BIOS 1108 INTRO TO ORGANISMAL BIOLOGY SYLLABUS SPRING 27

Lecture meets MWF 11:00 – 11:50am, CULC 144

Recitation meets Tuesday 6:30-7:20pm, Clough 144

Instructional Team:

	Email	Drop-in hours	Zoom Link
Lecture: Dr. Onur Birol	onur.birol@biosci.gatech.edu	See Canvas	See Canvas
Lab: Dr. Colin Harrison	colin.harrison@biosci.gatech.edu	By appointment; see lab course syllabus for details	

When emailing the instructional team, please include the course number in the subject of your email.

Note: The Class Schedule is subject to change and can be found on Canvas.

Course Description & Learning Objectives:

In this course, you will learn how your biology is similar – and different – to the biology of all life on Earth. We will explore the evolutionary history of all life on Earth through the lenses of development and reproduction, signaling and communication, and physiology and organ systems. As we explore the diversity of life on Earth, you'll be able to identify biological patterns and explain how you both are similar and different to the breadth of diversity of life on Earth. You will also develop scientific skills in analyzing and interpreting scientific data to test hypothesis and communicate scientifically. Finally, you will develop and practice skills in metacognition to identify your best learning strategies that you will be able to employ in your future courses and career. By the end of this course, you will be able to:

(a) Identify and explain patterns in organismal biology in the context of evolutionary history, growth and development, cell signaling and communication, and organ systems and physiology
(b) Communicate effectively using appropriate scientific language in class settings
(c) Appreciate commonalities and differences among people who practice science, and recognize that there are multiple pathways into science as a career

This course will foster your learning by using reflective practice, strengthen your critical thinking skills, and develop your confidence in soliciting guidance when problem-solving.

Class time will consist of a variety of team-based activities designed to discuss, clarify, and apply new ideas by answering questions, drawing diagrams, analyzing primary literature, and explaining medical or ecological phenomena in the context of biological principles. We will spend class time building your comprehension on the material you find the most difficult, based on pre-class assessments. You will need to complete the assigned reading *before* each class.

Recitation will be led by the TAs every Tuesday, 6:30-7:20pm. Recitation is an opportunity for you to discuss class material in further detail. All 1108 students are welcome to attend recitation – you do not need to be enrolled in the recitation section. Recitation attendance is strongly encouraged and is correlated with exam performance! Recitation should be a regular component of your study habits should you desire an A in this course.

What are the roles of your instructors and TAs? Our goal is to increase your engagement and comprehension of course material during the class period. We will encourage you to be fearless in attempting class activities, and we will help you exploit class as an opportunity for you to make mistakes and be corrected in real-time.

What is your role as a student? Before class, read/watch/listen to the assigned preparatory material, complete each pre-class assessment (incoming knowledge evaluation, or IKE), and formulate any questions you want to ask. During class, you can expect to build your understanding through team activities (team in-class activities, or TICAs) and periodically contribute to class discussions. Following class, there will be weekly homework assignments to give you an additional opportunity to practice mastery of the material.

This course format will ask you to develop skills in identifying what information you need and learning how to break down a problem into achievable parts. Key attributes of A-level class participation include (based on rubric by Filipe and Pritchett 2013):

- Actively looking for and recognizing inadequacies of existing knowledge,
- Consistently seeking and asking probing questions,
- Using advanced and persistent search strategies,
- Evaluating solutions by assessing reliability and appropriateness of sources.

We expect you to demonstrate persistent learning by attending every class period, reading ahead, bringing appropriate notes that support quality participation during class, and taking personal responsibility for the success of both yourself and your team. Team-based learning promotes the benefits of combining the effect of individually mastering a concept and reinforcing that understanding by sharing with and teaching peers.

