, only student's USC email accounts may be used for email communications. Students are responsible for understanding the content of email messages that the instructor sends to their USC accounts. Therefore, each student must check their USC email regularly and make sure their account is not over quota, so new messages can be received.

## **Assignment Submission Policy**

#### **Oral Presentation Project**

Your Oral Presentation Project consists of 2 components: Outline and Presentation, each receiving a grade. Refer to the *Guidelines for Oral Presentation Project* document for details regarding this assignment. The entire Oral Presentation Project must be **ORIGINAL WORK** by the student involved.

Plagiarism is strictly forbidden and will be treated with the usual University rules if it is encountered (see above).

**Outline** An outline consisting of *PowerPoint slides* is required for your oral presentation project and is due **5 pm Friday, March 13**. Before you can turn in your outline, you must **submit 3 different topics** no later than **5 pm Friday, Feb. 28** in order to get your **topic approved**. You will email your 3 topic choices according to detailed instructions provided once the semester begins. The PowerPoint outline will be submitted through your COURSE Blackboard site, under "Assignments". This outline should specifically highlight the major points of each slide of your talk (i.e., 5-10 slides) and should include the references that you are basing your talk on. For every 12hour increment the Outline is handed in late, 10% of the total possible points will be deducted from your grade [e.g., if the outline is past 120 hrs (5 days) late, you will receive no points for this assignment]. More detailed information regarding the Outline expectations can be found in the *Guidelines for Oral Presentation Project* document.

**Presentation** The oral presentation will consist of a 12-15 minute talk followed by a discussion period of up to five minutes, during which other students are *urged* to ask questions and to consider the material. All presentations should be prepared with Microsoft PowerPoint, using the 2010 or later version. Grades will be assigned on the basis of science/significance of the topic, quality of the material, and the quality of the presentation. Detailed guidelines can be found in the *Guidelines for Oral Presentation Project* document. The presentations will be given in lab during the last 3 weeks of class. The schedule will be assigned in lab.

**Policy for Missed Presentation** Once you have signed up for a date to give your presentation, you will not be able to change it unless you have a valid medical emergency, accompanied with official written documentation (the Absence of Class - Self Verification Form provided by the Student Health Center is *insufficient documentation* for our purposes). If you do not have a valid medical excuse, it will be at the discretion of the Laboratory Manager to determine whether you will be able to make up the Presentation, if time allows.

You must attend ALL your lab session during the 3 presentation weeks. If you do not have a valid excuse for missing lab [with official written documentation presented to the Laboratory Manager, within two (2) days of the missed lab], *2 points will be deducted from your Oral Presentation grade for EACH presentation you miss (i.e., if 5 students present, 10 points will be deducted from YOUR presentation grade).* If you have a valid excuse for missing your lab, it must be accompanied with official written documentation (the Absence of Class - Self Verification Form provided by the Student Health Center is *insufficient documentation* for our purposes) and presented to the Laboratory Manager, within two (2) days of the missed lab. *You are, however, still responsible for making up the missed presentations* by attending another lab section's presentations. If you fail to do this, points will still be deducted regardless of excuse.

#### Examinations

Four 80-minute examinations will be given. Each will cover the material of the preceding section of the course. A student is not allowed to start an exam after the first student has left any exam room. Lecture examinations can and will cover anything that is discussed in class, even if the material is not explicitly covered in the text. This allows professors to provide updated information or interesting examples that illustrate concepts in the text. For this reason, it is very important that you attend class. Those who do not attend will surely do more poorly on examinations.

#### **Grading Timeline**

Grades for Midterm Exams will be posted within one calendar week following the exam date.

