Welcome to Integrative Biology 151

It is our pleasure to welcome you to Integrative Biology 151. We hope you find this course both a rewarding as well as an enjoyable experience. If you have any questions or problems, do not hesitate to contact any of us. And of course, when IB 151 is particularly informative, rewarding or enjoyable, we are always happy to hear about that as well.

**VERY IMPORTANT:** IB150 is a pre- or co-requisite for IB151, but these are two independent courses.

General Course Description
A successful career in any field, whether it be science, politics, economics, law, medicine, social services, teaching or whatever direction one chooses in life, will benefit fundamentally from knowing how to distinguish opinion from fact, general observations from careful collection of data to test an idea or hypothesis, and understanding basic tools to determine the strength of evidence for a given idea or hypothesis. In the labs, we will engage actively in experiments to learn each of these aspects of the scientific method. Moreover, we will learn how to work collaboratively in all aspects of hypothesis design, testing and analysis. We will all be critics and supporters of one another’s thinking, writing and presentation skills.

Student Learning Outcomes: Major Goals for the Course
1. Learn to formulate a scientific hypothesis and to test it with quantifiable predictions
2. Learn how to design an experiment to test an idea or hypothesis with predictions
3. Learn what kind of data constitutes strong/weak evidence in support of a hypothesis
4. Learn how to apply basic statistical analysis to determine the strength of the data you have collected to test a hypothesis, and to generate figures and tables that summarize your experimental findings.

Integrative Biology 151 Instructional Team
Sydney Cameron is the course/lab coordinator for IB 151 and is in charge of the labs. Dr. Cameron supervises the teaching assistants, prep staff, and oversees the labs. Contact information for Dr. Cameron: sacamero@illinois.edu; office: 215 Morrill Hall.

Laboratory Teaching Assistants: Your lab TA is your primary contact person for IB 151. She or he will introduce you to the lab material each week, guide you through the lab exercises, administer quizzes, exams and assignments, and grade your work.

Prep Staff: The prep staff are undergraduates just like you. They set up the lab each week before each lab session and sometimes pass out material during the lab. Please be respectful of them and their important role in making IB151 go smoothly for you.

Additional contact information and information about lab responsibilities and procedures will be presented during the first lab period and at the beginning of other lab periods as required.
Late Registration
Adding the course after the first day of classes does NOT excuse you from assignments that you have missed. If you add the course late, you need to contact your TA and the lab coordinator within 24 hours of adding the course to arrange make-up assignments. Students that add late will have due dates extended one week following their add date to allow the opportunity to complete any missed assignments. Any assignments not completed within this time frame will earn a zero.

Required Materials
The following materials are required for Integrative Biology 151:
1. A laptop with Wi-Fi connectivity
   • Note: If you do not own a laptop please let your TA know during the first week of class.
2. A three ring binder and a 3-hole punch.
   You must print out the lab manual pages from Moodle each week. Assignment instructions/worksheets are included in these pages.
3. A non-programable calculator (NO PHONES).
4. An introductory biology textbook to reference when necessary.

>> Lab Sessions begin the second week of classes <<

Tentative Laboratory Schedule – Spring 2018

<table>
<thead>
<tr>
<th>Week of</th>
<th>Laboratory Exercise</th>
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<tbody>
<tr>
<td>Aug 26</td>
<td>Lab 1: Introduction to Science</td>
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<tr>
<td>Sep 2</td>
<td>No Labs – Labor Day Holiday</td>
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<tr>
<td>Sep 9</td>
<td>Lab 2: Respiratory and Cardiovascular Systems</td>
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<tr>
<td>Sep 16</td>
<td>Lab 3: Genetics and Inheritance</td>
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<tr>
<td>Sep 23</td>
<td>Lab 4: PTC I</td>
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<tr>
<td>Sep 30</td>
<td>Lab 5: PTC II</td>
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<tr>
<td>Oct 7</td>
<td>Lab 6: Enzymes</td>
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<tr>
<td>Oct 14</td>
<td>Lab 7: Lab Exam I</td>
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<tr>
<td>Oct 21</td>
<td>Lab 8: Pathogens and Human Health I</td>
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<tr>
<td>Oct 28</td>
<td>Lab 9: Pathogens and Human Health II</td>
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<tr>
<td>Nov 4</td>
<td>Lab 10: Climate Change and Vector-Borne Diseases</td>
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<tr>
<td>Nov 11</td>
<td>Lab 11: Pharmacology and Infectious Diseases</td>
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<tr>
<td>Nov 18</td>
<td>Lab 12: Lab Exam II</td>
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<tr>
<td>Nov 25</td>
<td>No Labs- Thanksgiving Break</td>
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<tr>
<td>Dec 2</td>
<td>Lab 13: Pandemic Project with Presentations</td>
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</tbody>
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Rules of the Laboratory
1. Food and drink are not allowed in any of the laboratories.
2. You must wear closed-toed shoes or you will be asked to leave.
3. The faculty and staff of IB 151 are not responsible for any student's belongings during labs; bring only necessary items to class.
Student belongings must be stored so all walk areas are clear.