Grading: **Your final grade will depend on the following combination of grades:**

In-class exams (4 midterms)	40%
Final exam (Cumulative)	20%
Writing Assignments	20%
Participation*	20%

*equally weighted between Homeworks, TICAs, and IKEs

We will use the following procedure in calculating your final grade:

1. We will weigh your 4 midterms 6%, 10%, 10%, and 14%, where your lowest midterm score will count 6% and your highest midterm score will count 14% of your final grade.
2. We will combine your exams, writing assignments, and participation scores into a raw composite score (0 – 100%) using the weights shown above.
3. We will assign final letter grades using the following scale:
   - A: ≥ 90.0%
   - B: ≥ 80.0% and < 90.0%
   - C: ≥ 70.0% and < 80.0%
   - D: ≥ 60.0% and < 70.0%
   - F: < 60.0

Note: Your course averages on Canvas will not be accurate throughout the semester. Please calculate your own grade based on this grading scheme. Canvas will only be used to communicate your assignment grades with you.

Online textbook and other required resources: This course is taught without a traditional textbook, and all course readings and videos are on the course website, https://organismalbio.biosci.gatech.edu/. Ed Discussion, an online forum in our Canvas site, will be used for online discussions and Q&A outside of class. We will use Codon Learning for in-class and outside-class activities. You will access Codon Learning via Canvas, and will need to pay a subsidized subscription cost of $20.

Ed Discussion Policy: We encourage asking questions and working together, both in and outside of class. To this end, we will set up Ed Discussion, an online platform for you to ask us and your fellow students questions. A challenge with such online communication can be interpreting text without the visual and auditory clues from speech. Please grant each other

grace and the benefit of the doubt in potential miscommunications by asking for clarification when needed, and please respond to requests in good faith. We will strive to keep our learning environment as a place where we can seek knowledge openly, and we will keep Ed Discussion available as long as this goal is met. Please remember that conversations on Ed Discussion are not private, so if your concern is personal (a grade, illness, etc.), then it is most appropriate to email us.

Email Policy: Emails can be an appropriate forum to address individual concerns (e.g., your grade, an institute absence, etc.), but please put general questions in Ed Discussion. **When you email, please put BIOS 1108 in the subject line so we see and prioritize the message.** Please also use your GT email; we can respond most thoroughly (and rapidly) when we can simply hit reply vs. needing to search for your verified GT email to respond. **Please do NOT use Canvas or Codon messaging; they are not reliable.** We will generally reply within 24 hrs and be most responsive M-F 8am-5pm, but unless the concern is urgent (e.g., we're troubleshooting your access to LC, an exam, etc.), please don't feel the need to immediately respond. We understand we all need balance. Please give us this same respect.

Participation and Homework: Please see Canvas for details on pre-class and in-class activities (TICA) that contribute to your participation grade. Weekly homeworks (Prep Questions) will also be a component of Participation. To participate in class, you will need to have a smartphone, tablet, or laptop in class. Phone and computer use should be restricted to class-related material, and off-task use may result in loss of participation points for that day. ***ALL pre-class, TICAs, and weekly prep questions are graded for participation/completion NOT correctness. You must complete a minimum of 60% of the questions to receive participation credit. While correctness is not required, these are designed to be an opportunity to authentically test your understanding and highlight areas for additional study.***

> **Missed Participation:** Pre-class activities and Prep Qs are completed asynchronously and thus makeups are not administered. TICAs are administered synchronously during class time, and you are expected to participate *in person* during regularly scheduled class. *"Stuff Happens" clause: We will drop the 8 lowest pre-class+TICA scores for all students to account for absences related to illness, institute-approved absences, and any other situation.* Missed sessions cannot be made up, and students away from campus are encouraged to complete asynchronous assignments (pre-class activities) if they are able to do so. There is no need to email us if you miss a day of class and it only affects one session. If you have an approved extended absence for missing class, we will discuss accommodations with you. If granted, these TICAs will be dropped from your participation calculation. Drops will be applied at the *end* of the term and not sooner.

