

BIOL 115-01, 03: CELLS & THE EVOLUTION OF LIFE
Syllabus, Fall 2020

INSTRUCTOR INFORMATION

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Tentative Office Hours: Thurs, 10-11am or 12-1pm; or by appointment (scheduled via email or VandalStar)

I will 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.

If at any point you are struggling with the material or have life issues that impact your academic work, you need to contact me immediately so we can work together to come up with potential solutions as soon as possible.

CLASS TIME/LOCATION:

In-person: MWF, 8:30-9:20am, Bruce Pittman Center, Vandal Ballroom

On-line: asynchronously via video links posted to BbLearn/UnitInfo

PREREQUISITE:

You must have passed CHEM 101 or CHEM 111 to enroll in BIOL 115.

COURSE DESCRIPTION:

In this course, you will be introduced to the cell, heredity, and related scientific research. Specific topics to be introduced include: the chemistry of life, cell structure and function, meiosis and mitosis, inheritance, and gene expression.

Note: due to anticipated complications arising from COVID-19 issues, attendance is not required in Biol115 this semester. You thus have two ways to gain instruction from me: 1) attend lecture in-person or 2) view lecture materials posted to BbLearn asynchronously on your own time with no in-class participation. Even if you choose option 1, all lectures after Thanksgiving Break will be on-line, per UI policy. You do not have to register for a different section or let me know which instructional method you pick. If you choose not to attend in-person on a given day, you do not have to let me know. **If you attend class in-person, masks/face coverings are required, per UI policy.**

Students often find the Biol115 material to be complex and somewhat difficult to learn. I thus typically use a variety of active learning techniques in class to assist students in learning the material. If you attend class, you can expect quiz-style questions (iClicker system), group and whole-class discussions, short videos, problem solving, and other activities on any given day.

COURSE OBJECTIVES:

The over-arching goal of Biol 115 is to prepare students for future coursework in biology-related sciences. Preparedness encompasses 3 general areas: 1) foundational knowledge & understanding of biology, 2) skill as a scientist, and 3) skill as a student. *By the end of the semester, a successful student will have:*

- a foundational vocabulary and understanding of the cellular processes vital to life on Earth, including the following core areas
 - Relevance of chemistry to biology
 - Large biological molecules (structure, function, & importance)
 - Cellular structure and function (membranes, metabolism, & division)

- Inheritance of traits (Mendelian genetics & meiosis)
- Protein synthesis (process, importance, & mutation effects)
- increased awareness of science as a process rather than simply a collection of facts to be memorized
- increased confidence in generating scientific hypotheses and interpreting scientific data
- increased ability to communicate scientific information
- a better understanding of how he/she learns
- increased awareness of study habits helpful in science
- knowledge of the learning resources available to help them succeed

LEARNING OUTCOMES: *In accordance with the University's Learning Outcomes -*

Learn & Integrate: Students will synthesize previous biological knowledge with knowledge gained from lectures, assignments, and group work, to attain an understanding of the cell and heredity.

Think & Create: Students will synthesize and apply their knowledge of biological processes by forming hypotheses and discussing problems in class.

Communicate: Students will become conversant in the language used in biology, and will practice the language of biology in small groups and short writing assignments.

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

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, genetic counseling, science education, etc...

COURSE MATERIALS

Required online material: *Modified Mastering Biology for Freeman, Biological Science, 7th Ed* (Pearson) – access code required, available through a **link in Bblearn** (this is the cheapest option) or at the UI Bookstore. You have two subscription length options – 18weeks and 24months. If you anticipate only taking this course, the 18week option through BbLearn is the cheapest. However, I use the same system in both Biol114 & 115, so if your course plan has you taking both of these courses, the 24month subscription through BbLearn is the cheapest way to go (also covers you if you need to retake a course). For those of you waiting on financial aid or other funds, there is a free 2-week trial available to cover access at the first of the semester. Warning: purchasing the access code through other sources may result in an unusable code! More purchasing info is available on BbLearn. If you have already taken a course from me recently, your access should be automatic (no further payment necessary).

Required textbook: Freeman *et al.* 2020. *Biological Science*, 7th edition. Included as an e-book when you purchase the above Mastering access code through the Bookstore or BbLearn (in BbLearn you may also choose to buy the Mastering without the etext if you already have access to a physical book & don't want the ebook). May also be purchased as a hard copy book separately through BbLearn if you want one. Reading assignments will be listed on the course website and syllabus. These should be read ahead of time in preparation for the class time for which they are listed.

