



Biology 106 Introductory Biology Fall 2024 [BSCI] 4 credits

Time and Days:

Lecture: 11:10-12:00 pm MWF in Todd Hall 116.

Laboratories are held in **Abelson Hall rooms 202 and 226 at various times**. Please check your registration schedule and make sure that you go to the room to which you are assigned and at the right time.

Students are not allowed to change section/room of their lab.

Course Prerequisites: One of the following -- a minimum ALEKS math placement score of 40%, MATH 100 with an S, MATH 101 with a C or better, MATH 103 or higher, BIOLOGY 103 with a C or better, BIOLOGY 102, BIOLOGY 120, or 3 credits of biology with a lab.

Instructors: Dr. Hanjo Hellmann*

Abelson 435

509-335-2762

hellmann@wsu.edu

Office Hours: Wednesdays 9:30 -10:30

Lectures 1 to 19

Exams 1, 2 and Final

Dr. Lisa Carloye*

Eastlick 295

509-335-3310

carloye@wsu.edu

Office Hours: Wednesdays 9:30-10:30

Lectures 20 to 39

Exams 3, 4 and Final

Meeting Up (office hours):

You can always find a time to meet with us so please take advantage of this resource. We will be physically in our offices on the days/times listed above so you can drop in then. We are also happy to schedule a time that works outside of our dedicated hour so please reach out with a few times that work and we will

Canvas Website: General information for this course, including this syllabus, Learn Before Lecture homeworks and check-ins, study guides, and your grades can be found on the class webpage (<https://canvas.wsu.edu>). You can also find email information on Canvas for Drs. Hellmann and Carloye and all of the teaching assistants.

IMPORTANT: Please enter the Canvas site on the HOME page – don't just use the calendar or other entry points. All of the documents, assignments, and resources are located on the HOME page.

Required Materials

- **Textbook** [required]: Campbell Biology: In Focus 3rd edition. No access code is required. Bio 106 participates in the "First Day" program where you can purchase the e-textbook by clicking the link in Canvas. The charges go directly onto your student account, and you have instant access to the textbook. The cost of the book through First Day is under \$40. If you choose to not use this service, you can order the book through the Bookie or from a book vendor of your choice. You will need to have it before the second day of class since we start immediately.
- **Laboratory Manual** [required]: Biology 106 Organismal Biology Lab Manual (2024-2025) Carloye, Cousins, Lee & McClanahan. Hayden McNeil Publishing, Plymouth MI. Available at the Bookie. ISBN: 9780137404957
- **iClicker Cloud App subscription** [required]: Purchase and register for the App via student.iclicker.com. If you have an iClicker2 physical device, you can use it instead but must register it through the Cloud student account registration link above (*not* on the iClicker website).
- **Microsoft Office suite downloaded:** you will need *Word* for your uploaded work, *Excel* for your experiment data management, and *PowerPoint* for your oral presentation. **Free** to WSU students [here](#), or follow the tutorial [here](#) to download. Note: using cloud-based versions *won't work*. You must download the *software*. *This is important so we'll say it again: you need the software, not the cloud versions.*
- **An internet-enabled device** (*laptop or phone*) in lab to complete the lab exit questions.

Overview of BIOLOGY 106 (what is this course about?): This course focuses on biology at the organismal level. That is, we will explore organisms at the macroscopic scale: primarily plants, fungi, and animals. These organisms differ from microorganisms in being multicellular, typically with complex physiology. This means we will explore some basic principles that drive physiological processes and learn some basic physiology as well. Our journey will take us through the diversity of plants and animals and we will explore the mechanisms by which that diversity arose. We end the semester by putting it all together seeing how interactions between species are woven together into communities and how resources cycle and flow through communities and the environment.

BIOLOGY 106 is the one of two semesters in the introductory biology series (BIOLOGY 107 is the other). The introductory biology series is designed to provide individuals who have an interest in the life sciences with the foundation for understanding biology and the basic knowledge necessary to pursue further studies in the discipline. As noted above BIOLOGY 106 focuses on organismal biology, evolution, and ecology, while BIOLOGY 107 focuses on molecular, cellular, and microbiology. You do not need to take 106 before taking 107.

