Syllabus

BIOL 240: Cell Biology (section 001)

Meeting time: Tuesdays and Thursdays, 9:30-10:45 AM

Meeting Location: Genome Sciences G200

Professor: Dr. Alaina Garland (she/her)

Email: agarland@email.unc.edu (mailto:leott@email.unc.edu)

Office hours:

Office hours for this course will be from 11AM-12:30PM on Wednesdays.

I will have group (11-11:50 AM) and individual (11:50AM-12:30PM) office hours this semester.

Group office hours: Anyone can attend these Zoom office hours, as they are best for non-personal matters related to class content and in fact, I encourage you to attend with your classmates (e.g., these office hours a great for groups of students). There is no need to sign up for these office hours - just stop by on Zoom! These office hours will start the second week of the semester.
https://unc.zoom.us/j/98675557030 ⮕ **(https://unc.zoom.us/j/98675557030)**

Individual office hours: These will consist of 10-minute appointments where we will meet via Zoom. <u>These are best for students who need to meet with me about something personal in nature</u>. Please refer to the Canvas Calendar (tab on the left) for the virtual office hours schedule and to <u>sign up for an appointment</u> (you'll also find the Zoom link there starting the second week of classes). I ask that students only sign up for 1 appointment at a time.

If neither of the above options for office hours fit your schedule and you are needing/wanting to meet with me, please send me an email and I will try my best to find an alternative time for us to meet.

Welcome!

I welcome you to this course and the Biology Department. In our department, we think about you holistically as an individual with identities different from your peers and strive to make an environment that feels inclusive. We think about not only biological content, but also how to develop you as a

critical thinker and consumer of information. As much as it is our role to teach you biology, we see it as equally important to help you develop and build skills as a whole person.

The instructor reserves the right to make changes to this syllabus, to include assignment and test due dates, based on the needs of the class and/or extenuating circumstances (excluding the university-scheduled final examination). Any changes will be communicated to students via Canvas and their UNC email addresses in a timely manner for students to plan accordingly.

Piazza: We will be using Piazza as a class discussion for us to interact with each other outside of our scheduled class time. If you have a question about the class, please consider posting it there. The instructional team will be monitoring Piazza and answering questions when we can, but we are also going to rely on you to answer your class colleagues' questions. Please be mindful of not providing specific answers to questions about assignments (e.g., don't tell people that the answer to Q5 is B). You can learn more about Piazza and join the site at: https://piazza.com/unc/spring2024/biol240

Course Description & Learning Objectives

Course description: The course will cover both biological concepts and scientific competencies necessary for a foundational mastery of cellular biology.

Prerequisite: Biology 103

In BIOL 240, we will learn many **foundational biological concepts** together. By the end of this course, you should be able to:
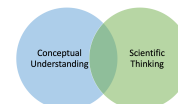
- Relate essential functions of cells to the structure of their cellular components and organelles
- Connect molecular mechanisms to cellular functions and predict outcomes when molecular mechanisms are altered.
- Curate a set of techniques that scientists use in experiments that create knowledge in genetic, molecular, and cellular biology.

We'll also learn **biological thinking skills** and do some things that scientists do daily. By the end of BIOL 240, you should be able to:

- Demonstrate the ability to use scientific knowledge, logic, and imagination to construct and justify scientific claims about phenomena, including validation through rigorous empirical testing.
- Analyze and apply processes of natural scientific inquiry as dictated by the phenomena and questions at hand. These include generating and testing hypotheses or theories; using logic and creativity to design investigations to test these hypotheses; collecting and interpreting data; making inferences that

respect measurement error; building and justifying arguments and explanations; communicating and defending conclusions; revising arguments and conclusions based on new evidence and/or feedback from peers; and synthesizing new knowledge into broader scientific understanding.

- Evaluate science-related claims and information from popular and/or peer-reviewed sources by examining the relationship between the evidence, arguments, and conclusions presented and by assessing consistency with existing knowledge from valid and reliable scientific sources.
- Identify, assess, and make informed decisions about ethical issues at the intersections of the sciences and society.

