BIOL 2108H: HONORS ORGANISMAL BIOLOGY Spring 2020

Science Learning Center (SLC) Room 345, T/Th 12:30 – 1:45 pm

This course aims to support your learning of core ideas in organismal biology, as well as core skills and tools that scientists use to make sense of the world. Obviously, we will only be able to cover a tiny proportion of what we know about organismal biology, so you should see this course not only as an introduction to the principles of biology but also as a place where you can develop lifelong analytical and critical thinking skills that will enable you to continue your learning beyond this course. *This class is NOT a traditional science course in which you listen quietly to lectures, feverishly write notes, and then memorize your notes for the exams.* That sort of class does a great job preparing you to regurgitate facts on exams, but after college you will rarely be asked to take exams. **The main objective of this class is to prepare you to think scientifically, which requires going beyond memorizing information.**

Disclaimer: The course syllabus is a general plan for the course. I will announce deviations to the class if necessary.

INSTRUCTORS

Dr. Tessa Andrews
Email: tandrews@uga.edu (please do NOT use email in eLC)
Office: C208A Davison Life Sciences Building
Phone: 706-542-3340
I will respond to emails within 24-48 hours Monday through Friday. If you email during the weekend, you can expect a response on Monday.

Office hours: Thursday 10:30 -11:30 am and by appointment. Office hours are a great way to interact with the instructor. I strongly encourage ALL students to come to office hours. Don't hesitate to email me to schedule a time to meet!

Teaching Assistant: Brittney Ferrari, baferrari13@uga.edu

COURSE GOALS

Students will develop deep understanding of core principles of organismal biology, including,

- Evolution drives the diversity of life
- Biological systems interact with the environment, and within and among individuals
- Basic units of structure define the function of all living things

Specifically, students will…

1. Be able to accurately explain concepts and principles in organismal biology to biologists and non-biologists.
2. Be able to accurately apply concepts and principles in organismal biology.

Interwoven with the learning of core principles will be learning of core scientific competencies. This course aims to support students to…

3. Demonstrate skills in scientific reasoning and problem-solving, including,
    - Reason about scientific principles, theories, and models
    - Analyze and evaluate scientific explanations and predictions
    - Reason about and critically evaluate the design and execution of research, identify and interpret sources of uncertainty and assess the quality of the data
    - Interpret patterns in data presented in tables, figures, and graphs
    - Reason about data and draw conclusions from them

4. Develop effective communication skills, the ability to collaborate and learn with others, and the ability to work productively in groups.

COURSE SCHEDULE

This table presents an overview of the course topics, which are divided into seven units. For each unit, I will post a detailed day-by-day calendar on eLC.

Unit	Dates	Exams
Unit 1: Science as a way of knowing	Jan 7 – 14	Exam 1: Tues Feb 4
Unit 2: Population genetics and evolution	Jan 16 – 30	
Unit 3: Biological diversity & phylogenetics	Feb 6 – 13	Exam 2: Thurs Mar 5
Unit 4: Ecology & conservation	Feb 13 – Mar 3	
Unit 5: Homeostasis & the endocrine system	Mar 17 – 31	Exam 3: Tues Apr 14
Unit 6: Reproductive system	Apr 2 – 9	
Unit 7: Nervous system	Apr 16 - 23	
EXAM 4: Comprehensive Final Exam Thursday April 30, 12 – 3 PM		

COURSE EXPECTATIONS

What you can expect from me:

- I will be well prepared, organized, and fair.
- I will be responsive to your questions and comments.
- I will be accessible as a guide and facilitator of your learning.

What I expect from you:

- You are here because you want to be here and will come to class on time and participate.
- You will collaborate with your peers on learning activities.
- You will study outside of class.
- You will arrive in class ready to learn, having completed the pre-class preparation including:
  - The course textbook, Campbell Biology, 11th edition
  - Other readings that will be provided on eLC
  - Readiness-to-learn quizzes

To maximize your success in this course, I encourage you to:

- Attend class every day. I design class to provide opportunities for you to work individually and in groups to practice to achieve the learning objectives. You will have a hard time doing well on exams if you are not in class the majority of the time.
- Focus on the learning objectives. The exams will assess your accomplishment of the learning objectives. Use the learning objectives as a guide for what to focus on when you are completing assignments and studying for exams.
- Focus on application & problem-solving, going beyond memorization. You can look up facts when you are working on assignments. Some facts (e.g., equations) will be provided for you

