Course Subject, Number and Title
*Biology/Botany/Zoology 151 – Introductory Biology*

Credits 5

Learn@UW (Canvas) Course URL
https://canvas.wisc.edu/courses/89162

Meeting Time and Location
Lecture 1: 11:00 MWF – B10 Ingraham

Course Designations and Attributes
General education; Honors available.

Instructional Mode
All face-to-face

Credit Hours are met by the Course
This 5-credit class meets three times weekly for 50-minutes for lecture, plus 3 hours per week for lab and 75 minutes per week for discussion section. Over the course of the fall/spring semester, students are expected to do a total of about 250 hours learning activities which include class attendance, lab attendance, reading, studying, preparation, problem sets, lab reports and other learning activities.

INSTRUCTORS AND TEACHING ASSISTANTS

Instructors - Titles and Names

Dr. Seth Blair    Dr. Tony Stretton
1117 Johnson St. 1117 Johnson St.
(608) 262-1345 (608) 262-2172

Instructor Availability
In-person and on-line office hours was announced in lecture and is posted on the course Canvas site.

Instructor Email/Preferred Contact
ssblair@wisc.edu    aostrett@wisc.edu

Coordinators
Kerry Martin
232 Noland Hall  Jeremiah Yahn, PhD
250 N. Mills St. 229 Noland Hall
(608) 262-3599 250 N. Mills St
151lec1@zoology.wisc.edu (608) 265-5336
OFFICIAL COURSE DESCRIPTION

Course Description
First semester of a two semester course designed for majors in biological sciences. Topics include: cell structure and function, cellular metabolism (enzymes, respiration, photosynthesis), information flow (DNA, RNA, protein), principles of genetics and selected topics in animal physiology. High S chemistry or concurrent registration in college chemistry strongly advised.

Requisites
Not recommended for students with credit already in Zoo/Bio 101, 102, or Botany/Bio 130.

LEARNING OUTCOMES

Course Learning Outcomes
Introductory Biology 151 is the first semester of a two-semester introductory sequence for majors in the biological sciences; course material is delivered via lectures, required discussion, and laboratory sessions. Emphasis will be placed on learning, understanding, and being able to use key biological concepts and the scientific method.

The study of modern biology is not only a matter of assimilating factual information. Learning how to use that information for problem-solving, posing hypotheses, and interpreting experimental results is also critical to understanding biology as a science. The lectures examine key concepts, which will be more fully explored in discussions. In the laboratory, students will need to use the scientific method and apply a number of the concepts from lecture to carry out the various activities. In addition, labs stress the development of teamwork and written and oral presentation skills. These are required to investigate scientific concepts successfully and communicate research findings to others.

General Learning Goals and Objectives (in no particular order)

● Develop a broad knowledge base sufficient to understand, connect, & synthesize the Vision & Change core concepts: Evolution; Structure and Function; Information Flow, Exchange, and Storage; Pathways and Transformations of Energy and Matter; Systems.
  o Students will be exposed to topics that cover the breadth of the field of biology, the scope of biology (atoms to ecosystems), and the many ways to be a biologist.
  o Biology 151 will concentrate on cell structure and function, cellular metabolism (enzymes, respiration, photosynthesis), information flow through DNA, RNA, and proteins, principles of genetics, and principles of animal physiology, with emphasis on structure-function relationships in the digestive, circulatory, respiratory, immune, excretory, muscular and nervous systems.

● Make connections to other scientific disciplines. Students will:
  o use other scientific disciplines (e.g., chemistry, physics, and math) to understand biology, and make conceptual and content linkages with those disciplines.
  o understand the importance of collaboration between biology & other scientific disciplines.

● Make connections to society at large. Students will understand:
  o the scientific underpinnings of current issues.
  o why biological knowledge is essential to global citizenship.

● Develop practical skills necessary for a professional biologist. Students will advance their:
  o teamwork skills.
  o laboratory skills.
Develop communication proficiency. Students will be able to:
- write logically and with clarity and style about important questions in biology.
- articulate persuasively, both orally and in writing, focused, sophisticated, and credible arguments.
- understand and explain results effectively.
- approach evidence with probity and intellectual independence.
- find and use source material appropriately with proper citation.
- read and understand primary scientific literature.
- understand the difference between primary and secondary scientific literature.