Additionally, BIOLOGY 106 satisfies the [BSCI] requirement for WSU's University Common Requirements (UCORE), which is designed to help you acquire broad understanding, develop intellectual and civic competencies, and apply knowledge and skills in real world settings. Upon completion of UCORE, you will have the tools needed to seek out information, interpret it, share it, and make reasoned and ethical judgements on a wide array of issues. With these broader goals in mind, BIOLOGY 106 will develop your ability to ask and answer questions about the natural world in ways that value empirical observation as a key foundation for developing evidence-based theories. The learning outcomes grid below shows the relationship between topics and assignments on the one hand, and the course- and UCORE-level learning outcomes on the other hand.

Grades: You earn your course grade by earning points on graded assignments:

Point breakdown

Exams (5 exams @ 100 points each)	500 (~52%)
Labs (top 12 @ 20 points each)	240 (~25%)
Writing Project; (Info literacy@10; Structure of a Sci Paper@20; Draft paper@30; Finished paper@60 pts)	120 (~12%)
Learn Before Lecture Homeworks (top 30 @ 4 pts per day)	60 (~6%)
Lecture Clickers (cumulative @ 2 pts per day)	50 (~5%)
Total	970 points

Extra Credit? No. Keep your energy focused on the credit instead.

Grading Scale: The percentages associated with the lowest cut-off for each grade are given below.

Grade	Percent	Grade	Percent	Grade	Percent	Grade	Percent
A	92.0	B+	87.0	C+	77.0	D+	67.0
A-	89.0	B	83.0	C	73.0	D	60.0
		B-	80.0	C-	70.0	F	<60

NOTE: Missing more than two laboratory sessions will result in a **final grade for the course of "F"** irrespective of other points earned.

Cell phone & Electronics Policy: Electronic devices can be useful for taking notes, but, if used for other purposes, are a significant distraction and compromise your learning. Therefore, inappropriate use of electronic devices is strongly discouraged, and we reserve the right to ask you to put your devices away when they are a distraction rather than a benefit.

Studying and Time Management:

All science and math classes are a lot of work. You should dedicate **at least 5 hours per week** outside of the time you spend in lecture and lab to studying the course material. To be successful you want to study **early and often to build those neural networks and grow your brain**. **Time outside of lecture and lab should be spent** reading the assigned material prior to each lecture to begin understanding; learning the vocabulary and using it every day, using a white board to write out what you know without using your notes etc. Form weekly study groups to reiterate the taught material, and to test each other's knowledge base. Biology 106 is worth your best effort because, not only will it add quality to your life, but for most of you, this course will help you move forward with your major.

Use of AI Platforms (e.g., ChatGPT) Policy

Writing and thinking are among the key skills you are developing in your quest for a college degree. While there are ways of using large language models such as ChatGPT to aid your learning at times, you are discouraged from using AI tools to generate content (text, images) that will end up in work you turn in for a grade. If you use AI platforms to help you get started writing, we expect you to revise what is produced so the product is in your own voice and reflects your own thinking. Writing involves struggle and it is the struggle that helps you hone both your writing and thinking skills. If you choose to use AI to help you write, you must use citations to clearly indicate what work is your original work and what part is generated by the AI (without citations, it is plagiarism). In such cases, no more than 10% of the assigned work should be generated by AI. If any part of this is confusing or uncertain, please reach out to the instructors for a conversation before submitting your work.

Late Work Policy

- **Clickers** and **Learn-Before-Lecture homeworks** must be completed on schedule. No late LBL's are accepted and missed clicker days cannot be made up for any reason. Don't worry though – we drop your lowest 6 LBL Check-Ins and there are many more clicker points available than you need, so missing a few lectures will not prevent you from earning maximum clicker points.
- Most of the **Writing Assignments** are subject to a 1-day grace period– please ask for this accommodation *before the deadline* if you are experiencing challenging times. No information literacy assignments, infographics, expanded infographics, draft papers, or final papers will be accepted beyond 3 days after the posted deadline except for extraordinary situations and pre-deadline communication. Communication is the key if you are unable to meet due dates.
 - Note that the **Expanded infographic** assignment is part of an exercise in lab, therefore, **it must be turned in on time** and cannot be turned in late.