4. Clean up at the end of each lab period. Wash your hands with soap before leaving the laboratory.
   - The lab should be as clean as or even cleaner than when you entered.
   - Failure to clean up at the end of the lab will result in a 10% penalty for the lab assignment.

5. Notify your TA if you are pregnant, color blind, allergic to any insects or chemicals, taking immunosuppressive drugs, or have a medical condition that may require special measures or attention in the laboratory.

6. In case of fire, leave the lab complex and exit the building via the North stairwell.

7. In case of tornado, leave the lab complex and assemble in the basement along the West wall.

8. All students are assumed to have read and understood the CODE of POLICIES and REGULATIONS APPLYING to ALL STUDENTS, University of Illinois and will be expected to act accordingly. (http://studentcode.illinois.edu/)

9. Dr. Cameron and the TAs are in charge of the orderly conduct of the labs and may exclude any student who does not comply with a reasonable request in this regard.

10. Do not perform any unauthorized experiments. Do not use equipment without permission.

Attendance and Punctuality

1. Attendance will be recorded at the beginning of every lab session. You must be present for the entire lab period to be considered eligible to turn in the lab assignment.

2. Students must attend their scheduled lab sections every week unless they have been assigned to a make-up lab section by the lab coordinator. Teaching assistants cannot reschedule students to any other lab sections including their own. Only students who can provide an acceptable (see below) and documentable reason for absence will be eligible for a make-up lab. Make-up labs are limited by the availability of space in other sections and are only available the same lab week, so they are not guaranteed to be available even if you have an excused absence.

3. Students who miss their lab section must present written and dated documentation of a personal or medical emergency or a confining illness in a timely fashion. Written documentation must specify the nature of the problem and document that it prevented the student from attending lab at the time in question. Students who visit McKinley Health Center or private physicians must provide verification of confining illness for the date in question. Letters for absences lasting more than three consecutive days should request a letter through the Office of the Dean of Students (Turner Student Services Building, 610 E. John, (333-0050). The lab coordinator will make final determinations regarding if the absence is excusable or not. Documentation must be received by the lab coordinator within 1 week of the absence unless you are working with the Office of the Dean of Students.
4. We understand that some IB151 students need to attend professional interviews during the semester. Such interviews are expected to be scheduled so as not to conflict with IB 151 labs. However, if this is not possible, a student may make one request during the semester to attend another lab section due to an interview. In order to obtain permission to do so, the student must notify the IB 151 Course Coordinator at least 1 week in advance of the make-up lab that they are requesting to attend. The request must include documentation showing, 1) the interview day and time and 2) that they made every effort possible to schedule the interview outside of lab time. Make-up labs are only available M-W during the week of the lab and space is limited. The student must attend the make-up lab in its entirety and all assignments must be turned in during the make-up lab. If all of the requirements listed in this section are not met, then the absence will be considered unexcused and no credit can be earned for the lab.

5. Travel, weddings, jobs, other courses, etc., must be planned around the laboratory as make-ups will NOT be offered for these reasons.

6. Students who need to miss lab for any other reason (religious observances, University of Illinois student athletic meets, etc.) should contact the lab coordinator ASAP. Permission to attend a make-up lab is at the discretion of the lab coordinator. Students must request accommodation for religious observance from the student assistance center within the first two weeks of the semester. For other absences, documentation must be received by the lab coordinator at least 1 week prior to the absence unless you are working with the Office of the Dean of Students.