Become proficient in problem-solving through engaging in the process of science, by:
- developing testable hypotheses and aligning methods with a hypothesis.
- using biological knowledge/concepts to solve novel problems.
- identifying/asking questions & determining how to answer them.
- integrating disparate information.

Gain interest in the field of biology. Students will gain an appreciation for all topics in biology, not just their own intended major or career path.

GRADING

This is a 5-credit course. Attendance in lecture, lab and discussion is mandatory. In order to receive a passing letter grade in the course, Intro Bio 151 students must have a passing score (>60%) in the lecture + discussion and laboratory portions combined, and obtain a score of >50% in each of these portions individually.

The lecture portion of the course will comprise 60% of the final grade.
- Combined, the lecture exams count for 56% of the final course grade. Exams will be equally weighted, and concentrate on lecture and discussion material from the previous third of the semester. There is no cumulative final exam for the course.
- Practice exam completion accounts for 3% of the final course grade, 1% from each third of the semester.
- i>Clicker participation in lecture will count another 1%. Using a clicker during 75% or more of the lectures garners full credit at the end of the semester.

The lab will comprise 34% of the final grade. The specific breakdown of points for the lab portion of the course is detailed in the lab syllabus.

The discussion is worth 6% of the final grade. Graded portions of discussion will be primarily in the form of quizzes based on the lecture material.
- In-discussion quizzes and worksheets count for 4% of the final course grade.
- Weekly discussion homework counts for 1% of the final course grade.
- Two lecture-based essays count for 0.5% of the final course grade, each, for a total of 1%.

Grading Scale

90-100% = A
88-89.99% = AB
80-87.99% = B
78-79.99% = BC
70-77.99% = C
60-69.99% = D

Please note that our course is NOT graded on a curve. It would result in lower grades across the entire course if we did so – yes, truthfully. Also, please note that we do NOT round scores up.
Questions Regarding Graded Work
Any questions regarding grading of any exams, quizzes, or assignments must be addressed within one week following the return of the graded work. The grader reserves the right to address only the graded item in question or the entire exam, quiz, or assignment. Absolutely no reconsideration of graded work will be permitted following the submission of final letter grades in this course unless it concerns a technical issue regarding grade recording.

REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS

Textbooks & Other Required Materials
• Biology, 9th or 10th edition, Campbell & Reece – Limited quantities available at the University Book Store (UBS) but we strongly encourage you to shop around for the most affordable copy you can find. Choose either the hardcover or the 3-hole-punch version of either edition of Biology.
• i>Clickers – These are available at UBS. A document describing on-line clicker registration is found on our course Canvas course website.
• Practicing Biology (the lab manual – for 151 students only) – Available at UBS.

Look for the full lecture schedule and lab schedule on the course Canvas site after Jan. 23.

Learn@UW (Canvas) & Emails – Mandatory Reading Each Week
An Announcement is posted to Canvas weekly. Other notifications about the course are via email. All students are responsible for the information contained in these communications and are to check them regularly. If you have any difficulty doing so, contact us immediately. These announcements are required reading and contain essential information regarding homework, course policies, exam scheduling, and other matters.

EXAMS

Exam schedule
Exam 1: Wed., Feb. 28, 8:30-10:00pm Location: See most recent weekly announcement
Exam 2: Thur., Apr. 5, 8:30-10:00pm Location: See most recent weekly announcement
Exam 3: Sun., May 6, 10:05-11:35am Location: See most recent weekly announcement

Exam Review Schedule
Exam 1: Sun., Feb. 25, 7:30pm Location: 132 Noland
Exam 2: Wed., Apr. 4, 8:15pm Location: 168 Noland
Exam 3: Thurs., May 3, 8:15pm Location: 132 Noland
Sat., May 5, 10:30am Location: 132 Noland

Exam Policies
• Exam Conflicts: University policy specifies that exams cannot disrupt classes held during regularly scheduled times. If you have an exam for another course that conflicts with your lab, discussion, or lecture period in Intro Bio 151, you must request an alternate exam time from your professor. Likewise, we will provide alternate exam times for students with legitimate course conflicts of this nature.
• Alternate exam times will be offered prior to each exam for students with documented course conflicts.
• No Electronic Devices (including phones or calculators) will be permitted in the exam rooms. Any math required will involve simple calculations performed by hand.
• Note Cards will be permitted in the last half of exam sessions. Blank cards will be provided approximately one week prior to the exam. All information on the card MUST be written by hand (i.e., not from a printer).
● There will be no late make-up exams except for extreme cases, such as a death in the family, serious illness, legal, or University-related conflicts. Most make-up exams will be in an oral or modified essay format at the professor’s discretion. Contact the course coordinators for scheduling. This policy also applies to any other graded instruments of the course.