Writing Assignments: There are five written assignments during the semester: a preparatory assignment on plagiarism, three Scientist Spotlights, and a final reflection on the course. These will be posted on Canvas and will be due by 9 PM on each posted deadline. In the Scientist Spotlights, you will compose a written response to information about the life and work of a prominent scientist whose work is related to an aspect of the course content. These assignments will be subject to plagiarism review by Turnitin. These five writing assignments contribute equally to 20% of your grade (4% each).

> **Assignment Submissions:** All assignments are to be submitted directly to Canvas. You are responsible for ensuring the timely submission of appropriately formatted and openable files; therefore, please check each submission to be sure it appears as you intend. Assignments submitted via email or as linked documents (e.g., google docs) will not be accepted. *"Stuff Happens" Clause: Up to 2 Writing Assignments can be submitted up to 72 hours late with no penalty. Otherwise, these assignments are accepted with a 5% penalty per 24 hours late (5% for any time up to 24 hours late, 10% for up to 48 hours late, etc). There is no need to email us if you submit an assignment late*. If you have an extended absence or institute approved absence for missing assignments, we will discuss accommodations with you.
>
> **AI Policy:** AI may be used in any capacity in the Writing Assignments for this course, and any use of AI must be acknowledged appropriately in the AI Contributions section of the assignment. The AI Contributions portion should be included in every writing assignment and must include the following: a) identify the AI you used; b) describe how you used it/what you used it for; c) describe what steps you took to verify the AI output. A separate

entry should be included for each AI platform that you used. If you did not use any form of AI in your assignment, then your AI Contributions section must state that AI was not used. Any indication that AI was used without proper acknowledgement may result in referral to OSI for investigation of academic misconduct. With any use of AI, you should always scrutinize any editing or response you get from the AI; although AI tools are becoming more sophisticated and can generate answers to increasingly complex questions, this does not mean that they are the correct answers.

Exams: This course has four midterm exams and a cumulative final exam. Exams will be on paper and consist of multiple-choice questions and short essay questions. Cell phones must be turned off during exams, and any student found with a cell phone that is not off during an exam may be referred to the Office of Student Integrity. The best way to study for exams is to practice the Learning Objectives. All questions are based on the Learning Objectives provided in class and on Canvas.

Missed Exams: If you miss an exam for any reason, you will receive a grade of 0 (zero) on that exam unless you petition us within 24 h of the start of the missed exam, and we approve your petition. Your petition must be submitted by email with a legitimate reason for missing the exam. You are expected to submit your petition before the exam if you know of your scheduling conflict in advance. We will consider each petition individually. Examples of legitimate reasons to miss an exam include illness, illness or death in your immediate family, and participation in official university activities. If we approve your petition, make-up exams will be arranged within 3 business days of the missed exam, and may be different from the original exam. In the rare situation when we cannot administer a make-up exam for an excused absence, we will replace the missed exam in your grade calculation. The replacement score is the average of your exam scores, weighted to the class average per exam.

Grade Change: Grading mistakes can and do occur.

- If you feel a writing assignment has been incorrectly scored, notify us by email as soon as possible. Any requests for adjustment of grade must be submitted in writing no more than 48 hrs after the work has been returned and should include a detailed explanation as to what you would like us to review.
- Regrade requests on exams will be conducted through Gradescope on Canvas and typically will be available for 5 days after grades are posted.

Additional Course Policies

Honor Code and Code of Conduct: All students are expected to abide by the Academic Honor Code, https://policylibrary.gatech.edu/student-life/academic-honor-code and Code of Conduct, https://policylibrary.gatech.edu/student-life/student-code-conduct. Some specific examples of Honor Code violations that we've encountered include: falsifying attendance, copying during quizzes/exams, incorrect citations or lack of citations in writing, or submitting another's work as your own. Students found in violation of the Honor Code will be reported to the Office of Student Integrity. Plagiarism is the unattributed use of the words of ideas of others. If you have any questions regarding your assignments and plagiarism, we encourage you to consult with any of us before you submit the assignment.

