

BIOL 115 – CELLS & THE EVOLUTION OF LIFE

FALL 2013

*subject to revision

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Office Hours: Monday 10:30-11:30am, Wednesday 9:30-10:30am, or by appointment

CLASS TIME/LOCATION:

Lecture: MWF 8:30-9:20am in LSS 277

Lab: Days/times vary. All lab sections meet in LSS 351. You may only attend the lab section for which you are registered. You will receive contact and office hour information from your lab section's TA at the first lab meeting.

COURSE DESCRIPTION: In this course, you will be introduced to the cell, heredity and evolutionary processes. Additionally, you will be exposed to current research in the fields of cellular and evolutionary biology and genetics. In lab, you will synthesize concepts learned in class while learning practical laboratory techniques and skills. Topics to be introduced in this course include: biochemistry, cell structure and function, cell cycle, meiosis and mitosis, inheritance, gene expression, genome evolution, evolutionary theory, natural selection, genetic drift and speciation.

LEARNING OUTCOMES:

Learn & Integrate: Students will synthesize previous biological knowledge with knowledge gained from lectures, homework and labs, to attain an understanding of the cell, heredity and evolutionary processes.

Think & Create: Students will synthesize and apply their knowledge of biological processes by forming hypotheses, conducting hands-on laboratory experiments and producing laboratory reports.

Communicate: Students will become conversant in the language used in biology, and will practice the language of biology during laboratories and in small groups. Students will practice scientific writing by producing laboratory reports.

Clarify Purpose & Perspective: Students will gain an understanding of cellular processes that support life (including human life), how the genetic code informs life, how populations evolve and how new species form.

Practice Citizenship: Students will attain basic biological knowledge, which will allow them to make informed contributions to discussions of issues that impact humans and the environment, for ex: health and medicine, stem cell research, cloning, genetic counseling, evolution education, biodiversity, etc...

COREQUISITE: You must have passed or be currently registered in CHEM 101 or CHEM 111 to enroll in BIOL 115. If you drop CHEM 101 or CHEM 111, you will automatically be dropped from BIOL 115. No exceptions.

COURSE WEBSITE: <https://bblearn.uidaho.edu/webapps/login/>

The course website will include a copy of the syllabus, lecture and lab schedule and notes, assigned readings, access to Mastering Biology (required), links to online quizzes/follow-up assignments, links to tutorials (including BIONet and Mastering Biology) and supplementary material, current grades, additional lab materials, etc... This will also be my primary form of communication with you outside of class. Check the website often!

EMAIL:

I may communicate with you by university-sponsored email. Please be sure to check your email account often, and ensure that my email address is not blocked.

GRADING:

Four comprehensive exams @ 100 points each = 400 points

Ten online quizzes/follow-up assignments @ 10 points each = 100 points

Lab reports: points per assignment vary = 155 points

Lab Participation = 20 points

Total = 675 points

GRADING SCALE:

Total \geq 90% = A

90% > Total \geq 80% = B

80% > Total \geq 70% = C

70% > Total \geq 60% = D

Total < 60% = F

EXAMS:

Exams will cover material from lectures, assigned readings, assigned content on Mastering Biology, and concepts covered in lab. The material we will cover builds upon itself. We will often refer back to concepts covered in previous lectures. For this reason, **ALL EXAMS ARE COMPREHENSIVE**. You will have four exams, each worth 100 points. The first three exams will be held during normal lecture time. The fourth exam will be held during finals week on Thursday, December 19, 7:30-9:30am.

QUIZZES/FOLLOW-UP ASSIGNMENTS:

You will take a weekly quiz and follow-up assignment online in order to prepare you for the comprehensive exams. Questions will be similar to what may be found on exams. Quizzes will cover material from lectures, assigned readings, assigned content on Mastering Biology, and concepts covered in lab. **ALL QUIZZES ARE COMPREHENSIVE**. Quizzes will be found online on the Mastering Biology/Bblearn website.