## **Grading Breakdown**

The course grade will be based upon **775 possible points**:

Assignment	Points	% of Grade	
Midterm 1	100	13	
Midterm 2	100	13	
Midterm 3	100	13	
Final Exam	100	13	
Oral Presentation Project	100	13	
Laboratory grade	275	35	
Total	775	100	

## **Grading Scale**

Course final grades will be determined using the following scale:

А	90.1 - 100
A-	86.7 - 90
B+	83.3 - 86.6
В	80 - 83.2
В-	76.7 – 79.9
C+	73.3 – 76.6
С	70 – 73.2
C-	66.7 – 69.9
D+	63.3 – 66.6
D	60 - 63.2
D-	56.7 – 59.9
F	≤56.6

# **Additional Policies**

## **Missed Exams**

NO make-up exams will be given. If you miss an exam or quiz due to an emergency, and wish us to make an accommodation, you should proceed as follows. Present a written request to the Lab Manager within 3 days of the missed exam. This request needs to include documentation that you feel is appropriate to demonstrate a legitimate reason for missing said exam. If we judge your excuse to be valid, we will, at our discretion, give you a grade for the missed exam equal to the average of your grades for the equivalent exams that you did take. With respect to student privacy we will not dictate what sort of documentation needs to be provided, however, our decision is ultimately based on what documentation we do receive and USC policy. Please note that your physician has to be licensed to practice medicine by the State of California (www.medbd.ca.gov). Also note that it is considered unethical and unwise for a physician to provide medical care for a family member. The recommended sanction for falsification of medical documentation is an F in the course and suspension or expulsion from the university. Therefore submit the appropriate documentation accordingly. Except in extraordinary circumstances, we will make accommodations for only one missed lecture exam. If your excuse is judged not to be valid, or you do not provide it within the allotted time, you will receive a score of zero for the missed exam.

**Please note**: the Student Health Center has changed their medical excuse policy. The Student Health Center will <u>no longer provide</u>: 1) class excuse notes for illness, 2) clinical appointments for class excuse, and 3) authentication of outside physician certificates. The Absence of Class - Self

Verification Form provided by the Student Health Center is *insufficient documentation* for our purposes.

If you miss the final examination and have provided a valid medical excuse to the Lab Manager within 72 hours of the examination time, a final course grade of incomplete (IN) will be recorded and you will be permitted to take a make-up final examination during the following year.

Students who wish to miss an examination for observance of a religious holy day should be aware of the University's policy on such absences, published at:

<u>http://orl.usc.edu/life/calendar/absences/</u>. Requests for such absences should be made by email to the Lab Manager and the instructors <u>at least 2 weeks in advance</u> of the absence. If the absence is approved, a reasonable accommodation will be provided.

#### **Re-grading of Exams**

If you wish to have exam questions re-graded, you must submit your exam along with the Exam Regrade Request Form (pdf on Blackboard) to Dr. Chong-Cerrillo <u>within one week</u> of the time exams were returned to the entire class/lab. <u>Your request must be typewritten and thoroughly explained</u> in writing; oral requests will not be considered. The entire examination may be regraded, not just the part you think deserves more credit. Your score may go up or down as a result of a re-grade. Regrade requests will not be honored if the exam was taken in pencil or if white-out was used.

#### **Final grades**

We will be glad to discuss your performance, and your possible grades, at any time throughout the course.

Please remember that (1) the course mean given on Blackboard is NOT authoritative, and (2) that only the total number of points earned determines your course grade. The final grades are assigned on a curve, based on the total number of points earned in the course.

The Trojan Integrity Guide can be found at <u>http://sjacs.usc.edu/students/academic-integrity/</u> The Undergraduate Guide for Avoiding Plagiarism can be found at <u>https://sjacs.usc.edu/files/2015/03/tig.pdf</u>

#### **Blackboard and Posting of Grades**

Blackboard lists BISC 103 lecture and lab sections as "separate courses". All grades (lecture and lab) are posted in your LAB section. However, be sure to check for additional postings and announcements both in the lecture section and the lab section on a weekly basis.

Blackboard is convenient system to communicate grades; however, *those grades are not authoritative*. It is the student's responsibility to notify your TA or Lab Director ASAP in the event of any mistakes in your posted grade.