HONORS
The honors option in 151 is an outreach project. You will work with a small group of peers to develop an interactive presentation on a biological topic for elementary and middle school students. In the process, you will increase your mastery of complex biological information and improve your communication skills by translating this information for a younger audience. You will ultimately present your work at a Saturday Science event through the Wisconsin Institutes of Discovery (https://discovery.wisc.edu/programs/saturday-science). If you want to take this course for Honors and have not registered for Honors credit, see your coordinator. Then you will need to register for Honors credit in this course via My UW and Web Enrollment. You can find instructions here: https://honors.ls.wisc.edu/currentstudents/adddrop.

DIVERSITY & INCLUSION
Institutional statement on diversity: “Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” https://diversity.wisc.edu/

RULES, RIGHTS & RESPONSIBILITIES
See the Guide to Rules, Rights, and Responsibilities

ACADEMIC INTEGRITY
By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

CODE OF CONDUCT
● General - Particular issues (other than the obvious ones regarding cheating) that deserve special mention here are discussion attendance and i>Clicker use. Because both of these items represent a portion of your final grade in our course, if you sign in for someone else in discussion or use someone else’s i>Clicker, you are in violation of the Student Code of Conduct and subject to any penalties associated these infractions.

● Plagiarism - This issue is taken very seriously on this campus and within this course. Important information regarding plagiarism is found in the Writer’s Handbook posted on the course Canvas page. Please familiarize yourself with this handbook. We assume that you are fully aware of the definition of plagiarism and the ramifications of conducting it at this school.
• **Cheating** - We take cheating very seriously. If we find that you are cheating, we will respond with the utmost severity. It will certainly affect your grade negatively, and may also lead to further disciplinary action from the Dean. The consequences may well affect your whole future. Employers do not want to hire dishonest people. So, DO NOT acquire that label.

**ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

**Students Requiring Alternate Instructional Accommodations**
If you should need instructional accommodations for any course activities, please see your coordinator to make any necessary arrangements. **Students are expected to inform the coordinator of their need for instructional accommodations by the end of the third week of the semester (Friday, February 9), or as soon as possible after a scheduling problem or disability has been incurred or recognized.**

**McBurney Disability Resource Center syllabus statement:** “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty will work either directly with the student or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.”
http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php

For more information on the many services available on campus see the McBurney Resource Center at 263-2741 or www.mcburney.wisc.edu.

**ACCOMMODATIONS FOR STUDENT ATHLETES**

**Students Requiring Alternate Instructional Accommodations due to UW Athletic Conflicts**
If you should need instructional accommodations for any course activities, please see your coordinator to make any necessary arrangements. **Students are expected to inform the coordinator of their need for instructional accommodations by the end of the third week of the semester (Friday, February 9), or as soon as possible after a scheduling problem or disability has been incurred or recognized.**

**ABOUT THE INSTRUCTORS**

**Dr. Seth Blair – Professor of Zoology – Molecular/Cellular Physiology & Genetics**
I grew up in Seattle, but my dad was from Madison and his folks lived over on Sheldon Street near Michael's Frozen Custard, so I've been in and out of town for years now. I was an undergrad at Yale, and got my PhD at the University of California in Berkeley in 1982. My grad school mentor was Gunther Stent, who had been an important figure in the early days of molecular genetics, but had since gotten interested in the developmental biology of nervous systems. At the time, we were figuring out how cells make the nervous system of the leech (simple nervous systems, lovely embryos, slightly obnoxious feeding habits). After that I did a postdoc at the University of Washington in Seattle working on the nervous system of the fruit-fly Drosophila, I did a brief postdoc at Harvard Med School working on leeches again, and then I came here in 1989. These days I pretty much stick with Drosophila (wonderful genetics, easier to feed), looking at the development of neuronal and non-neuronal tissues and how signaling between cells is used to determine the developmental fate of cells. I used to keep a tank of leeches around, but they died of sucker rot a few years back.