Explanation of Course Components

This course is structured to layer your learning as you go. Pre-lecture readings introduce the material before you come to lecture, the lecture explains and packages the information, the clicker questions and in-class worksheets provide opportunities to use your developing knowledge, and lab provides hands-on learning to anchor the biology. Studying for exams draws on this structure as you work to master the concepts and expand your knowledge base.

Lectures are the central framework of the course. Our goal is to organize the content, work through challenging processes step-by-step, have opportunities for active learning to apply concepts and facts, and provide other opportunities to learn in real time. While it may be tempting to come and passively take notes, thinking that you will learn at a later time, please commit yourself to being an active note-taker, participate in in-class work, look for connections, and practice answering questions from your own understanding rather than simply Googling answers (which doesn't really help you learn at all). There are two things you can do to boost your learning from lecture: 1) use the provided pdf of lecture slides for

notetaking and 2) take notes by hand rather than by typing. You will be drawing arrows, sketches, etc. so plan ahead on how best to take free-flowing notes.

iClickers are used to make our class time more engaging and provide real-time learning opportunities. This will help us understand what you know, give everyone a chance to participate, and increase how much you learn in class. This will also provide you with feedback on how well you are comprehending course concepts and help you master challenging concepts. Points are earned by participation as well as correct answers. Each day, you can earn up to 2 points (1 point for attempting all questions + 1 pt for correct answers). Points accumulate all semester with a **maximum of 56 points** earned. Because there are more points available than you need over the semester, **clicker points for missed classes cannot be made up for any reason**. We've got you covered if you miss a few classes!

Learn-Before-Lecture Homeworks (LBL's) will really help your learning. Armed with a preview of the topic from the assigned reading, lectures will be easier to follow, and your notes will be richer and more useful. This is totally worth your time! To help you find the relevant bits, we provide homework worksheets that are, essentially, reading guides to help you learn before lecture. These Learn-Before-Lecture worksheets are designed to aid your learning by helping you extract key information from the pre-lecture textbook reading. Because these are time-sensitive and we drop several low scores, there are **no make-ups, regardless of the reason for missing**. We've got you covered with the dropped lowest scores!

Here's how the LBL homework works:

To benefit from the homework, it is essential that you read the text fully and thoughtfully. The homework is an opportunity to *learn* before the lecture.

- LBL worksheets are provided on Canvas as Word documents and should be completed **while reading the text**. Please do not attempt to just scan the text for answers. That approach does not promote learning and the benefit of the homework is largely negated.
- After completing the written assignment, you **will not upload the document**. Instead, you will earn credit by checking in online and answering a subset of the homework questions to earn credit. The check-in questions will be pulled directly from the LBL worksheet (but with multiple choice options) so you must reference the LBL to see the question stem (e.g., "LBL Question 3-What is the answer?").
- You must complete and submit the LBL check-in **before 11:00AM** on the day that it is due. No late check-ins will be accepted, even if it is only seconds late. If your internet is slow, be sure to start early enough to prevent lag time from making your submission late. You have a single attempt for each LBL check-in lasting 6 minutes so be sure to budget your time to **submit** your answers **prior to 11AM**. Each week's LBL worksheets (and the opportunity to check-in for the points) will become available after Friday's lecture the week before.

TA Office Hours Learning Opportunities are offered weekly in the Eastlick Lounge (Eastlick 171). Our TAs staff optional drop-in hours to lead activities targeting challenging concepts and model efficient methods of learning them. You do not need to make an appointment, just drop in and find a Biology 106 TA.