Please remember that (1) the course mean given on Blackboard is also NOT authoritative, and (2) that only the total number of points earned determines your course grade. We will be glad to discuss your performance, and your possible grades, at any time throughout the course. Help provided in this way should be considered only provisional. Your later performance may change (sometimes dramatically) the best- meant extrapolation.

# **Lecture Schedule:**

Wk	Date	Day	Торіс	Campbell – Concepts & Connections 9 <sup>th</sup> Ed.	
1	Jan 14	Т	01 Introduction to Biology: Exploring Life	Ch 1, 2 & 3	
	Jan 16	Th	02 The Cell	Ch 4 & 5	
2	Jan 21	Т	03 Cellular Energy	Ch 6	
	Jan 23	Th	04 Photosynthesis	Ch 7	
3	Jan 28	Т	05 Reproduction and Inheritance	Ch 8 & 9	
	Jan 30	Th	06 Molecular Biology of the Gene	Ch 10	
4	Feb 4	Т	07 Genetic Control and Genomics	Ch 11 & 12	
4	Feb 6	Th	<b>EXAM 1</b>		
E	Feb 11	Т	08 Genetic Control and Genomics	Ch 11 & 12	
5	Feb 13	Th	09 Genetic Control and Genomics	Ch 11 & 12	
6	Feb 18	Т	10 Population Evolution and Speciation	Ch 13 & 14	
6	Feb 20	Th	11 Speciation and Evolutionary History	Ch 14 & 15	
7	Feb 25	Т	12 Microbial Life - Prokaryotes	Ch 16	
/	Feb 27	Th	13 Microbial Life - Protists	Ch 16	
Q	Mar 3	Т	EXAM 2		
o	Mar 5	Th	14 Fungi	Ch 17	
٥	Mar 10	Т	15 Introduction to animals	Ch 18-20	
3	Mar 12	Th	16 Invertebrate Diversity	Ch 18-20	
10	Mar 17		Spring recess		
	Mar 19				
11	Mar 24		16 Vertebrate Diversity	Ch 19	
	Mar 26	In —	16 Vertebrate Diversity	<u>Ch 19</u>	
13	Mar 31		17 Vertebrate embryology and aging	Ch 27	
	Apr 2	Ih —	17 Vertebrate Structure and Function	Ch 30	
13	Apr /		EXAM 3		
	Apr 9	Th	18 Plant Diversity	Ch 17	
14	Apr 14	T	18 Plant Diversity	Ch 17	
	Apr 16	Th	18 Plants Form and Function	Ch 31-33	
15	Apr 21	Т	19 The Biosphere	Ch 34	
	Apr 23	Th	20 The Biology of Behavior	Ch 35	
16	Apr 28	Т	23 Ecology/Ecosystems	Ch 36-37	
10	Apr 30	Th	25 Conservation Biology/Climate Change	Ch 38	
May 12 FINAL EXAM, 8:00am		am			

# Statement on Academic Conduct and Support Systems

#### Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Students must work independently on all individual assignments except that data will <u>sometimes</u> be shared for laboratory experiments. All USC students are responsible for reading and following the USC Student Conduct Code, which prohibits plagiarism. Some examples of behavior that is not allowed are: copying all or part of someone else's work (by hand or by looking at others' files, either secretly or if shown), and submitting it as your own; giving another student in the class a copy of your assignment solution, including lab reports; consulting with another student during an exam; and copying text from published literature without proper attribution. If you have questions about what is allowed, please discuss it with the instructor.

Students who violate University standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the University. Since dishonesty in any form harms the individual, other students, and the University, policies on academic integrity have been and will be strictly enforced.