**Dr. Tony Stretton – Professor of Zoology – Animal Physiology**
I got my PhD from the University of Cambridge, England, in 1960, although I did a lot of the work at MIT because my boss (Vernon Ingram) went there on sabbatical in my second year as a graduate student. Then I
was at the MRC Lab of Molecular Biology in Cambridge for 10 years, working on the genetic code with Sydney Brenner and Francis Crick. All this time I was a protein and peptide chemist, working in collaboration with geneticists. About half way through, I started to work on the nervous system of nematodes, and that is what I have been doing ever since. After doing a lot of anatomy and electrophysiology, more recently my lab started working on neuropeptides, so technique-wise it's full circle, except that the methods are now much more powerful, and we use mass spectrometry to isolate and sequence peptides from single neurons. I came to the UW-Madison Zoology Department in 1971.

I do not lecture straight from the text. I send out detailed lecture notes and copies of PowerPoint slides before each lecture, and I expect you to have studied them BEFORE lecture. The notes are not a verbatim one-to-one mapping of what I say in lecture, and the style is different: the notes are much more formal and the lectures are deliberately more informal. The rule on this one is that you are responsible for EVERYTHING that is in the notes AND EVERYTHING I say in lecture. I hope you enjoy learning about animal physiology - I think it is really neat!
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Lecturer</th>
<th>Topic</th>
<th>Readings 9th Edition</th>
<th>Readings 10th Edition</th>
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</thead>
<tbody>
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<td>Jan 24</td>
<td>W</td>
<td>Blair</td>
<td>Species, evolution, and cells</td>
<td>Chapter 1</td>
<td>Chapter 1</td>
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<tr>
<td>Jan 26</td>
<td>F</td>
<td>Blair</td>
<td>Cells, water and chemistry</td>
<td>Chs. 2 &amp; 3</td>
<td>Chs. 2 &amp; 3</td>
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<tr>
<td>Jan 29</td>
<td>M</td>
<td>Blair</td>
<td>Organic molecules, energy, and enzymes</td>
<td>Chs. 4 &amp; 8</td>
<td>Chs. 4 &amp; 8</td>
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<tr>
<td>Jan 31</td>
<td>W</td>
<td>Blair</td>
<td>Macromolecules: carbohydrates and proteins</td>
<td>Ch. 5.0-5.2, 5.4</td>
<td>Ch. 5.0-5.2, 5.4</td>
</tr>
<tr>
<td>Feb 2</td>
<td>F</td>
<td>Blair</td>
<td>Macromolecules: more on proteins</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
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<tr>
<td>Feb 5</td>
<td>M</td>
<td>Blair</td>
<td>Macromolecules: Lipids and membranes</td>
<td>Ch. 5.3; Ch. 7</td>
<td>Ch. 5.3; Ch. 7</td>
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<tr>
<td>Feb 7</td>
<td>W</td>
<td>Blair</td>
<td>Membrane transport</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
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<tr>
<td>Feb 9</td>
<td>F</td>
<td>Blair</td>
<td>Macromolecules: Nucleic acids</td>
<td>Ch. 5.5</td>
<td>Ch. 5.5</td>
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<tr>
<td>Feb 12</td>
<td>M</td>
<td>Blair</td>
<td>Inheritance and DNA</td>
<td>Ch. 16.0-16.1</td>
<td>Ch. 16.0-16.1</td>
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<td>Feb 14</td>
<td>W</td>
<td>Blair</td>
<td>DNA replication</td>
<td>Ch. 16.2-16.3</td>
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<td>Feb 16</td>
<td>F</td>
<td>Blair</td>
<td>mRNA, transcription and translation</td>
<td>Ch. 17.0-17.3</td>
<td>Ch. 17.0-17.3</td>
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<tr>
<td>Feb 19</td>
<td>M</td>
<td>Blair</td>
<td>More transcription and translation</td>
<td>Ch. 17.4-17.6</td>
<td>Ch. 17.4-17.5</td>
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<tr>
<td>Feb 21</td>
<td>W</td>
<td>Blair</td>
<td>Gene expression</td>
<td>Ch. 18.0-18.3</td>
<td>Ch. 18.0-18.3</td>
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<tr>
<td>Feb 23</td>
<td>F</td>
<td>Blair</td>
<td>Eukaryotes and organelles</td>
<td>Ch. 6.0-6.3, 6.5</td>
<td>Ch. 6.0-6.3, 6.5</td>
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<tr>
<td>Feb 26</td>
<td>M</td>
<td>Blair</td>
<td>Cytoskeleton, endomembrane system</td>
<td>Ch. 6.4; 6.6-6.7</td>
<td>Ch. 6.4; 6.6-6.7</td>
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<td>Feb 28</td>
<td>W</td>
<td>Blair</td>
<td>Mitosis, the cell cycle and cancer</td>
<td>Ch. 12; Ch. 18.5</td>
<td>Ch. 12; Ch. 18.5</td>
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<tr>
<td><strong>Feb 28 W</strong></td>
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<td><strong>Exam 1 (on lectures through Feb. 21) – 8:30-10:00 p.m.; see Announcements for locations</strong></td>
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<td>Mar 2</td>
<td>F</td>
<td>Blair</td>
<td>Meiosis and sexual reproduction</td>
<td>Ch. 13</td>
<td>Ch. 13</td>
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<tr>