Mastering Biology is an adaptive online learning tool. Initially, you will take a quiz worth 5 points. Questions are chosen randomly from a pool of questions that I have assigned. If you score 90% or higher on your quiz, you will be exempt from the follow-up assignment and will automatically receive an additional 5 points for that assignment in the gradebook. If you score lower than 90% on the quiz, you will be led through an individualized follow-up assignment that focuses on your knowledge gaps. This system provides individualized feedback, so student follow-up assignments will vary. (Technology at its finest!) Follow-up assignments are worth 5 points each.

Quizzes will open on Monday mornings at 8:30am and close on Fridays at 4:30pm. Follow-up assignments are due 48 hours after you take the quiz. Quizzes are timed, and you have 60 minutes to complete a quiz once you have opened it. Once you start a quiz, you cannot leave and come back later. DO NOT leave your computer or close the browser once your quiz has been opened; the clock will run out. It is your responsibility to finish the quiz AND follow-up assignment before each closes. Keep in mind that computer/internet issues can arise, so it is in your best interest to plan ahead and take each quiz early in the week. There are no make-ups for missed quizzes/follow-up assignments. You will have one quiz/follow-up assignment per week, with the exception of Week 1, Dead Week and exam weeks (10 quizzes/follow-up assignments total for the semester).

LAB REPORTS:

To prepare for lab, you are required to read each week's lab instructions prior to your lab meeting time. The lab schedule can be found online on Bblearn. At the end of each lab meeting, you will need to check out with your TA. This is to ensure that you have completed all of the necessary steps in the lab, and that you are on the right track with your lab results. Final lab write-ups are due the following week at the beginning of your lab meeting time. Lab reports turned in during the first 24 hours after your normal lab meeting time will be reduced in value by 50%. Late lab reports will not be accepted after 24 hours following your normal lab meeting time. TA's will assign final lab report grades.

LAB PARTICIPATION:

Attendance at all lab meetings is mandatory. You will lose 5 participation points for arriving more than 10 minutes late to a lab meeting. You will lose 10 participation points for missing one lab meeting. Also, you will receive a 0 on the lab assignment for which you did not attend the lab meeting. You will receive a participation grade of 0 for missing two or more lab meetings, as well as a 0 on each lab assignment for which you did not attend the lab meeting. Three or more unexcused, missed lab meetings will result in you failing the course. Aside from mandatory attendance, your participation points are based on end-of-lab meeting checkouts (microscope returned in clean, working order; lab bench supplies reorganized and/or restocked; lab area cleaned up; etc...). Deduction of any lab participation points is at the discretion of your TA.

LECTURE ATTENDANCE:

Attendance at lectures is strongly recommended. Lecture outlines will be posted to Bblearn for you to print off and bring to class. I recommend you print these beforehand, and use them to take additional notes during lecture.

EXCUSED ABSENCES

Only students with written medical excuses from a doctor or written official university excuses will be allowed to make up missed exams, quizzes, or lab assignments. *Final acceptance of makeup work is at the discretion of the instructor.* Arrangements must be made at least ONE WEEK PRIOR to your absence in the case of known schedule conflicts (ex: participation in official university sporting events, course field trips, etc...), or makeup work will not be accepted. In the case of illness (with a valid doctor's note), and under the instructor's final discretion, makeup work will be accepted if arranged before or immediately following the absence (i.e., the same day as the missed lab/exam). Makeup work may differ from the original quiz, exam or lab assignment.

GRADE DISPUTES:

If you feel that an exam or lab report has been graded incorrectly, you have 48 hours after receiving the graded assignment to dispute your score. You must return the exam or report to your instructor or TA, along with a written request for regrading. Final grade assignment is at the discretion of the instructor or TA.

COMMUNICATION:

Spelling, grammar, punctuation, logic and legible handwriting are critical elements of communication. You may lose points on quizzes, exams and/or lab assignments for misspelling, poor grammar or syntax, improper punctuation, flawed logic or illegible handwriting.

READINGS:

Reading assignments will be listed on the course website. These should be read ahead of time in preparation for the class time for which they are listed.

Required textbook: Reece *et al.* 2011. *Campbell Biology*, 9th edition. Published by Benjamin Cummings (Pearson).