7. Regularly scheduled classes take precedence over other exams according to University guidelines. If you have an exam that is scheduled during your regularly scheduled IB151 lab, then the class in conflict is obligated to offer you another exam time. We will not let you attend another lab section.

Make-up assignments/grading when absent
All assignments due during the time period in question must be completed before the student's absence. You cannot earn credit for a lab you did not attend or for which you have an unexcused absence. If you have an excused absence, we will try to arrange a make-up lab or make-up assignment. A prorate will be given for an assignment associated with an excused absence if a make-up lab/assignment cannot be arranged. A prorate is the weighted average score of all similar assignments. If you miss an excessive number of labs, additional exercises may be assigned. Exam grades will NOT be pro-rated. Make-up exams will be in a different format than exams given during lab time and must be taken within 72 hours of the missed lab absence.

Grading and the Course Gradebook
IB 151 is a lab-only course. Your course point total will be determined by four main types of assignments: activities, major assignments, exams, and a final presentation.

Activities (5% of course grade). A short activity will be completed in the first 15 minutes of some lab classes. These activities will require you to synthesize and apply information from the pre-lab reading. If you do not have a printout of the lab manual pages from Moodle you will
lose 1pt of the grade you would have earned on your activity during that week. If you are late to class, you will have less time to complete the activity as these activities are also used to encourage arriving at the lab on time.

**Major assignments (40% of course grade).** Depending on the lab activity, you will be asked to turn in an assignment, lab report, take a quiz, present to the class, etc. The point value of each assignment will typically range from 10-25 points. Your TA will clarify what needs to be completed for each lab. All lab assignments must be handed in at the end of the lab period unless otherwise noted. Any assignment not turned in on time will automatically have 25% deducted with an additional 25% deducted for each additional 24 hours that it is late.

**Midterm Exams (50% of course grade).** There will be two exams this semester. Exams will be cumulative. Lab sections will have different versions of the exam but of equivalent difficulty. Averages will be calculated for the entire course (all sections) to ensure fairness. *Communicating to fellow students about the content of exams is considered cheating and will be detrimental to you and your grade in IB151.*

**Final Presentation (5% of course grade).** Your major project of the semester will be a final presentation to be completed in groups of 3-4. You will receive more details about this project during the second half of the semester.

Plus and minus final course letter grades will be assigned at the end of the semester. Your course grade will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>PercentageRange</th>
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<tbody>
<tr>
<td>A+</td>
<td>99.91-100.00%</td>
</tr>
<tr>
<td>A</td>
<td>92.91-99.90%</td>
</tr>
<tr>
<td>A-</td>
<td>89.91-92.90%</td>
</tr>
<tr>
<td>B+</td>
<td>86.91-89.90%</td>
</tr>
<tr>
<td>B</td>
<td>81.91-86.90%</td>
</tr>
<tr>
<td>B-</td>
<td>79.91-81.90%</td>
</tr>
<tr>
<td>C+</td>
<td>76.91-79.90%</td>
</tr>
<tr>
<td>C</td>
<td>71.91-76.90%</td>
</tr>
<tr>
<td>C-</td>
<td>69.91-71.90%</td>
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<tr>
<td>D+</td>
<td>66.91-69.90%</td>
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<tr>
<td>D</td>
<td>61.91-66.90%</td>
</tr>
<tr>
<td>D-</td>
<td>59.91-61.90%</td>
</tr>
<tr>
<td>F</td>
<td>≤ 59.90%</td>
</tr>
</tbody>
</table>

**Requesting a Regrade**
If you believe that an error has been made in the grading of any assignment in IB 151, you may request that your TA regrade it. Such a request **must be made in writing** and can be made **no more than one week after the assignment was returned to you.** Except for arithmetical errors in point totals, a regrade involves the regrading of the entire assignment. The grade earned on the regrade will be the final grade for the assignment even if it is lower than the original grade.