<td>Mar 5</td>
<td>M</td>
<td>Blair</td>
<td>Simple patterns of sexual inheritance</td>
<td>Ch. 14</td>
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<tr>
<td>Mar 7</td>
<td>W</td>
<td>Blair</td>
<td>Complex inheritance</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
</tr>
<tr>
<td>Mar 9</td>
<td>F</td>
<td>Blair</td>
<td>Gene linkage, sex chromosomes.</td>
<td>Ch. 15</td>
<td>Ch. 15</td>
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<tr>
<td>Mar 12</td>
<td>M</td>
<td>Blair</td>
<td>Non-Mendelian inheritance</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
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<tr>
<td>Mar 14</td>
<td>W</td>
<td>Blair</td>
<td>Energy I - Respiration</td>
<td>Ch. 9</td>
<td>Ch. 9</td>
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<td>Mar 16</td>
<td>F</td>
<td>Blair</td>
<td>Energy 2 - More respiration</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
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<tr>
<td>Mar 19</td>
<td>M</td>
<td>Blair</td>
<td>Energy 3 - Photosynthesis</td>
<td>Ch. 10</td>
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<td>Mar 21</td>
<td>W</td>
<td>Blair</td>
<td>Energy 4 - More photosynthesis. alternatives</td>
<td>Ch. 27.3</td>
<td>Ch. 27.3</td>
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<td>Mar 22</td>
<td>Th</td>
<td>Blair</td>
<td><em>Lecture essay #2 due</em></td>
<td>Ch. 11</td>
<td>Ch. 11</td>
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<td>Mar 23</td>
<td>F</td>
<td>Blair</td>
<td>Intracellular and intercellular communication</td>
<td>Ch. 11</td>
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<td><strong>March 24 to April 1 – Spring Break – NO CLASSES</strong></td>
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<td>Apr 2</td>
<td>M</td>
<td>Stretton</td>
<td>Multicellularity, Organs, Homeostasis</td>
<td>Ch. 40: pp. 852-862</td>
<td>Ch. 40: pp. 867-877</td>
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<tr>
<td>Apr 4</td>
<td>W</td>
<td>Stretton</td>
<td>Digestion</td>
<td>Ch. 41: pp 880-889</td>
<td>Ch. 41: pp. 897-906</td>
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<td><strong>Apr 5 Th</strong></td>
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<td><strong>Exam 2 (on lectures through April 2) – 8:30-10:00 p.m.; see Announcements for locations</strong></td>
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<td>Apr 6</td>
<td>F</td>
<td>Stretton</td>
<td>Digestion and Montezuma's revenge</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
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<td>Apr 9</td>
<td>M</td>
<td>Stretton</td>
<td>Circulation: Heart and Blood vessels</td>
<td>Ch. 42: pp. 899-915</td>
<td>Ch. 42: pp. 918-933</td>
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<td>Apr 13</td>
<td>F</td>
<td>Stretton</td>
<td>Defense Mechanisms</td>
<td>Ch. 43: pp. 929-936</td>
<td>Ch. 43: pp. 946-953</td>
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<td>Apr 16</td>
<td>M</td>
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<td>Immunity</td>
<td>Ch. 43: pp 936-950</td>
<td>Ch. 43: pp. 953-968</td>
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<td>Apr 18</td>
<td>W</td>
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<td>Osmoregulation</td>
<td>Ch. 44: 960-966</td>
<td>Ch. 44: pp. 978-984</td>
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<td>Apr 20</td>
<td>F</td>
<td>Stretton</td>
<td>Kidney</td>
<td>Ch. 44: 966-971</td>
<td>Ch. 44: pp. 984-990</td>
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<td>Apr 23</td>
<td>M</td>
<td>Stretton</td>
<td>Muscle</td>
<td>Ch. 50: 1103-1110</td>
<td>Ch. 50: pp. 1119-1126</td>
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<td>Apr 25</td>
<td>W</td>
<td>Stretton</td>
<td>Nerve cells and signals of the nervous system</td>
<td>Ch. 48: pp. 1045-1050 &amp; 1054</td>
<td>Ch. 48: pp. 1061-1066, &amp; top of p. 1083</td>
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<td>Apr 27</td>
<td>F</td>
<td>Stretton</td>
<td>Resting potential and action potentials</td>
<td>Ch. 48: pp. 1050-1054</td>
<td>Ch. 48: pp. 1066-1071</td>
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<td>Apr 30</td>
<td>M</td>
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<td>Synapses, Vision</td>
<td>Ch. 48: pp. 1055-1060; Ch. 50: pp 1090-1099</td>
<td>Ch. 48: pp. 1071-1077; Ch. 50: pp. 1106-1115</td>
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<td>May 2</td>
<td>W</td>
<td>Stretton</td>
<td>Brain; Memory and learning;</td>
<td>Ch. 49: pp. 1062-1079</td>
<td>Ch. 49: pp. 1079-1096</td>
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<td>May 4</td>
<td>F</td>
<td>Stretton</td>
<td>Mental illness</td>
<td><em>No new readings</em></td>
<td><em>No new readings</em></td>
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<td><strong>May 6 Sun</strong></td>
<td></td>
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<td><strong>Exam 3 (on lectures Apr. 2 through May 4) – 10:05-11:35 a.m. (MORNING); Location TBD</strong></td>