#### Support Systems:

#### Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. engemannshc.usc.edu/counseling

#### National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

#### Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <a href="mailto:sarc.usc.edu">sarc.usc.edu</a>

#### Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

#### Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

#### The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

#### Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

#### USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.

Provides overall safety to USC community. dps.usc.edu

# BISC-103L: GENERAL BIOLOGY FOR THE ENVIRONMENT AND LIFE

# LABORATORY SYLLABUS AND SCHEDULE -SPRING 2020-

# LABORATORY SECTIONS

13201: Tuesday 11:00am-1:50pm @ ZHS 359

13202: Wednesday 9:00am-11:50am @ ZHS 359

13203: Wednesday 12:30pm-3:20pm @ ZHS 359

13204: Thursday 11:00am-1:50pm @ ZHS 359

# LABORATORY MANAGER

**Eric Noakes** Office: ZHS 353 E-Mail: <u>enoakes@usc.edu</u> (put BISC-103 in the subject line) Office Hours: By appointment

# LABORATORY INSTRUCTORS

Please refer to the 'Contacts' tab on the laboratory Blackboard site for details.

# LABORATORY GRADE

The laboratory will represent 275 points or 35% of your overall grade for the course:10 Lab Reports (Variable)1856 Lab Quizzes (5 points each)302 Lab Exams (25 points each)50Participation10Total275

# **REQUIRED MATERIALS**

- *General Biology for the Environment and Life Laboratory Manual*, Spring 2020, Eric Noakes (available on Blackboard only, please print out entire lab manual)
- Personal laptop computer with headphones
- Lab coat

# LABORATORY POLICIES

# **BLACKBOARD CONTENT**

Lab materials will be available online through Blackboard. You will use Blackboard to access supplemental lab materials, grades, and announcements. Please note that changes are sometimes necessary mid-semester and will be announced on Blackboard. It is your responsibility to stay up to date with all Blackboard content.

# **ATTENDANCE**

You are required to attend all weekly laboratory sessions in your registered section only. You must show up to lab on time and remain for the entire lab section or until dismissed by your lab instructor. Do not schedule any appointments which will interfere with your lab section. It is your responsibility to plan ahead and ensure there will be no conflicts during the semester.

If you miss a lab due to a true emergency situation, you must provide acceptable documentation that you were not able to attend school within 48 hours of the missed lab to the laboratory manager, Eric Noakes. It will be at his discretion to determine whether or not the lab can be made up. If the week of the missed lab has already passed, you will not be able to make up the lab. Chronic, unexcused absence from lab (more than two unexcused absences) can result in a failing grade for the lab portion of the course.

Switching labs is not allowed. You must attend the lab section for which you are registered every week. Exceptions may be allowed at the discretion of the laboratory manager, Eric Noakes. If you have a compelling reason to switch lab sections one week, reach out to Eric in advance (the sooner the better). Laboratory instructors are not authorized to grant lab switches.

# LAB REPORTS

You are required to complete and turn in the lab reports located at the end of each chapter. These lab reports are due at the end of each lab session or experiment. There are two exceptions: The *Tree of Life: Understanding and Building Phylogenies* will be due 24 hours after that lab is over, and the *Eukaryotes: Protists and Filamentous Fungi* report will be due one week after that lab is over. The lab reports for *Understanding Population Growth Models* and *Isle Royal* are electronic and will be automatically submitted and recorded online while you do the exercise. All lab reports consist of data collection, data analysis, and answering questions about the lab exercise. Late lab reports will lose 20% of the total possible points per day they are late.

# LAB QUIZZES

Lab quizzes will be held every week except those weeks where there is a lab exam. Lab quizzes will be held at the beginning of each lab session (don't be late!). Quizzes will consist of multiple choice and/or fill-in-the-blank questions relating to material you will be covering in lab that day as well as results from the previous lab. It will be at the discretion of the lab manager to determine if a quiz may be made up with a valid excuse.

Quizzes will be handed back and reviewed in lab. If you feel something should be reviewed for a possible regrade, you must submit the quiz with a written explanation of why you think it should be regraded by the end of the lab session in which you got it back. Anything taken out of lab or written in pencil is not eligible for a regrade. Note that the entire quiz will be regraded, which may raise or lower your score.

# LAB EXAMS

Lab exams will test your knowledge and understanding of the topics and experiments covered in lab. Lab exams will take place at the beginning of the lab session (don't be late!). It will be at the discretion of the lab manager to determine if a lab exam may be made up with a valid excuse.