Course Structure

Course website: canvas.unc.edu

All of your materials for this course and all communication will go through Canvas. The set up for every class will be a **module page** consisting of what to do/submit before class, what to bring and do during class, and what to complete after class.
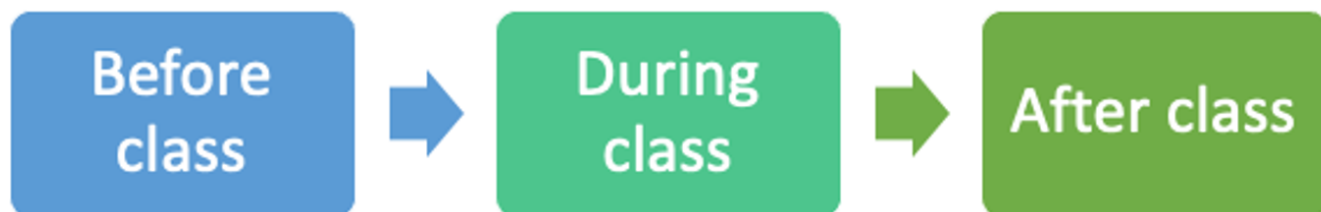
Structure: This class has built-in structure with the before class, in-class, and after class required assignments and activities. This structure provides continual required practice, which is an important part of learning. We have evidence that this required structure ensures all learners more equitable access to being successful in this course. Want to see these data that show that structured learning promotes equitable learning for students? Ask – we'd be happy to share!

Flexibility: Sometimes, life gets in the way of learning. We have built some flexibility for when life happens, as it likely will at various points in the semester for all 200+ students in the course, and circumstances within or outside of your control (you get sick, your computer stops working, you have to drive a friend somewhere, you are staying at your grandma's and lose wireless, etc) mean you aren't able to complete the assignment on time. We build in the same amount of flexibility for all students, since with hundreds and hundreds of students per semester, we can't fairly assess the very wide variety of circumstances that happen to students during the semester. This flexibility is also for if you forget an assignment. Thus, you don't have to be perfect! Let go of perfectionism and try to enjoy

learning for the sake of learning. Be kind to yourself and recognize when you need some self-compassion and care.

If the built-in flexibility available to all students is not working due to something big that is affecting an extended portion of the semester (concussion, hospitalization, etc), please speak with me by email or in person. I'll connect you with the Dean of Students and/or refer you to the University-Approved Absence office to support you in navigating the challenging circumstance.

Class sessions will be recorded and posted to Canvas afterwards if you need to miss class or want to review any parts. Refer to the Panopto Video tab on Canvas for these recordings (they will be listed by the date of the class session). Please note that Panopto does error on occasion, which means that occasionally a lecture video won't be available.

Oops/Grace tokens for lateness: You have 5 "oops/grace tokens" you can use if you need extensions during the semester without needing to explain. Oops/grace tokens are only for assignments that you did not submit by the deadline, not to repeat an assignment to earn a higher score. Because I will need time to go through and award the oops tokens before posting final grades, the oops/grace token form will close on April 26th at 11:59 PM (note that there may be assignments after this date). To learn more or submit an oops token, click **here!** ⤴ **(https://forms.gle/pgNQ974mjSeN8A7a6)**

Required Resources

Essential Cell Biology with Smartworks Access. 6th
Edition by Alberts, Bray, Hopkin, Johnson, Lewis, Raff,
Roberts, Walter

Grades

Final grades are made of six components.

1. **Participation** (6% of grade)**:** Your participation grade will come from in class participation including PollEverywhere and in class activities (4%) and Guided Reading Questions--GRQs (2%).

   In-class polls via PollEverywhere: you will complete these during class (and you must be present in class to earn the points). This is an opportunity to practice higher-order thinking questions in class, often collaborative with peers, to assess and refine your understanding of the topics. Each question that is deployed is worth a point, and it's important that you respond to ALL questions within a single class period (each class period will have 1-10 points possible). As long as you respond to the question, you will get the point (remember, you should respond to all questions deployed in each class session). *Flexibility:* 15% of the possible in-class poll

points (remember that there are multiple points per class session) will be dropped at the end of the semester to account for occasionally missing class, tech problems, etc. Please note that there are multiple opportunities to earn participation in this class, so missing a class or two will not hurt your overall grade. If you miss more than 2 classes, see the "oops tokens" form. The PollEverywhere questions will be open only for a few minutes each during scheduled class time, and grades will be based on participation (not graded for correctness).

In-class activities: Throughout the semester, you will participate in activities during class related to experimental design, interpretation of experimental results, and science communication, some of which will require a submission of your work. Examples include formulating projects/posters and peer reviewing your class colleagues' poster presentations. In-class activities will be graded for completion/effort, though you will be building and submitting a final project through some of these activities that will be graded on merit. *Flexibility:* If you miss a class where an in-class activity that counts for participation is performed, you can submit to the "oops token" form to make up the work.