IMPORTANT NOTIFICATION: If you really want to learn biology this semester, do the LBL's before coming to lecture and go to the TA office hour learning opportunities. **We have designed the course specifically to layer your learning bit by bit – first with the textbook (LBL), then with lecture, then with lab, blending in active learning in Eastlick Lounge and finally with studying for the exams.**

Written Report Project (the Term Paper): You will expand your writing skills by crafting a scientific report on the data gathered in the Plant Module labs. Like any skill, writing improves when you practice and stretch yourself. For Bio 106, you will scaffold your writing, incorporating feedback as you go. The scaffolded assignments include

[1] an [Information Literacy worksheet](#) to help you find scholarly background information; [2] a [Structure of a Scientific Paper Structure worksheet](#); [3] an [Infographic \[lab 6\]](#); [4] a [Draft Paper](#); and [5] your [Final \(revised\) Scientific Paper](#) where you have incorporated your TA's feedback. NOTE: We offer a 1-day grace period for submitting late work. Please ask for this accommodation *before the deadline* if you are experiencing challenging times. No assignments will be accepted beyond 3 days after the posted deadline except for extraordinary situations. *Details on the assignment can be found on the BIOL 106 Canvas website and will be discussed in lab.*

Laboratory: Laboratory sections meet each week starting with a short meet and greet during week 1 and then lab activities beginning the **second week** of classes. Please read over the lab prior to attending each week so you know what the learning goals are and what to expect. The laboratory grade is based on an entrance quiz primarily focused on the previous lab (5 pts) and correctness of lab Exit Questions (15 pts). Be sure you have your own lab manual – you will make notes, answer questions, and record data in it and get checked off for your work as you progress. **Participation in the laboratory is mandatory; if more than two labs are missed, an automatic failing grade for the entire class will result.**

Attendance: You are expected to attend every lab. If you have a University-approved reason for missing your regular lab (varsity sport commitment, illness, quarantine, etc.), you may be able to attend another lab section during the same week **if a space is available and you have contacted your TA in a timely manner**. Social functions sponsored by dorms, sororities and fraternities or family vacations are not valid excuses for requesting a lab make-up. If you know ahead of time you are going to miss lab for a valid reason, please make arrangements with your TA.

FAQ's About Missing Labs:

Q. What if I am feeling sick, but I think I could manage to come anyway? Please stay home! Contact your TA immediately and let them know your situation. If possible, we will arrange a make up opportunity. If not possible, your lowest two lab grades are dropped, so it won't impact your grade. We really, really, really want to keep everyone healthy this semester and not be a source of virus spread.

Q. What if I just don't feel like coming to lab? Can I just say I'm sick and do a make up? Take a deep breath and come to lab anyway. You'll be glad you did. Missing lab gets you off track and out of step, plus it is a learning opportunity lost. Besides, providing a false excuse is a violation of the Student Conduct code and you don't want to do that!

Exams: Five exams, worth 100 points each, will be given throughout the semester. The fifth exam is the cumulative final which will integrate all of the topics covered. The cumulative final serves not only as your fifth exam score, but we will use that same final exam score to boost one lower exam score to match it.

For example: if your grades on exams 1-4 were 65%, 75%, 85%, and 80% and you then earned a 79% on the final, we would boost the 65% earned on exam 1 up to 79% to match the final exam score. That gives you 14 more points! Therefore, doing well on the final can boost your course grade in two ways.

FAQ's About Exams:

- **What is the format of the exams?** All lecture exams are multiple choice, 50 graded questions.
- **What if I have to miss an exam?** Email the current instructor (Dr. Hellmann or Dr. Carloye) right away and let them know your situation. If you have a valid excuse and you have communicated with the current instructor before the exam is over, a make-up exam can be discussed. Examples of **NON-VALID** excuses include (but are not limited to) vacations, going to a friend's wedding, sorority or fraternity events etc. Proof for the valid reason may be requested. You should not discuss the exam with anyone else in the class until arrangements have been made and you have completed the exam. If you miss an exam without making it up, you will receive a score of 0 for that exam and you should plan to study extra hard for the cumulative final to replace the 0.
- **What if I am sick on exam day?** Please do not come to the exam if you are sick. You must [email Dr. Hellmann](#) (exams 1 & 2) or [Dr. Carloye](#) (exams 3, 4 & the final exam) **before the exam is over**, provide an explanation and

some sort of verification of your situation. We will arrange a make-up exam if you are recovered and no longer contagious within 3 days of the exam. For longer absences, the final exam will replace a missed exam score.