Lab exams will be handed back and reviewed in lab. If you feel something should be reviewed for a possible regrade, you must submit the exam with a typed explanation of why you think it should be regraded within 48 hours of the time the exams were handed back. If you used pencil or whiteout on the exam, it will not be eligible for a regrade. Note that the entire exam will be regraded, which may raise or lower your score.

## PARTICIPATION

Participation points are subjective and determined by the lab instructor based on attendance, punctuality, participation, effort, and initiative.

# ORAL PRESENTATIONS

Oral presentations will be given in lab during the last 3 weeks of class. Once you have signed up for a date to give your presentation, you cannot change it without a valid excuse. With a valid excuse, you MAY make it up if time allows. You must attend ALL labs during the presentation weeks. 2 points will be deducted from your oral presentation grade for each presentation you miss without a valid excuse. With a valid excuse, you are still responsible for making up the missed presentations by attending another section's presentations.

# **GRADES**

Though the lecture and lab sections of this course are separate on Blackboard, they count as a single course with a single grade. All scores will be recorded on the lab Blackboard site. From the time a grade is posted, you have one week to check for errors and get them corrected. Reach out to your lab manager and lab instructor if you find any issues in the gradebook.

# ACADEMIC ACCOMMODATIONS

Students requesting academic accommodations based on an academic disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP when adequate documentation is filed. Please be sure the letter is delivered to Dr. Heidelberg, Dr. Sigurdsen, and Eric Noakes as early in the semester as possible. DSP is open Monday-Friday, 8:30am-5:00pm and is located at GFS 120. <u>DSPFrontDesk@usc.edu</u>. (213) 740-0776.

# SYLLABUS AND SAFETY ACKNOWLEDGMENT

All students are required to submit a signed 'Syllabus and Safety Policy Acknowledgement Form' to certify that you have read and understood all policies presented in the lecture and lab syllabus and safety policies, and will abide by these policies for the duration of the semester. Failure to do so may result in removal from the lab.

# LABORATORY SAFETY RULES AND REGULATIONS

The biology laboratory represents a very different environment than a lecture hall. The presence of hazardous materials necessitates a greater level of awareness and caution. Because of the increased risk of personal injury in the laboratory, the standards of your behavior expected in lab are much more stringent than those in other courses. The operation of instructional laboratories is governed by external regulatory agencies. Compliance with all safety rules and regulations is mandatory for all students and lab instructors. We are required to enforce these rules for your own protection.

Notify your lab instructor and lab manager immediately if you are pregnant, color blind, allergic to any substances, taking immunosuppressive drugs, or have any medical condition which would prevent you from safely handling equipment and reagents in the laboratory. Consult your healthcare provider as well.

- 1. Eating, drinking, chewing gum, and smoking are forbidden in the laboratory. Keep all food and drink either inside your bags or outside of the lab. Violations will result in an immediate 5 point deduction from your total grade.
- 2. Lab coats must be worn at all times while in the laboratory.
- 3. Use of disposable gloves will be required at the discretion of your lab instructor.
- 4. Only shoes which provide complete foot covering are allowed in the laboratory.
- 5. Long hair should be pulled back and secured while in the laboratory.
- 6. The use of safety glasses will be required at all times. Eye glasses are not sufficient protection and should be worn underneath safety glasses. You are not permitted to wear contact lenses in the laboratory.
- 7. Report all accidents/spills to your lab instructor immediately! You will be required to go to the Student Health Center for any injury unless you decline (for minor injuries only). If you decline, you will be required to sign a waiver on the Incident Report form filed by your lab instructor. If you sustain an eye injury involving chemicals, you must flush immediately with water at the eyewash station for no less than 15 minutes and you must go to the Student Health Center. The emergency phone number to the USC Department of Public Safety (DPS) is (213) 740-4321.
- 8. Avoid breathing, tasting, or making skin contact with chemicals. Wear protective covering and disposable gloves when working with volatile, toxic, corrosive,

and/or irritating chemicals. Wash your hands periodically.