Clicker: i>Clicker remotes (or the i>Clicker app REEF Polling) are **recommended (but not required)**.

In-person students may use either the remote or app to participate in class. Asynchronous on-line students do not need the app or a remote (since they're asynchronous). If we are ever moved to on-line only during the semester, the app could be used to participate in live Zoom sessions, but remotes will not work in an on-line setting. Paying for a year or more's app access up front is recommended if you are

taking more than one course from me, or Biol310 (genetics). Once a subscription to REEF is purchased, you can use it in multiple classes while that subscription is valid (you don't have to buy it separately for each class). Remotes are available from the UI Bookstore, on-line stores, or your friends. 'Used' remotes are acceptable.

Course website: <https://bblearn.uidaho.edu/webapps/login/>

The course website will include a copy of the syllabus, lecture materials, access to MasteringBiology, links to supplementary material, and grades. This will also be my primary form of communication with you outside of class. Check the website often!

ASSESSMENT:

Categories of Assessment

Category	Points
Mastering Homework	210
Exams	400

Grading Scale

Total Points	%	Grade
549+	90	A
488	80	B
427	70	C
366	60	D
<366	<60	F

I typically DO NOT curve individual exams or the course as a whole, so please don't ask. I round to the nearest whole % for the final grade (example: a total percentage of 89.5 would be rounded up to a 90, while an 89.4 would be rounded down to an

Grade Reports

Grades will be updated on a weekly basis in BbLearn/My Gradebook. You should check these grades periodically for any mistakes in entry and to check that your overall performance is on track.

For formal grade reporting, Early Warning Grade notifications (D/F/participation issues) use the VandalStar Progress Surveys system, while Midterm and Final grades are officially entered in VandalWeb.

MasteringBiology

You will complete on-line assignments in order to help you understand the material and practice articulating that understanding. Questions will be similar to what may be found on exams. These assignments will be found on BbLearn/UnitInfo/Unit ___ at the bottom of the page, or on Bblearn/Mastering Links/Mastering Assignments page. Assignments will open the week the material is covered in class, and are **due the Monday after the material is covered by 8am** (dates indicated on the Course Schedule and the Mastering Assignments calendar).

It is your responsibility to finish the assignments before each closes. Keep in mind that computer/internet issues can arise, so it is in your best interest to plan ahead and complete them earlier in the week. For Excused Absences that extend beyond the open period, refer to the Excused Absences section below.

Exams

There will be four 'regular' exams, plus one final exam, administered on-line using BbLearn, each worth the same amount of points. Your lowest exam score will be dropped at the end of the semester (only four will count towards your final grade). With the exception of Excused Absences (see self-titled section below), there are NO makeup exams!

Exams will cover material from lectures, assigned readings, assigned content on Mastering, and in-class exercises. The material we will cover builds upon itself. We will often refer back to concepts covered in previous lectures and units. For this reason, all exams are comprehensive, though the focus of each regular exam will be on the current unit. The final exam is comprehensive of the entire semester.

Lecture Participation

While attendance is not required this semester (and thus isn't a Category of Assessment), biology, even at the 100-level, is a complex discipline and requires not only memorization of numerous terms, but a deep understanding of its underlying concepts and theories. This course is therefore designed to help you develop both an understanding of cellular biology and good study habits that will support you in future coursework. We will be using the i>clicker/REEF system during lecture as a way for you to easily and anonymously engage with me, your classmates, and with the material. This will also be an opportunity for you to practice the types of questions that may show up on exams. Daily topics and recommended preparation activities will be provided in BbLearn and the course schedule. I also expect that you will come to class prepared to discuss the material with me and your peers – there is a lot you can learn from each other.

EXCUSED ABSENCES

Only students with major medical/family issues or written/mailed official university excuses will be allowed accommodation on assignments. Accommodation make take the form of make-up work or dropping an assignment from the student's grade. Makeup work may differ from the original assignment. *Final acceptance of accommodation 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...). In the case of an emergency/non-scheduled absence (major medical/family issues), accommodation must be requested immediately following the absence (don't expect to be granted make-up work if a month goes by between the emergency and your request). It is the student's responsibility to document the extent of his/her issue and promptly make a written/mailed request for accommodation.