Guided Reading Questions (GRQs) will be graded for completion. The purpose of the GRQs is for us to communicate the important aspects of the textbook where you should focus your attention. Think of the GRQs as your notes from the reading and if you are taking additional notes beyond what is in the GRQs, you may end up focusing on something that won't be covered in the class and/or content that we feel is not crucial to your learning. Note that GRQs are not the same style as exam questions - GRQs are mainly lower Bloom's level questions designed to give you background in the vocabulary and fundamental concepts. You may collaborate on these to learn from each other, but you may not submit identical assignments. We want these to be in your own words and ideas for developing your own study guides. These are for you! They should be completed *before* doing Smartworks assignments and must be uploaded to Canvas by 11:55 PM, ET on the day **before** class (refer to **class schedule (https://uncch.instructure.com/courses/48073/pages/class-schedule)** for due dates). We recommend submitting GRQs 20-30 minutes before the deadline to allow for loading and possible internet issues. You must submit your GRQs as a PDF or Word document in Canvas. Answers to the GRQs will not be posted, as the answers should be clear from your active engagement in class. If you have questions about the GRQs, you can always get help at a peer instructor session! *Flexibility*: Two GRQs will be dropped from everyone's grades-- if you miss more, see the "oops tokens" form.

2. Homework via Smartworks (10% of grade): Homework will be due by 11:55 PM, ET on the day **before** class (refer to the **class schedule (https://uncch.instructure.com/courses/48073/pages/class-schedule)** for due dates). Some assignments will take as little as 20 minutes, while others may take over an hour with the animations and short tutorials. It is your responsibility to start it in a timely fashion, so that you finish it by the due date. **I recommend submitting at least 30 minutes before the due date to ensure successful uploading / submissions. Note: These questions are often lower level and not equivalent to exam questions. They are meant to help you learn/practice as you begin

to familiarize yourself with concepts and skills and to assess your understanding of the assigned reading. *Flexibility*: Late homework in Smartworks receives a zero, but you can redeem oops tokens for these if you miss a deadline. Assignments post about one week before they are due so that you can adjust to your own schedule and time demands. Assignments are graded for accuracy.

3. **Weekly Quizzes (12% of grade):** At the end of each week, there will generally be 1-2 quizzes due. Each quiz will have ~5 questions and be 5 points each. You will complete these timed quizzes (30 minutes starting once you open the quiz) at the end of each week through Gradescope (most are due Sunday at 11:55 PM, ET). Quizzes will be available starting approximately 72 hours before they are due. This allows you to give yourself a chance to practice timed questions with your own notes. Quiz questions will be similar to exam-style questions, so they will be a great way for you to check your understanding of some of the course material. This is a good time each week to consolidate your notes and think about what information would be useful to add to your one-page study guide for the next exam. *Flexibility*: Your four lowest quizzes will be dropped. Oops tokens cannot be used for quizzes. Assignments are graded for accuracy.

4. **Mid-Semester Exams (44% of grade):** The exams will be in-class, timed, and closed-book. The format will be multiple choice and short answer. There will be three mid-semester exams given during the semester. While the exams will be closed book, students may have a single piece of 8.5x11" (standard) paper with notes written on both sides to use during the exams (no tape, glue, staples, etc. are permitted on this document). Students must use **this (https://uncch.instructure.com/courses/48073/files/6158858?wrap=1)** ↓ (https://uncch.instructure.com/courses/48073/files/6158858/download?download_frd=1) **document (https://uncch.instructure.com/courses/48073/files/6158858?wrap=1)** ↓ (https://uncch.instructure.com/courses/48073/files/6158858/download?download_frd=1) for their sheet of notes and must submit your notes document at the end of the exam. You may not share a cheat sheet with anyone. Students should plan to complete (and print, if applicable) their cheat sheet well before the exam period, as students will not be allowed to start the exam late and/or take a make-up exam due to a missing or incomplete cheat sheet. Make yourself a copy before the exam (or take a picture with your phone), as these sheets will be collected with your exam and will not be returned. Each semester exam will focus on material specified on the c**ourse schedule (https://uncch.instructure.com/courses/48073/pages/class-schedule)** , although topics related to scientific thinking, experimental design, and fundamental concepts will be found on all exams. *Flexibility*: your lowest exam score will be dropped. Oops tokens may not be used for mid-semester exams.

> **Exams will be in-person, closed-book, proctored, and online on Gradescope. Students must bring their fully charged computer to the exam period.** Students may only have Gradescope open on their computer during the exam. All other browser windows and other documents/programs must be closed out. Students must set their screens such that the instructional team can visibly see their screen from 5 feet away. Failure to comply with this will result in an automatic zero on the exam. Students may not leave the classroom until the exam

period has ended and should plan accordingly by brining a book or other non-technology activity to work on during the remainder of the exam period once their exam is submitted (computers, cell phones, and other electronic devices will not be permitted after students complete their exam). The instructor reserves the right to change the exam format to a paper exam at any point during the semester.