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<tr>
<td>Week</td>
<td>Lab Topic</td>
<td>Assignment(s)</td>
<td>Points</td>
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<tr>
<td>January 22-26</td>
<td>No Labs or Discussions</td>
<td>The lab manual is available at the UBS.</td>
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</tbody>
</table>
| January 29-February 2 | Structure and Function of Organisms Part 1 of 3 | BEFORE lab:  
1. Complete the two reading assignments posted on Canvas.  
2. Read the introductory pages (pp. i-xi).  
3. Read MOST of the Structure and Function of Organisms module (pp. 1-23 & 27-28 [start at section VII on p. 27]).  
Failure to submit pre-lab will result in a deduction for this unit.  
Experimental design worksheet due at end of lab | 5 points |
| February 5-9       | Structure and Function of Organisms Part 2 of 3 | BEFORE lab:  
In Practicing Biology:  
1. Read Appendix A in (pp. 135-153)  
3. Complete Pre-lab 2 (pages 5-6).  
Quiz given in lab  
Experimental design worksheet due at end of lab | 20 points |
| February 12-16     | Structure and Function of Organisms Part 3 of 3 | BEFORE lab, in Practicing Biology:  
Posted on Canvas  
1. Read the Figures & Tables primer.  
2. Read the final paper grading guidelines.  
In Practicing Biology:  
1. Review Appendix A.  
In-Class activity due at end of lab | 10 points |
2. Complete the week 1 pre-lab (page 31) in Practicing Biology.  
3. Watch the two PCR walk-through videos, posted on Canvas.  
Structure & Function paper due at the beginning of lab | 40 points |
| February 26-March 2 | Using PCR for Forensic Analysis Part 2 of 3 | BEFORE lab:  
A. In Practicing Biology:  
1. Read the week 2 portion of the module, pages 45-51  
2. Read the week 2 “Reading Assignment,” regarding gel electrophoresis, on pages 70-74.  
3. Complete the Week 2 Pre-lab questions, on pages 33-34.  
B. Watch two videos, posted on Canvas.  
C. Read two papers, posted on Canvas.  
Failure to submit pre-lab will result in a deduction for this unit.  
In-Class activity due at end of lab | 20 points |
<table>
<thead>
<tr>
<th>Week</th>
<th>Lab Topic</th>
<th>Assignment(s)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 5-9</td>
<td>Using PCR for Forensic Analysis Part 3 of 3</td>
<td>BEFORE lab, find two peer-reviewed articles that relate to your research. Bring full texts to lab. Failure to do this will result in a deduction for this unit. Quiz given in lab</td>
<td>20 points</td>
</tr>
<tr>
<td>March 12-16</td>
<td>Classical Genetics Part 1 of 4</td>
<td>BEFORE lab: In Practicing Biology: 1. Read ALL of Appendix B (pp. 155-172). 2. Read the Genetic Analysis of a Population of Organisms module (pp. 75 &amp; 87-108 – SKIP pp. 76-86). In the textbook: be sure caught up on all readings On Canvas: Complete Pre-lab 1, posted on CANVAS (i.e., NOT in Practicing Biology).</td>
<td>5 points for pre-lab</td>
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<td>Forensic Analysis paper due at the beginning of lab</td>
<td>40 points</td>
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<tr>
<td>March 19-23</td>
<td>Classical Genetics Part 2 of 4</td>
<td>BEFORE lab: On Canvas: Complete Pre-lab 2, posted on CANVAS (i.e., NOT in Practicing Biology).</td>
<td>5 points for pre-lab</td>
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<tr>
<td>March 26-30</td>
<td>Spring Break - No Labs or Discussions</td>
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<td>April 2-6</td>
<td>Classical Genetics Part 3 of 4</td>
<td>Quiz given in lab</td>
<td>25 points</td>
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<td>Population Inheritance Report due after 1 hour of lab</td>
<td>21 points</td>
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<tr>
<td>April 9-13</td>
<td>Classical Genetics Part 4 of 4</td>
<td>Formal presentation given during lab</td>
<td>29 points</td>
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<td>Sleep Lab Part 1 of 3</td>
<td>BEFORE lab: 1. Read articles about sleep and cognition, posted on Canvas. 2. Record your sleep data every day.</td>
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<tr>
<td>April 16-20</td>
<td>Sleep Lab Part 2 of 3</td>
<td>BEFORE lab: Record your sleep data every day.</td>
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<td></td>
<td>Experimental design worksheet due at end of lab</td>
<td>10 points</td>
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<tr>
<td>April 23-27</td>
<td>Sleep Lab Part 3 of 3</td>
<td>BEFORE lab: 1. Read the two assigned articles and find a third. Enter two articles in a spreadsheet 2. In Practicing Biology: 1. Read pages 164-165 and skim the rest of Appendix B. 2. Review all of Appendix A.</td>
<td>5 points for spreadsheet</td>
</tr>
<tr>
<td>April 30-May 4</td>
<td>Rat Physiology/Anatomy</td>
<td>BEFORE lab: Complete your Sleep paper – due at the beginning of lab Anatomy lab questions due at end of lab</td>
<td>60 points</td>
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</table>