COURSE RESOURCES

- **Required textbook.** Unit calendars will specify required pre-class preparation, which will often come from the textbook. The textbook for this class is Campbell Biology, 11th edition. You may use other editions, but you will be responsible for making sure your edition matches the 11th edition.
- **Top Hat.** We will be using the Top Hat (www.tophat.com) classroom response system in class. You will submit answers to in-class questions using your phone (as long as you having texting abilities). On specified days when laptops are allowed, you may opt to use a laptop to respond to Top Hat questions.
    - You can visit the Top Hat Overview (https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.
    - An email invitation will be sent to you by email, but if don't receive this email, you can register by simply visiting our course website: https://app.tophat.com/e/580454 Note: Our Course Join Code is **580454**
    - Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: www.5tophat.com/pricing.
    - Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.
- **Simbio tutorials.** We will use online tutorials through SimBio. You will need to set up an account with SimBio and pay $12 ($6/tutorial). There is information about how to set up SimBio in the Unit 1 module in eLC,

COURSE COMPONENTS TO PROMOTE LEARNING

1. **Learning objectives.** In each class period there are content and skills you are responsible for learning. These are called learning objectives. Exams are designed to assess the degree to which you have achieved these objectives. Each class period I will specify the objectives for the day. Use these as a guide after class each day and in preparation for exams. Simply reading the learning objectives to determine if you understand them is unlikely to prepare you to pass exams in this class. Instead, take time to write out full paragraphs in answer to each learning objective and work with your colleagues to compare and improve your ability to address each objective.

2. **Readiness-to-learn.** This semester we are taking an approach to learning that involves you preparing for each class period by some combination of reading, videos, and podcasts. It is essential to your success in this class that you take this preparation seriously. To help motivate you to seriously prepare for class, you will have the opportunity to earn 10% of your grade in the class through readiness-to-learn quizzes. The questions in these quizzes focus on fundamental concepts from the readings. They are NOT representative of exam questions, which will focus more on application of material than recall. All readiness-to-learn quizzes and assignments will be listed on the unit calendars.
   The quizzes will cover the material in the reading and video lectures and must be completed by 10 am on the day they are due. Your lowest readiness-to-learn grade of the semester will be dropped. No make-ups will be allowed. You will have two attempts at each quiz, although you only need to take the quiz a single time. If you do complete two

attempts at a quiz, your grade will be calculated as the average of the two attempts. All of the quizzes will be added up and will account for 10% of your total grade.

3. **Group learning.** You will engage in small group learning in this course. You will engage in discussions in small groups in class and complete some work together. Explaining your thinking and analyzing what other students say will help you develop deeper understanding of concepts in evolutionary biology, which will be crucial to doing well on exams. You will be assigned to groups and each group will have a designated location in the classroom.

4. **In-class learning assignments.** These will be sets of questions we work on in class that require you to think deeply about the material, apply concepts to novel scenarios, and to practice scientific reasoning skills. Some in-class assignments you will complete alone and some in groups. Your grade on these in-class learning assignments will sometimes be based solely on participation but some activities will also be graded on the basis of accuracy. There will be no make-up in-class learning assignments, regardless of the reason you miss an assignment. Late assignments will not be accepted. I understand that sometimes things happen that will keep you out of class, so your lowest in-class learning assignment grade will be dropped.

5. **Top Hat questions.** We will answer questions using Top Hat (TH) during class. You will text your responses using your cell phone. Asking questions in Top Hat will allow me to gauge your understanding of key concepts and plan my teaching accordingly and will give you feedback on how well you understand concepts. You will earn points based on the percent of Top Hat questions you respond to in class (not your accuracy): 30 pts (full credit) for responding to 90% of the questions. For lower than 90%, you will receive that percentage (e.g. if you earn 85%, you earn 25.5 pts). It is your responsibility to make sure your responses are recorded as you submit them. It is also your responsibility to ensure you have a charged phone at each class period. I will not accept technology excuses.

6. **Exams.** There are four exams for this course. Three will be given in-class during the semester. Exams will include mostly short-answer essay questions. No make-up exams will be given under any circumstances. Because, as you will see, all the units build on one another, all exams are cumulative, but these first three exams will be mainly based on the more recent material. The fourth is a two-hour cumulative final exam given during the first two hours of the scheduled final exam period. You can drop your lowest exam score, including the final exam. If you are happy with your performance at the end of the semester, you may choose not to attend the cumulative final exam. Each exam, including the final, is worth 150 points for a total of 450 points from exams.

What are the policies regarding missing class?

