SPRING 2015 SYLLABUS: CELLULAR PROCESSES LABORATORY

Course Title: BSC 2010L–522 (CRN: 25277) – Biology I Cellular Processes Laboratory
Hours: Thursday, 2:30–5:15 PM

Instructor: Dr. Justin Perrault
E-mail: jperrault@usf.edu
Alt E-mail: jperrault@mote.org*
Office location: MML 2003 or MML Research Laboratory #224
Phone: 941.388.4441 X 213
*Please only use this email if there is an emergency

Office hours: Thursday 12:30–2:30 PM or by appointment

Introduction and Objectives – This is an introductory biology laboratory for majors dealing with cellular processes. While performing several experiments, students will learn techniques and use equipment common to cell biology labs as well as gain insight into the underlying biological principles. Students will also learn to collect and interpret data and present their work using scientific writing. BSC 2010L complements Cellular Processes (BSC 2010), which is a co-requisite for this course.

Student Learning Outcomes
Upon completion of this course, successful students will demonstrate the ability to:
(1) Demonstrate the ability to critically examine and evaluate scientific observations, hypotheses, or model construction and the use the scientific method to explain the natural world.
(2) Successfully recognize and comprehend fundamental concepts, principles, and processes about the natural world.
(3) Students will apply ethical perspectives and concepts to the natural sciences and justify the implications of their applications.
(4) Design and conduct experiments to investigate the nature of scientific questions in biology.
(5) Present scientific data from self-designed experiments in the form of a scientific manuscript.
(6) Participate in and understand the purpose of the peer-review process.

Attendance and Make-Up Policy – By enrolling in this course, a student agrees to participate in the laboratory experiments. Failure to participate will have a negative impact on the final grade in the course. It is the student’s responsibility to bring up any concerns to the instructor by the completion of the first laboratory session. You are required to attend every lab exercise and to arrive on time. Absences will be excused for documented emergencies ONLY. Documentation may include a doctor’s note (for an illness, not routine care), summons for jury duty, funeral record or similar personalized documentation. Lab absences due to inclement weather, unless classes are canceled as a result of University closure, do not represent extenuating circumstances. If you anticipate missing a lab as a result of a religious holiday, you must inform your instructor in writing by the second week of class and provide documentation of your religious obligation. Make-ups (for DOCUMENTED EXCUSES ONLY) must be arranged with your instructor and must be completed during the same week as the missed lab because materials are removed at the end of each lab (BSC 2010L labs run Tuesday–Thursday at 2:30 p.m. each week). If you miss plan on missing your normal lab session but make it up earlier in the week with a DOCUMENTED excuse, you will not be penalized. IMPORTANT: Because of the hands-on nature of labs, more than two absences, whether excused or unexcused will result in a grade of “F” for this course.

Materials Required:
• Cellular Processes (BSC 2010L) Laboratory Manual (It is called Biological Principles on the front cover)
• Regular internet access from home or on campus
• Access to a printer at home or on campus
• Calculator

Note: Students are required to access Canvas. You must check Canvas and your USF email on a weekly basis for information posted by your instructor.
Grading – Grades will be updated weekly in the course Grade Center on Canvas. It is each student’s own responsibility to keep track of his/her grades and to contact the instructor within two weeks of receiving a grade if there are any discrepancies or questions. After this time, grades will not be open for review. Your lab grade will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Quizzes</td>
<td>100</td>
<td>(25.0%)</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>100</td>
<td>(25.0%)</td>
</tr>
<tr>
<td>Participation</td>
<td>050</td>
<td>(12.5%)</td>
</tr>
<tr>
<td>Scientific Paper</td>
<td>100</td>
<td>(25.0%)</td>
</tr>
<tr>
<td>Group Presentation</td>
<td>050</td>
<td>(12.5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>400</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

The standard college scale will be used (final averages will be rounded up):

- **A+:** >96.5% (>386 points)
- **A:** 92.5–96.4% (370–385.6 points)
- **A-:** 89.5–92.4% (358–369.6 points)
- **B+:** 86.5–89.4% (346–357.6 points)
- **B:** 82.5–86.4% (330–345.6 points)
- **B-:** 79.5–82.4% (318–329.6 points)
- **C+:** 76.5–79.4% (306–317.6 points)
- **C:** 72.5–76.4% (290–305.6 points)
- **C-:** 69.5–72.4% (278–289.6 points)
- **D+:** 66.5–69.4% (266–277.6 points)
- **D:** 62.5–66.4% (250–265.6 points)
- **D-:** 59.5–62.4% (238–249.6 points)
- **F:** <59.4% (<237.6 points)

There is **NO CURVE** and **NO EXTRA CREDIT** (outside of that made available through your quizzes). Make sure you understand and follow directions! **Note:** The instructor reserves the right to make adjustments to the final course grades. Any such adjustment would be determined at the end of the semester after all grading has been completed.