**Statement on Academic Integrity**
Science, as well as every other area of academic endeavor, cannot usefully proceed without honesty on the part of all parties involved. The faculty and staff of IB 151 expect the students in the course to behave as if they were scientific researchers and to adhere to the highest standards of academic conduct. **Academic dishonesty will not be tolerated.** Academic dishonesty will be dealt with in accordance with course policy and with the University-wide standards in the Code of Policies and Regulations Applying to All Students. All allegations will be
submitted to the university FAIR system and sanctions will be proportional to the severity of the violation.

**Cheating.** Cheating is the use of external information (written material, the tests of your fellow students, etc.) to complete an assignment in which such sources had been explicitly prohibited. Students taking quizzes or exams in IB 151 are prohibited from consulting specific IB151 quiz and exam questions prior to taking the quiz or exam, any written information while they are taking the quiz or exam, and they may not communicate with their fellow students about the quiz or exam. You must formulate answers to questions without any outside assistance of any kind. Allowing other students to copy your work is considered cheating by you. We examine quizzes/exams closely to detect evidence of cheating. Students often like to look around the room while thinking about the answers to questions. But it is best to avoid any behavior that could be construed as looking at the paper of another student.

**Plagiarism.** Plagiarism is the presentation of others' work as your own. Science builds upon information that was gathered and published in the past. It is important to cite sources of information both to avoid appearing to take credit for work done by others and to allow the reader to check your statements. Students may (and are encouraged to) discuss the content of the lab assignments with their classmates or others. However the assignment that each student hands in must be written in his or her own words. If an experiment is performed by a group, then each student must report the results in her or his own words (unless a group report is specifically requested) and group member names must be listed on each student's assignment. **Citation.** On assignments, you must cite information that you obtain from published sources. The information content must always be rewritten in your own words. Put the author and date in parentheses after describing previously published work, and provide a complete citation using APA formatting at the end of your write-up in a list headed "Literature Cited". Failure to cite published work is a form of plagiarism and will result in a zero for the assignment. *Avoid direct quotation of published work (especially lengthy quotations of one or more sentences) unless the exact wording of the quote is important (it very rarely is in science).* Direct quotations are almost never used or necessary in scientific writing, unlike in the humanities.

**Our Advice for Your Success in IB151**
Laboratory exercises in college science courses can often be challenging for new students, especially for those without a strong science background. In a lab course, you are expected to work more independently than you do in a lecture course and to use equipment and materials with which you may not be familiar. The exercises are meant to be intellectually challenging. They present you with problems that you will have to think about. Time in the lab is also limited. You will have exactly three hours every week during which to perform the exercises and complete your assignments. So, **come prepared for lab. You should expect to be in lab the full three hours each week.**

- **Show up for lab every week and show up on time.** This sounds obvious and it is. There is no harm in emphasizing the obvious. Laboratory exercises are hands-on experiences. Unlike in lecture courses, it isn’t possible to make up for missing a lab by doing some
extra studying. Important announcements are usually made at the beginning of a lab period. If you miss part or all of a lab, you will have to spend valuable time later trying to make up as much as possible of what you missed. If you attend every lab and show up on time, you make life a lot easier for yourself. The easiest points to get in the course are the activities. Attendance and punctuality are vital to doing well in this part of the course.

- **Be prepared.** Many students waste a lot of time in lab trying to figure out what they are supposed to do.
  - **READ YOUR LAB MANUAL AHEAD OF TIME.** Make notes in it.
  - Email your TA or your lab partners with questions about things you don’t understand.
  - Know what you are going to be doing **before** you get to lab and your experience will be much more enjoyable and rewarding.

- **Ask questions.** Your instructor can help you the most efficiently if s/he knows what you need to know. If you’re not certain about something, try to find the answer in the lab manual. If that doesn’t work, do not hesitate to ask your TA. **It’s their job.**

- **Familiarize yourself with the basic information in the course syllabus and the lab manual.** Know what is going to happen when and plan ahead. If a lab exam is during a week in which you have mid-terms in three other courses, get started studying earlier.

- **Manage your time effectively.** Set up a schedule and stick to it. If you need to change your schedule for some reason (maybe you want to go to a movie at a time when you normally study), then 'borrow' time from another activity to avoid falling behind.

**Disability**

If any student anticipates or experiences barriers to learning or full participation in this course based on a physical, learning, or mental health disability, please contact the instructor immediately to discuss possible accommodations.