See next page for grading
Your lab grade represents 34% of your final course grade. Individual Lab units are weighted differently in accordance to the amount of work that each unit entails.

**Grading Breakdown:**

<table>
<thead>
<tr>
<th>Lab Grade Points</th>
<th>Lab Grade Points</th>
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<tbody>
<tr>
<td>Cell Structure and Function</td>
<td>75</td>
</tr>
<tr>
<td>Forensic Analysis Lab</td>
<td>80</td>
</tr>
<tr>
<td>Genetic Analysis Lab</td>
<td>85</td>
</tr>
<tr>
<td>Rat Physiology/Anatomy</td>
<td>25</td>
</tr>
<tr>
<td>Sleep lab</td>
<td>75</td>
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</table>

**Total = 340 points**

**Pre-lab assignments are always due at the beginning of lab.** Assignments and/or point values may also be changed at the instructor’s discretion. Prior notice will be given for any such changes.

**Plagiarism** is an issue that is taken very seriously on this campus and within this course. We will check the authenticity of your written work and the proper citation of information used from published sources. Important documents on plagiarism are available through the University on the web. These sites are listed for you in a document found in the “Course documents: Policies & syllabi” module on the course website. Please take the time to examine these resources and familiarize yourself with the information available in order to avoid problems with this issue. Penalties for plagiarism can be very severe and will be imposed directly upon your final grade for Intro Bio 151. If you are unclear on any matters covered here, please contact your TA or your coordinator.