**Online Quizzes** – You will have an online quiz worth 10 points every week (except for the first week and the weeks of the scientific method experiments). Quizzes will cover what you did in lab the week prior and reading ahead for the following week (e.g., quiz 1 will cover what you did in lab 1 and reading ahead for lab 2). They will be posted and opened one week in advance of each lab and you will have one attempt to complete them. Quizzes are timed (~30 seconds – 1 minute/question); therefore, it is imperative that you read ahead and take notes before taking each quiz. Quizzes will close at 11:59 PM on the night prior to the lab period in which they are due (e.g., Quiz 1 is due January 14 at 11:59 PM). Any quiz that is not taken before the deadline will result in a zero for that quiz.

**Lab Reports** – Your lab manual contains questions and vocabulary. It is required that you complete the required lab reports in your manual. These will be due the following week (e.g., the lab report for Orientation and Laboratory Skills will be due on January 15 at the BEGINNING OF THE LAB PERIOD). Many of the questions can be answered during the laboratory period.

**Participation** – Participation is worth 12.5% of your grade (5 points/week except for first week and weeks of the peer review and final presentations, although you will be penalized for participation if you do not participate in peer review). This includes attendance, preparedness, participation in daily lab activities, cleaning up, etc. This portion of your grade is a “gimme” as long as you show up and do the work.
Scientific Paper – Each group will design an experiment based on previous lab exercises (each group must have a different experiment). Your experiment must be devised and approved by Dr. Perrault by March 19 (this gives us enough time to gather all required materials for the following week). While you will work together on this experiment and collect data together, each group member’s paper must be done individually. The manuscript will be written the same as a scientific paper (including an Abstract, Introduction, Materials and Methods, Results, Discussion and Literature Cited). Only books and scientific papers may be used as references. These must be cited throughout the paper and follow proper APA formatting. MOST websites (including Wikipedia) are not valid scientific sources and may not be used for the paper. I am happy to read your papers before you turn them in. I recommend doing this as it will substantially improve your grade. They can be sent to me by April 5 at 11:59 pm for review. There is no minimum or maximum length for the papers, but each paper should include at LEAST five references as well as one Figure and one Table prepared in proper scientific format. Plagiarism on this assignment will result in an automatic “F” for the course (it is very easy to catch, so don’t do it). We will discuss the paper in further detail towards the end of the semester.

Group Presentation – Your group will be required to present the findings from your experiment (discussed towards the end of the semester). EVERYONE must have a speaking role in the presentation. Presentations should be about 10 minutes long.

BSC 2010L Lab Schedule – Spring 2015

<table>
<thead>
<tr>
<th>Date</th>
<th>Exercise</th>
<th>Lab Reports/Assignments</th>
<th>Quizzes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 8</td>
<td>Orientation and Laboratory Skills</td>
<td>None</td>
<td>Quiz 1 due Jan 14 @ 11:59 pm</td>
</tr>
<tr>
<td>Jan 15</td>
<td>The Microscope</td>
<td>Orientation/Lab Skills</td>
<td>Quiz 2 due Jan 21 @ 11:59 pm</td>
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<tr>
<td>Jan 22</td>
<td>Macromolecules</td>
<td>The Microscope</td>
<td>Quiz 3 due Jan 28 @ 11:59 pm</td>
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<tr>
<td>Jan 29</td>
<td>The Cell</td>
<td>Macromolecules</td>
<td>Quiz 4 due Feb 4 @ 11:59 pm</td>
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<tr>
<td>Feb 5</td>
<td>Diffusion and Osmosis</td>
<td>The Cell</td>
<td>Quiz 5 due Feb 11 @ 11:59 pm</td>
</tr>
<tr>
<td>Feb 12</td>
<td>Enzymes</td>
<td>Diffusion and Osmosis</td>
<td>Quiz 6 due Feb 18 @ 11:59 pm</td>
</tr>
<tr>
<td>Feb 19</td>
<td>Photosynthesis</td>
<td>Enzymes</td>
<td>Quiz 7 due Feb 25 @ 11:59 pm</td>
</tr>
<tr>
<td>Feb 26</td>
<td>Cellular Respiration</td>
<td>Photosynthesis</td>
<td>Quiz 8 due Mar 11 @ 11:59 pm</td>
</tr>
<tr>
<td>Mar 5</td>
<td>SPRING BREAK, NO LABS</td>
<td>None</td>
<td>Quiz 9 due Mar 18 @ 11:59 pm</td>
</tr>
<tr>
<td>Mar 12</td>
<td>Cell Div/Mitosis/Meiosis/Fert/Devel</td>
<td>Cellular Respiration</td>
<td>Quiz 10 due Mar 25 @ 11:59 pm</td>
</tr>
<tr>
<td>Mar 19</td>
<td>DNA Fingerprinting</td>
<td>Cell Division, Mitosis, Meiosis, Fertilization &amp; Development</td>
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<tr>
<td>Mar 26</td>
<td>Scientific Method/Begin Projects</td>
<td>DNA Fingerprinting</td>
<td></td>
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<tr>
<td>Apr 2</td>
<td>Peer Review/Collect Additional Data (if necessary)</td>
<td>Bring draft paper for review</td>
<td></td>
</tr>
<tr>
<td>Apr 9</td>
<td>Final Presentations</td>
<td>Group Presentation</td>
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* Lab Exercises are subject to changes or modification. Your instructor will notify you of any changes.