- **What if I need to take the final exam at a different time?** Except for extraordinary circumstances, University policy (Rule 79) forbids faculty from offering alternative times for final exams. The only exceptions are for documented instances of having 3 or more exams on the same day, or serious illness. **NO alternative times for the final will be provided – please don't even ask.** Remember, your final exam score can be used to boost your lowest exam score (in addition to counting as one exam grade) so it is in your best interest to study hard and do your best.
- **What does “cumulative final exam” mean?** The cumulative exam covers the material taught over the entire semester by both instructors. Your score for this exam counts toward your course grade. If your score on this exam is higher than another one of your previous exam scores, it will replace the lowest score as well. So, studying hard and doing well on this exam can boost your course grade by counting twice. If your score on this exam is your lowest score, it will not affect your other exam grades.
- **What if I cheat?** If caught cheating on an exam, the paper, or a laboratory assignment (including plagiarism), you will either **fail the assignment**, or, at the instructor's discretion, you will **fail the course**. A letter documenting the violation will be sent to the Center for Community Standards and additional disciplinary action by the University will result.
 - It is especially important that **during exams**, you work under a strict honor code. We know it might be tempting to cheat, but please do not do so.
 - If you are caught cheating on an exam and the instructor assigns a zero for the exam, that zero cannot be replaced by your final exam score.
 - If you are given 0 points for cheating on a lab quiz, lab exit questions, or LBL check-ins, the score will count toward your grade and cannot be dropped as part of the end-of-semester adjustments.
 - Your name on an assignment or test or submitted electronically is your pledge that the work presented is **your own** work and in your own words. Turning in someone else's work as your own is cheating.
 - See the information below for a statement describing academic dishonesty. You are expected to have read, understood and abide by the policy.

Communicating with Instructors and TAs: Email is typically the best way to reach us. Per WSU policy, the “preferred” email address in your myWSU will default to your WSU email address. All correspondence regarding academic and business-related activities will be sent to your WSU e-mail address. Please help us comply with this policy by generating your email correspondence to Dr. Hellmann and Dr. Carloye as well as your TAs using your WSU email so we can quickly and easily reply.

NOTE: Because our class is so large, and we have other classes as well, we get a lot of emails. Our intention is to respond to every email within 48 hours. If you have not heard back by then, please send a polite, gentle reminder to ensure that we see your email. **If you include “Bio 106” in your subject heading, that helps us find it.**

RETAKEING BIOL 106 POLICY: Students repeating Biol 106 are required to repeat all aspects of the class in lecture AND lab.

ACADEMIC INTEGRITY: Academic integrity is the cornerstone of the university. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010 (3) and -404) will either **fail the assignment**, or, at the instructor's discretion, you will **fail the course**. A letter documenting the violation will be sent to the Center for Community Standards and additional disciplinary action by the University will result. Additionally, you will not have the option to withdraw from the course pending an appeal and will be reported to the Center for Community Standards.

Cheating includes, but is not limited to, copying answers from your lab partners or someone who previously took the course, submitting answers for work you did not participate in doing, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). Using AI platforms such as Chat GPT without acknowledging it is a form a plagiarism. Paraphrasing can also be a form of plagiarism, if the paraphrased text is too similar to the original. If you have any doubt about what constitutes

plagiarism and unauthorized collaboration , read and understand the Standards of Conduct for Students, WAC 504-26-010(3) and check out the definitions of cheating as outlined by the State of Washington here: app.leg.wa.gov/WAC/default.aspx?cite=504-26-010.

- It is especially important that **during lab quizzes**, you don't even LOOK like you might be cheating – so be careful to keep your eyes on your own paper at all times.
- Your name at the top of the quiz and worksheet is your pledge that the answers are **your own** work and in your own words.
- Definitions of academic dishonesty and the University Academic Integrity Policy can be read at www.conduct.wsu.edu/AI

Plagiarism is the inclusion of any material that is not your own, without adequate reference to its author (including using AI platforms to generate work. For Biology 106, **no direct quotations are allowed in your written work, even if it is properly cited.** All information gleaned from other sources must be summarized and cited. The definition used in this and all Biology prefix classes is available at - <https://sbs.wsu.edu/index2.html>

In laboratory courses, **make sure that you do not use the same text as a lab partner.** You may collectively use the same figures and tables, ONLY IF you collected the data together. Paraphrasing can also be a form of plagiarism, if the paraphrased text is too similar to the original. If you have any doubt about what constitutes plagiarism, immediately discuss this matter with your instructor or T.A.