GRADE DISPUTES:

Keep every graded item handed back to you for the entire semester; this is useful for studying as well as insurance against typos when scores are entered into the gradebook. If you feel that an assignment has been graded incorrectly, you have one week after receiving the graded assignment to dispute your score. You must return the assignment to your instructor or TA, along with a written request for re-grading that includes a description of the dispute. 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 assignments and exams for misspelling, poor grammar or syntax, improper punctuation, flawed logic or illegible handwriting.

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 than even one incident of academic dishonesty may result in expulsion from the university.

ACADEMIC SUPPORT; TUTORING & COLLEGE SUCCESS

TCS offers three distinct services dedicated to student success: tutoring, SI-PASS, and Academic Coaching. Vandal Tutoring provides drop-in style tutoring in person at the Library or online through uidaho.edu/tutoringonline at no

cost to undergraduates. SI-PASS provides peer assisted study sessions for difficult courses. You can find the schedule of currently supported courses at uidaho.edu/si. Academic Coaching offers students an opportunity to work with a coach, one on one, to improve their academic skills such as: effective studying, test taking, time management, and note taking. Visit uidaho.edu/academic-coaching to schedule an appointment.

CENTER FOR DISABILITY ACCESS & RESOURCES

Students with disabilities needing accommodations to fully participate in this class should contact Center for Disability Access and Resources (CDAR). All accommodations must be approved through CDAR prior to being implemented. To learn more about the accommodation process, visit CDAR's website at www.uidaho.edu/cdar or call 208-885-6307.

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

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 (this includes the Zoom Chat area), etc... I reserve 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 work, 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).

FIREARMS POLICY

"The University of Idaho bans firearms from its property with only limited exceptions. One exception applies to persons who hold a valid Idaho enhanced concealed carry license, provided those firearms remain concealed at all times. If an enhanced concealed carry license holder's firearm is displayed, other than in necessary self-defense, it is a violation of University policy. Please contact local law enforcement (call 911) to report firearms on University property."

Biol 115 Fall 2020 Schedule

	WK	DATE	LECTURE TOPIC	CH	Mastering*
Unit 1: Biochemistry		24-Aug	Syllabus		
	1	26-Aug	Science	1	
		28-Aug	Chemical bonds	2	
		31-Aug	Water & Carbon		9
	2	2-Sep	Proteins	3	
		4-Sep	Nucleic Acids	4	
		7-Sep	NO CLASS – Labor Day		21
	3	9-Sep	Exam prep, PS Q&A		
		11-Sep	Carbohydrates	5	
		14-Sep	Lipids	6.1	12
	4	16-Sep	Review		
		18-Sep	Exam 1		
21-Sep		Membranes	6.2+	18	
Unit 2: Cells & Metabolism	5	23-Sep	Inside the Cell	7	
		25-Sep	Cells, cont.		
		28-Sep	Metabolism, E, & Enzymes	8	11.5
	6	30-Sep	Cellular Respiration 1	9	
		2-Oct	Cellular Respiration 2		
	7	5-Oct	How to study, PS Q&A		18
		7-Oct	Photosynthesis - LightRxns	10	
		9-Oct	Photosynthesis - CalvinCycle		
	8	12-Oct	Extension Day		9
		14-Oct	Review		
16-Oct		Exam 2			
Unit 3: Reproduction & Inheritance	9	19-Oct	Intro to Repro, Cell Cycle	12	15.5
		21-Oct	Cell Cycle Regulation		
		23-Oct	DNA & Genes	15	
	10	26-Oct	Meiosis 1	13	15.5
		28-Oct	Meiosis 2		
		30-Oct	PS Q&A		
11	2-Nov	Mendel	14	15	
	4-Nov	Mendelian complications			
	6-Nov	Review			
Unit 4: Protein Synthesis	12	9-Nov	Exam 3		21
		11-Nov	How Genes Work	16	
		13-Nov	Transcription	17	
	13	16-Nov	Translation		13
		18-Nov	Gene Expression 1	18	
		20-Nov	Gene Expression 2	19	
	14	23-Nov	Thanksgiving Break		
		30-Nov	PS Q&A		9
		2-Dec	Review		
		4-Dec	Exam 4		
15	7-Dec	Extension Day		22.5	
	9-Dec	Extension Day			
	11-Dec	Conclusion/Review			
16	14-Dec	Final Exam, 8:00am			

* = Mastering assignment due by 8am on these dates; number in cell indicates points associated with the assignment.