Attendance in class is essential. There may be times you will have to miss class because of an emergency or other commitment. I have structured the grading in this course to minimize the impact of missing a class for legitimate reasons by allowing you to miss up to 10% of Top Hat and still earn full credit, and allowing 1 dropped in-class assignment, 1 dropped readiness-to-learn quiz or assignment, and 1 dropped exam. You do not need to email the instructor to report an absence, unless it is an exam day.

GRADING

You will be graded on your performance on course activities as follows:

Assignment	Total points	% of grade
Readiness to learn	60	10%
Top Hat questions	30	5%
In-class learning assignments	60	10%
Exams (best 3 out of 4)	450	75%
Total Points	600	100%

Your letter grade for the course will be calculated at the end of the semester and will be based on your final percentage. Your final percentage will be determined by adding the total number of points you have earned, dividing it by the total number of points you could have earned (1000 points), and multiplying by 100. I will use the following scale for determining letter grades:

F	D	C-	C	C+	B-	B	B+	A-	A
<60%	60-69%	70-73%	74-76%	77-79%	80-83%	84-86%	87-89%	90-92%	93-100%

Grading grievances: If you feel that there has been a mistake in your grade on an exam or another assignment, please email Dr. Andrews immediately. I will not consider grading appeals beyond one week after I post a grade. Franklin has a list of all appeal options for students. See: http://www.franklin.uga.edu/students/student_appeal_guidelines.php You may feel that you are just a point or two away from earning a higher grade, but I cannot, with fairness, add points to your score without affecting the grades of everyone else in the class. Changing your grade simply because you need a higher score is in violation of the Culture of Honesty guidelines of the University. You have many opportunities to earn points by completing course activities throughout the semester. Take advantage of those opportunities. If you have general questions about withdrawals versus dropped classes, final exam conflicts, missed classes for illness, or the Hope scholarship you can visit the Student Affairs Website and view the FAQ page: http://studentaffairs.uga.edu/students.htm.

CRITICAL INFORMATION

Academic Honesty and the Honor Code: Academic Honesty means performing all academic work without plagiarism, cheating, lying, tampering, stealing, giving or receiving unauthorized assistance from any other person, or using any source of information that is not common knowledge without properly acknowledging the source. The academic honesty policy of the University is supplemented (not replaced) by an Honor Code which was adopted by the Student Government Association and approved by the University Council May 1, 1997, and provides: I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others. All students agree to abide by this code by signing the UGA Admissions Application. For more information on Academic Honesty and the Honor Code, please refer to: http://honesty.uga.edu/. More specifically, this commitment and statement means that you agree not to:

- Log into another student's Top Hat account to answer questions for them.
- Write someone's name on an assignment and turn it in if that person did not actually contribute to the assignment.

- Look at another person's exam while taking an exam, even if you are just "checking to see where that person is on the exam."
- Cheat, lie, or plagiarize in any other way. If you have questions about an assignment and academic integrity please ask me.

Any person found using unauthorized assistance will be reported immediately to the Office of the Vice President for Instruction. The minimum penalty for using unauthorized assistance is a failing grade, and the maximum penalty is suspension from the University. Do not risk your academic future – it is simply not worth it!

Disability accommodations: Reasonable accommodations are available for students who have a disability. The Disability Resource Center in the Division of Student Affairs (114 Clark Howell Hall; 706-542-8719 voice; 706-542-7719 fax; 706-542-8778 tty) coordinates accommodations and services for students with disabilities. Please notify the instructor of any accommodations needed for the course during the first week of the course.

Technology during class and exams: Laptop use will only be allowed on some class days and only for part of the class. Computers, cell phones, or other devices are prohibited during exams. Any student using technology during an exam will be asked to leave and will receive a 0 on the exam.

Technology difficulties: It is your responsibility to make sure you have access to eLC, Top Hat, and SimBio. You will have adequate time to complete all of the assignments. If you wait until the last minute (less than 3 hours before it is due, or after 9 am - 5 pm business hours), I may not be able to help you. If you forget to complete an online quiz, it will not be available to make-up. You have control over your schedule and we expect you to organize and manage your time.

- If you have any problems or questions about accessing eLC, you can contact the EITS Helpdesk: (706) 542-3106, or online at https://eits.uga.edu/support/request. You can find answers to questions about eLC at: https://d2lhelp.view.usg.edu/
- If you have any problems with accessing Top Hat, please contact their technical support by email: support@tophat.com or visit http://support.tophat.com
- We will not consider technology excuses! You need to make sure you have a backup computer if your computer should be down at any time. You must have a phone with texting capabilities in each class period.