If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at conduct.wsu.edu.

University Policies: Students are responsible for reading and understanding all university-wide policies and resources pertaining to all courses (for instance: accommodations, care resources, policies on discrimination or harassment), which can be found in the [university syllabus](#).

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Learning Goals: This course fulfills the BSCI: Inquiry in Natural Sciences requirements

WSU UCORE Learning Goal	Natural Sciences Category Learning Outcomes	Course-level Learning Outcome “At the end of this course, students should be able to...”	Class Topics & Learning Activities	Learning Outcome Assessed by ...
Scientific Literacy	Students use evidence-based reasoning to form testable hypotheses about the natural world	...develop scientific hypotheses and distinguish between a scientific hypothesis and theory. ...analyze scientific data.	Plant and Animal Lab Modules. Phylogeny lab. Scientific report, lab worksheets for Plant Module labs, Natural Selection lab, Ecology lab	Lecture exams, lab exit questions. Scientific report.
	Students demonstrate understanding of key concepts or basic principles in the discipline	...make connections between organismal form and function and between biological concepts. ...comprehend and appropriately use the basic terminology associated with biology	All lectures and labs. Emphasis on form and function in animal physiology lab. “Making connections” lab and infographic construction	Lecture exams, lecture clicker questions, lab quizzes, scientific report, infographic
Critical Thinking	Students identify and evaluate the key evidence underlying scientific theories	...explain evolutionary theories including natural selection and phylogeny. Describe the key adaptations in the evolution of plant and animal diversity.	Evolution lectures, natural selection and phylogeny labs. Plant and animal diversity lectures and labs.	Lecture clickers, Exams, LBL questions, final exam, lab worksheets.
	Students demonstrate understanding of the role of controlled experiments in the scientific process and make valid inferences from results Students test hypotheses using appropriate methods involving data collection and analysis, and make valid inferences from results	...develop testable hypotheses, design controlled experiments, collect and interpret data.	Plant and animal modules Natural selection and ecology labs.	Exams, lecture content and in-class discussions, the scientific report.
Quantitative Reasoning	Students apply quantitative methods and principles to solve scientific problems or explain scientific observations	...analyze data using descriptive statistics (means and standard deviation). ...analyze data and draw appropriate conclusions using statistical analysis (t-tests and Chi-square test). ...interpret graphs and draw appropriate conclusions.	Plant lab module; Animal lab module, Phylogeny, natural selection and ecology labs.	Lab exit questions, Scientific report
Information Literacy	Students find, evaluate and use scientific and other information from a variety of sources	... find, evaluate and use discipline specific peer-reviewed studies to provide context for plant growth experiment.	Information literacy; The process of science	Information literacy assignment; Scientific report
Writing and communication	Students communicate findings effectively in forms appropriate to the discipline	...formally communicate scientific results both in writing, graphically, and an oral presentation.	Scientific report, animal module presentation	Scientific report, Infographic, Oral presentation.

BIOLOGY 106 Fall 2024 Schedule*

- **Weekly materials become available the Friday prior to the week they are schedule.**