** The last day to withdraw from a course without academic penalty is Saturday, March 21st. Students who drop BSC 2010L will automatically be dropped from BSC 2010. Students who drop BSC 2010 may remain enrolled in BSC 2010L by submitting a petition form the week prior to the drop date.
USFSM AND USF SYSTEM POLICIES

(A) Academic Dishonesty: The University considers any form of plagiarism or cheating on exams, projects, or papers to be unacceptable behavior. Please be sure to review the university’s policy in the USFSM Catalog, the USF System Academic Integrity of Students, and the USF System Student Code of Conduct.

(B) Academic Disruption: The University does not tolerate behavior that disrupts the learning process. The policy for addressing academic disruption is included with Academic Dishonesty in the USFSM Catalog, USF System Academic Integrity of Students, and the USF System Student Code of Conduct.

(C) Contingency Plans: In the event of an emergency, it may be necessary for USFSM to suspend normal operations. During this time, USFSM may opt to continue delivery of instruction through methods that include but are not limited to: Canvas, Elluminate, Skype, and email messaging and/or an alternate schedule. It’s the responsibility of the student to monitor Canvas site for each class for course specific communication, and the main USFSM and College websites, emails, and MoBull messages for important general information. The USF hotline at 1 (800) 992-4231 is updated with pre-recorded information during an emergency. See the Campus Police Website for further information.

(D) Disabilities Accommodation: Students are responsible for registering with the Office of Students with Disabilities Services (SDS) in order to receive academic accommodations. Reasonable notice must be given to the SDS office (typically 5 working days) for accommodations to be arranged. It is the responsibility of the student to provide each instructor with a copy of the official Memo of Accommodation. Contact Information: Disability Coordinator, 941-359-4714, disabilityservices@sar.usf.edu, http://usfsm.edu/disability-services/

(E) Fire Alarm Instructions: At the beginning of each semester please note the emergency exit maps posted in each classroom. These signs are marked with the primary evacuation route (red) and secondary evacuation route (orange) in case the building needs to be evacuated. See Emergency Evacuation Procedures.

(F) Religious Observances: USFSM recognizes the right of students and faculty to observe major religious holidays. Students who anticipate the necessity of being absent from class for a major religious observance must provide notice of the date(s) to the instructor, in writing, by the second week of classes. Instructors canceling class for a religious observance should have this stated in the syllabus with an appropriate alternative assignment.

(G) Sexual Misconduct/Sexual Harassment Reporting: USFSM is committed to providing an environment free from sex discrimination, including sexual harassment and sexual violence (USF System Policy 0-004). The Counseling and Wellness Center is a confidential resource where you can talk about incidents of sexual harassment and gender-based crimes including sexual assault, stalking, and domestic/relationship violence. This confidential resource can help you without having to report your situation to either the Office of Student Rights and Responsibilities (OSSR) or the Office of Diversity, Inclusion, and Equal Opportunity (DIEO), unless you request that they make a report.

Please be aware that in compliance with Title IX and under the USF System Policy, educators must report incidents of sexual harassment and gender-based crimes including sexual assault, stalking, and domestic/relationship violence. If you disclose any of these situations in class, in papers, or to me personally, I am required to report it to OSSR or DIEO for investigation. The Deputy Coordinator for USFSM is Mary Beth Wallace, AVP for Student Enrollment, Engagement and Success, 941-359-4330 or marybeth@sar.usf.edu.
Campus Resources:
Counseling Center and Wellness Center 941-487-4254
Victim Advocate (24/7) 941-504-8599
List of off-campus resources:
  Hope of Manatee: 941-755-6805
  Safe Place & Rape Crisis Center (SPARCC) – Sarasota: 941-365-1976
  First Call for Help - Manatee: 941-708-6488
  Sarasota & North Port 941-366-5025
  Manatee Glens: 941-782-4800

(H) Web Portal Information: Every newly enrolled USF student receives an official USF e-mail account.
  Students receive official USF correspondence and Canvas course information via that address.

Instructor Copyright
Students may not sell notes or other course materials.

Safety – These are general guidelines. Your instructor will thoroughly cover safety in class on the first day of lab. The following rules are strictly enforced:

1) No eating, drinking, or smoking in labs.
2) Backpacks and coats should be stored in shelving units provided.
3) Goggles are to be worn when any chemical, in any amount, is used including preservatives and stains. You will be asked to leave and will be counted absent without them.
4) Appropriate footwear must be worn at all times. The feet must be adequately covered (the foot must be totally covered up to the ankle). Therefore sandals, backless and open-toed shoes are not acceptable. You will be counted absent and asked to leave if footwear is inappropriate.
5) No tank tops, halter tops, or midriff shirts are allowed. Your clothing must cover your skin to your ankles. You will be asked to leave and counted absent without proper clothing.
6) When using flames, roll up sleeves and tie back hair. Keep alcohol away from flames. Turn off the burner when finished.
7) Keep your jewelry minimal.
8) Report accidents (no matter how minor) and emergencies to the instructor immediately.
9) Follow instructions.