- 9. Secure lids back on the chemical containers when not in use. Chemicals are to be disposed of as directed by your lab instructor. Do not routinely pour chemicals down the sink. When in doubt, ask your lab instructor.
- 10. Biological waste must be disposed of properly in the biohazard waste container as directed by your lab instructor.
- 11. Some of the experiments will involve working with your own bodily material. Please use the necessary precautions when handling these materials (gloves, lab coat, safety glasses) for the safety of your fellow students. In addition, bodily material is considered biological waste and must be disposed of properly as directed by your lab instructor. When in doubt, ask.
- 12. All biohazardous disposable glass items (slides, cover slips, Pasteur pipets, glass tubes, etc.) and all disposable sharps must be disposed of properly in the biohazard sharps container, not the trash can nor the biohazard waste container. Any glass or sharp items found disposed of in an inappropriate waste container will incur a 5 point deduction from ALL students in the lab, no exceptions.
- 13. Perform procedures carefully to minimize splashing and aerosolized reagents.
- 14. Never pipet by mouth. Always use a suction bulb or pipet aid.
- 15. No unauthorized experiments are to be performed in the laboratory. Never leave your experiment unattended unless authorized to do so.
- 16. Work areas should be kept in an orderly manner. At the end of each lab session, clean up your work area, return all equipment, reagents, and supplies to their original location, and slide your chair under the table. Failure to properly clean-up will result in a point deduction of up to 5 points per violation.
- 17. You should always wash your hands with soap and water before leaving the laboratory. Do not ever leave the lab with your gloves on.
- 18. Refrain from any unsafe behavior, including but not limited to: removal of personal protective equipment at inappropriate times, disregard for the safety of others, disruption of the learning environment, etc.

# LABORATORY SCHEDULE – SPRING 2020

WEEK	DATE	ACTIVITIES
1	Jan 13 - 17	No Labs
2	Jan 20 - 24	No Labs
3	Jan 27 - 31	Ch. 1: Fundamentals in Laboratory Skills
4	Feb 3 - 7	Ch. 2: Cell Physiology Lab Report 1 (15 pts)   Lab Quiz 1
5	Feb 10 - 14	Ch. 3: Human Genetics: Your Genes, Inheritance, and Diagnostics Lab Report 2 (20 pts)   Lab Quiz 2
6	Feb 17 - 21	Ch. 4: Temperature-Dependent Gene Expression Ch. 5: Evolution and Population Genetics: Testing Hardy-Weinberg Lab Exam 1
7	Feb 24 - 28	Ch. 4: Temperature-Dependent Gene Expression Ch. 5: Evolution and Population Genetics: Evolutionary Change Lab Report 3 (15 pts)   Lab Quiz 3   Oral Topics Due
8	Mar 2 - 6	Ch. 5: Evolution and Population Genetics: Evolutionary Change Lab Report 4 (30 pts)   Lab Quiz 4
9	Mar 9 - 13	Ch. 6: The Tree of Life: Understanding and Building Phylogenies Lab Report 5 (20 pts)   Lab Quiz 5   Oral Outlines Due
10	Mar 16 - 20	Spring Recess – No Labs
11	Mar 23 - 27	Ch. 7: Microbes, Microscopy, and the Compound Microscope Ch. 8: Eukaryotes: Protists and Filamentous Fungi Lab Reports 6 (18 pts) and 7 (20 pts)   Lab Quiz 6
12	Mar 30 - Apr 3	Ch. 9: Detecting Coliforms in Environmental and Food Samples Ch. 9: Understanding Population Growth Models Lab Exam 2
13	Apr 6 - 10	Ch. 9: Detecting Coliforms in Environmental and Food Samples Ch. 9: Isle Royal: Virtual Population Ecology Lab Reports 8 (17 pts), 9 (10 pts), and 10 (20 pts)
14	Apr 13 - 17	Oral Presentations
15	Apr 20 - 24	Oral Presentations
16	Apr 27 - May 1	Oral Presentations
17	May 4 - 8	Study Days   Final Exams
FINAL	May 12	Lecture Final Exam   8:00am