Date	Lecture	Topic	Pre-Class Readings	Lab	Optional TA Hours Learning Opportunity	DUE DATES
Aug 19	Week 1 1	Course Introduction/ Descent w/ Modification/ Origin of Species-1	Ch. 19	Meet & greet with your TAs in lab this week	Drop-in hours are held in Eastlick 171 No TA drop-in learning hours this week.	LBL Homework Check-Ins are due 11am on the date they are listed
21	2	Descent with Modification/ The Origin of Species-2	Ch. 19 HW-1 (2pt)			
23	3	The Evolution of Populations	Ch. 21 HW-2 (2pt)			
26	Week 2 4	The Origin of Species-1	Ch. 22 HW-3 (2pt)/ Clickers (2 pts)	LAB 1: Natural Selection (Lab Manual Lab 13)	TA drop-in learning hours this week. Mon 5-7pm Wed 3-6 Tues/Th: 10-7	LBL Homework Check-Ins are due 11am on the date they are listed
28	5	The Origin of Species-2	Ch. 22 HW-4 (2pt)/ Clickers (2 pts)			
30	6	Phylogeny	Ch. 20 HW-5 (2pt)/ Clickers (2 pts)			
Sept 2	Week 3	Labor Day Holiday	--	LAB 2: Phylogeny (Lab Manual Lab 12)	TA drop-in learning hours: Mon: holiday Wed 3-6 Tues/Th: 10-7 <i>(natural selection)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
4	7	Plant Structure	Ch. 28 HW-6 (2pt)/ Clickers (2 pts)			
6	8	Plant Growth and Development	Ch.28 HW-7 (2pt)/ Clickers (2 pts)			
9	Week 4 9	Plant Nutrition-1	Ch. 29 HW-8 (2pt)/ Clickers (2 pts)	LAB 3: Plant Module Lab 1 of 3 Scientific Investigation of Nutrients and Plant Growth (Lab Manual Lab 2)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(exam prep worksheet)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
11	10	Plant Nutrition-2	Ch.29 HW-9 (2pt)/ Clickers (2 pts)			
13	--	Exam 1 (Lectures 1-8; Labs 1 & 2)	--			
16	Week 5 11	Plant Resource Acquisition-1	Ch. 29 HW-10 (2pt)/ Clickers (2 pts)	LAB 4: Plant Module Lab 2 of 3 Influence of Nutrients on Plant Growth (Lab Manual Lab 3)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(transpiration)</i>	LBL Homework Check-Ins plus... Information Literacy Assignment due by Friday at 11:59pm
18	12	Plant Resource Acquisition-2	Ch. 29 HW-11 (2pt)/ Clickers (2 pts)			
20	13	Plant Diversity-1	Ch. 26 HW-12 (2pt)/ Clickers (2 pts)			
23	Week 6 14	Plant Diversity-2	Ch. 26 HW-13 (2pt)/ Clickers (2 pts)	LAB 5: Plant Module Lab 3 of 3 Influence of Nutrients on Plant Growth (Lab Manual Lab 4)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(sketch alternating generations)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
25	15	Plant Reproduction-1	Ch. 30 HW-14 (2pt)/ Clickers (2 pts)			
27	16	Plant Reproduction-2	Ch. 30 HW-15 (2pt)/ Clickers (2 pts)			