MASTERING BIOLOGY:

Required online material: *Mastering Biology* (Pearson) – access required.
www.masteringbiology.com

LABORATORY:

Required lab manual: Dolphin *et al.* 2011. *Biological Investigations: Form, Function, Diversity & Process* custom manual, 9th edition. Published by McGraw-Hill.

ACADEMIC HONESTY:

Refer to Article II of the UI Student Code of Conduct (<http://www.uidaho.edu/DOS/judicialaffairs/studentcodeofconduct/articleii>). Plagiarism or academic dishonesty will not be tolerated in any form. Offenses will lead to an F on

the assignment or in the class, letters to your Department Chair and College Dean, and a formal complaint filed with the Dean of Students. Be aware that even one incident of academic dishonesty may result in expulsion from the university.

CLASSROOM BEHAVIOR

The following behaviors are rude to the instructor and fellow students, and are considered unacceptable behavior for class and lab: ringing cell phones, use of cell phones for talking or texting, web surfing, sleeping, reading extraneous material, chatting with neighbors, etc... The instructor or TA reserves the right to dismiss students from class (with appropriate grade deduction for missed assignments) that display any of these behaviors. Repeated violations may result in an F on that day's quiz/exam/lab homework, an F in the course, and/or removal from the course.

UNIVERSITY OF IDAHO CLASSROOM LEARNING CIVILITY CLAUSE

In any environment in which people gather to learn, it is essential that all members feel as free and safe as possible in their participation. To this end, it is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors, professors, guests, and teaching assistants) will be respectful and civil to one another in discussion, in action, in teaching, and in learning. Should you feel our classroom interactions do not reflect an environment of civility and respect, you are encouraged to meet with your instructor during office hours to discuss your concern. Additional resources for expression of concern or requesting support include the Dean of Students office and staff (885-6757), the UI Counseling & Testing Center's confidential services (885-6716), or the UI Office of Human Rights, Access & Inclusion (885-4285).

ACADEMIC SUPPORT; TUTORING & COLLEGE SUCCESS

If you find that you need further assistance with course material outside of the classroom, you are encouraged to contact the Academic Support Office (<http://www.uidaho.edu/studentaffairs/asap>) or the Tutoring & College Success Office (<http://www.uidaho.edu/studentaffairs/asap/tutoring-and-college-success>).

DISABILITY SUPPORT SERVICES

Disability Support Services Reasonable Accommodations Statement: "Reasonable accommodations are available for students who have documented temporary or permanent disabilities. All accommodations must be approved through Disability Support Services located in the Idaho Commons Building, Room 306 in order to notify your instructor(s) as soon as possible regarding accommodation(s) needed for the course."

Phone: 208-885-6307

Email: dss@uidaho.edu

Website: www.uidaho.edu/dss

Please notify the instructor during Week One of classes if accommodations are required.

TENTATIVE SCHEDULE FOR **UNIT 1** (*subject to change!):

WEEK	DATE	TOPIC/EVENT	READINGS	QUIZ DUE	LAB
1	26-Aug	Introduction			No lab this week
	28-Aug	The big picture	Ch. 1		
	30-Aug	Chemistry of life	Ch. 2-4	No quiz	
2	2-Sep	NO CLASS			Lab 1 & 5
	4-Sep	Chemistry of life			
	6-Sep	Large biological molecules	Ch. 5	QUIZ 1	
3	9-Sep	Large biological molecules			Lab 6
	11-Sep	Intro to cells	Ch. 6		
	13-Sep	Intro to cells		QUIZ 2	
4	16-Sep	Membranes	Ch. 7		Lab 2 & 3
	18-Sep	Membranes			
	20-Sep	EXAM 1		No quiz	

FUTURE (TENTATIVE) EXAM DATES (*subject to change!):

Friday, October 18 – Exam 2

Friday, November 15 – Exam 3

Thursday, December 19, 7:30am-9:30am - Final exam

PLEASE REFER TO BLACKBOARD FOR CURRENT SCHEDULE (TOPICS, EVENTS, READING ASSIGNMENTS, QUIZZES/FOLLOW-UP ASSIGNMENTS, LABS, ETC...)!