Class Content Intellectual Property Policy: Students may not make or distribute screen captures, audio/video recordings, or livestream of any class-related activity, including lectures and presentations, without official GT accommodations. If your accommodation includes recordings, we ask that any recordings that you make will not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Failure to follow this policy on recording or distributing class-related activities will be subject to student conduct proceedings under GT's Student Code of Conduct.

All course materials, including In-Class Materials, Exams, 'How To' Guides and Tutorials, Sample Assignments, Student Support materials, and the like are protected by copyright law. Students may take notes and make copies of course materials for their own personal use only. Students may NOT reproduce, distribute or display (post/upload/

screenshot/take photos of) lectures or course materials in any other way without the instructor's prior written consent (this includes uploading course materials to "study websites" such as Chegg, Course Hero, etc.). Violations of this policy will be subject to student conduct proceedings under GT's Student Code of Conduct, and applicable laws.

Learning Accommodations: We are happy to provide classroom accommodations for students with disabilities. These accommodations should be arranged in advance and in accordance with the Office of Disability Services (http://www.disabilityservices.gatech.edu). Please contact us to discuss your classroom needs beyond the documentation we are provided by ODS.

Community Statement: As members of the Georgia Tech community, we are committed to creating a learning environment that supports a diversity of thoughts, perspectives, and experiences in which all students feel safe and included. We acknowledge that your fellow students, or the instructors may say or do things that undermine this inclusivity. We commit to addressing these events when we witness them. Because we are individuals with varying needs, we are reliant on your feedback to achieve this goal. To that end, we invite you to talk with us about the things we can stop, start, and continue doing to make our classroom an environment in which every student feels valued and can engage actively in our learning community. To further review the mutual expectations in our classroom, please see the The Student-Faculty Expectations, which articulates expectations that you can have of us and that we have of you. We encourage you to remain committed to the ideals of Georgia Tech while in this class.

Academic Support: Georgia Tech offers a variety of free support to enhance your learning and communications skills:

- Academic Support: Academic Success and Advising provides free support for your courses. Students can attend weekly supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.
- Communication Center: http://www.communicationcenter.gatech.edu
  - Individualized help with writing and multimedia projects
- Academic advisors for your major: https://advising.gatech.edu/find-your-advisor

Personal Support: In your time at Georgia Tech, you may find yourself in need of support. A starting point is https://belonging.gatech.edu/studentsupport, and below are some direct links to resources available on campus.

- The Office of the Dean of Students: https://studentlife.gatech.edu/services/academic-financial-personal-assistance; **404-894-6367**; Smithgall Student Services Building 2nd floor
- Counseling Center: https://mentalhealth.gatech.edu/ ; **404-894-2575**; Smithgall Student Services 2nd floor
  - Services include short-term individual counseling, group counseling, couples counseling, testing and assessment, referral services, and crisis intervention. Their website also includes links to more resources.
  - *Students in crisis may walk in during business hours (8am-5pm, Monday through Friday) or contact the counselor on call after hours at **404-894-2204**.*
- Students' Temporary Assistance and Resources (STAR): https://star.studentlife.gatech.edu/
  - Can assist with interview clothing, food, and housing needs.
- Stamps Health Services: https://health.gatech.edu; **404-894-1420**
  - Primary care, pharmacy, women's health, psychiatry, immunization, health promotion, and nutrition
- Veteran's Resource Center: http://veterans.gatech.edu/; 404-385-2067
- Georgia Tech Police: 404-894-2500

USG IMPACTS STEM statement: The statement below is required by the University System of Georgia.

BIOS 1108 Organismal Biology for Non-Majors
This is a Core IMPACTS course that is part of the STEM area.

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help students master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How do I ask scientific questions or use data, mathematics, or technology to understand the universe?

Completion of this course should enable students to meet the following Learning Outcome:

- Students will use the scientific method and laboratory procedures or mathematical and computational methods to analyze data, solve problems, and explain natural phenomena.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Inquiry and Analysis
- Problem-Solving
- Teamwork