30	<u>Week 7</u> 17	Plant Responses to Internal and External Signals-1	Ch 31 Ch 30 HW-16 (2pt)/ Clickers (2 pts)	LAB 6: Infographic (Lab Manual Lab 5) No lab quiz – all points come from lab	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(sketch double fertilization)</i>	“Structure of a Scientific Paper” assignment due by Monday at 11:59pm
Oct 2	18	Plant Responses to Internal and External Signals-2	Ch 31 Ch 30 HW-17 (2pt)/ Clickers (2 pts)			
4	19	Fungi	Ch 26 HW-18 (2pt)/ Clickers (2 pts)			
7	<u>Week 8</u> 20	Animal Diversity-1	Video: Shape of Life- sponges & cnidarians HW-19 (2pt)/ Clickers (2 pts)	LAB 7: Plant Diversity (Lab Manual Lab 11) No lab quiz – all points come from lab	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(exam prep worksheet)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
9	21	Animal Diversity-2	Video: Flatworms, Annelids, Marine Arthropods, Mollusks HW-20 (2pt)/ Clickers (2 pts)			
11	--	Exam 2 (Lectures 9-19; Lab 7)	--			
14	<u>Week 9</u> 22	Animal Diversity-3	Ch 27 (pp 566-583) HW-21 (2pt)/ Clickers (2 pts)	LAB 8: Animal Diversity (Lab Manual Lab 14) + Writing workshop	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(paper writing guidance)</i>	LBL Homework Check-Ins plus... Draft Paper is due by Friday at 11:59pm
16	23	Digestion & Nutrition	Ch. 33 HW-22 (2pt)/ Clickers (2 pts)			
18	24	Animal Hormones-1	Ch. 32 & 33 HW-23 (2pt)/ Clickers (2 pts)			
21	<u>Week 10</u> 25	Animal Hormones-2	No new reading / Clickers (2 pts)	LAB 9: Animal Module Lab 1 of 3 Adaptations for feeding: Skulls & Diets (Lab Manual Lab 15)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(hormone cascade path diagrams)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
23	26	Vertebrate Reproduction	Ch 36 (pp 761-774) HW-24 (2pt)/ Clickers (2 pts)			
25	27	Vertebrate Reproduction & Development	Ch 36 (pp 774-781) HW-25 (2pt)/ Clickers (2 pts)			
28	<u>Week 11</u> 28	Circulatory systems	Ch 34 (pp 716-722) HW-26 (2pt)/ Clickers (2 pts)	LAB 10: Animal Module Lab 2 of 3 Adaptations for feeding: Digestive Tracts (Lab Manual Lab 16)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(exam prep worksheet)</i>	LBL Homework Check-Ins are due 11am on the date they are listed Draft papers returned Friday
30	29	Gas Exchange	Ch 34 (pp 730-740) HW-27 (2pt)/ Clickers (2 pts)			
Nov 1	--	Exam 3 (Lectures 20-27; Labs 8-10)	--			
4	<u>Week 12</u> 30	Osmoregulation & Excretion (Nephrons)	Ch 32 (687-697) HW-28 (2pt)/ Clickers (2 pts)	LAB 11: Animal Module Lab 3 of 3 Diagnosing Feeding Habits of an Unknown Mammal (Lab Manual Lab 17)	TA drop-in hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(sketch physiology)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
6	31	Nerves (action potentials)	Ch 37 (782-793) HW-29 (2pt)/ Clickers (2 pts)			
8	32	Nerves (signal conduction)	No reading/Clickers (2 pts)			
11	<u>Week 13</u> -	VETERAN's DAY HOLIDAY	--	LAB 12: Animal Physiology-1 (Lab Manual Lab 18)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(sketch action potentials)</i>	FINAL PAPER DUE Monday by 11:59pm LBL Homework Check-Ins plus...
13	33	Nerves (synapses)	Ch 37 (793-797) HW-30 (2pt)/ Clickers (2 pts)			
15	34	Muscles	Ch. 39 HW-31 (2pt)/ Clickers (2 pts)			
18	<u>Week 14</u> 35	Ecology - species interactions	Ch 41 (pp 877-887) HW-32 (2pt)/ Clickers (2 pts)	LAB 13: Animal Physiology-2 (Lab Manual Lab 19)	TA drop-in learning hours: Mon 5-7pm Wed 3-7	LBL Homework Check-Ins are
20	36	Ecology - Nutrients & energy	Ch 42 (pp 896-908) HW-33 (2pt)/ Clickers (2 pts)			

22	-	Exam 4 (Lectures 28-35 Labs 12 & 13)	—		Tues/Th: 10-8 <i>(exam prep worksheet)</i>	due 11am on the date they are listed
25-29	-	THANKSGIVING BREAK				
Dec 2	Week 15 37	Ecology – Life history & survivorship curves	Ch 40 (pp 864-876): HW-34 (2pt) / Clickers (2 pts)	LAB 14: Ecology (Lab Manual Lab 20)	TA drop-in learning hours: Mon 5-7pm Wed 3-7 Tues/Th: 10-8 <i>(sketch nutrient cycles)</i>	LBL Homework Check-Ins are due 11am on the date they are listed
4	38	Ecology - Ecological succession	Ch 41 (pp 880, 888-890): HW-35 / Clickers (2 pts)			
6	39	Review for Final Exam	DOCUMENT: Review LBL HW-36 / Clickers (2 pts)			
Final Exam		Dec 12 th Thursday at 10:10-11:30 am in Todd 116				

***Schedule subject to change at instructor's discretion**