Make-up exams will only be offered to students if they have a university approved absence or other form of documentation (e.g., doctor's note) that is submitted to the instructor via email in advance of the exam. All make-up exams must be completed within 1 week of the scheduled exam date. If a student cannot take a make-up exam as outlined above, the missed exam will automatically be their lowest dropped exam for the semester. Students can expect that make-up exams may be different in format from the exam given in the regularly scheduled exam period.

5. Final Project (6% of grade). The details of this project will be discussed over the course of the semester.

6. Final Exam (22% of grade). The **cumulative** final exam will take place during the University exam period for this class and will be a **paper exam.** Students will be provided an answer sheet along with an exam booklet for the exam. Students may have a single 8.5x11" piece of paper with notes on both sides of the paper when taking the final exam (no tape, glue, staples, etc. are permitted). Students should use this **document (https://uncch.instructure.com/courses/48073/files/6158858?wrap=1)** ⭳ **(https://uncch.instructure.com/courses/48073/files/6158858/download?download_frd=1)** to generate their sheet of notes and must submit this document with their final exam.

If you are a student registered with Accessibility Resource Services (ARS) and you require extended time and/or low-distraction isolated setting, please be sure to schedule all your exams with ARS at the beginning of the semester. You should schedule your exam in ARS on the same calendar day that the exam is listed on the course schedule as close to class time as possible so you are taking it at the same time as your peers.

Final grades will be assigned by averaging the components for the entire semester:

A = 93 - 100

A- = 90 - 92.9

B+ = 87 - 89.9

B = 83 - 86.9

B- = 80 - 82.9

C+ = 77 - 79.9

C = 73 - 76.9

C- = 70 - 72.9

D+ = 66 - 69.9

D = 60 - 65.9

F = 0 - 59.9

Course Policies & Resources

I value the perspectives of individuals from all backgrounds reflecting the diversity of our students. I broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. I strive to make this classroom an inclusive space for all students. Please let me know if there is anything I can do to improve.

Attendance Policy

University Policy: As stated in the University's **Class Attendance Policy** **(https://catalog.unc.edu/policies-procedures/attendance-grading-examination/#text)** , no right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities: **University Approved Absence Office (UAAO) website (https://uaao.unc.edu/sample-page/)** provides information and **FAQs for students (https://uaao.unc.edu/faqs-for-students/)** and **FAQs for faculty (https://uaao.unc.edu/sample-page/)** related to University Approved Absences
2. Disability/religious observance/pregnancy, as required by law and approved by **Accessibility Resources and Service (https://ars.unc.edu/)** and/or the **Equal Opportunity and Compliance Office (https://eoc.unc.edu/what-we-do/accommodations/)** (EOC)
3. Significant health condition and/or personal/family emergency as approved by the **Office of the Dean of Students (https://odos.unc.edu/)** , **Gender Violence Service Coordinators (https://gvsc.unc.edu/)** , and/or the **Equal Opportunity and Compliance Office (https://eoc.unc.edu/what-we-do/accommodations/)** (EOC).

Instructors may work with students to meet attendance needs that do not fall within University approved absences. For situations when an absence is not University approved (e.g., a job interview, illness/ flu or club activity), instructors are encouraged to work directly with students to determine the best approach to missed classes and make-up assessment and assignments.

Honor Code

All students are expected to follow the guidelines of the UNC Honor Code. In particular, students are expected to refrain from "lying, cheating, or stealing" in the academic context. If you are unsure about which actions violate the Honor Code, please see me or consult **studentconduct.unc.edu** ⬀ **(https://studentconduct.unc.edu/)** .

Acceptable Use Policy

By attending the University of North Carolina at Chapel Hill, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of IT systems and services. The Acceptable Use Policy (AUP) sets the expectation that you will use the University's technology resources responsibly, consistent with the University's mission. In the context of a class, it's quite likely you will participate in online activities that could include personal information about you or your peers, and the AUP addresses your obligations to protect the privacy of class participants. In addition, the AUP addresses matters of others' intellectual property, including copyright. These are only a couple of typical examples, so you should consult the full **Information Technology Acceptable Use Policy** ⬀ **(https://policies.unc.edu/TDClient/2833/Portal/KB/ArticleDet?ID=131247)** , which covers topics related to using digital resources, such as privacy, confidentiality, and intellectual property.

Additionally, consult the **Safe Computing at UNC** ⬀ **(https://safecomputing.unc.edu/)** website for information about data security policies, updates, and tips on keeping your identity, information, and devices safe.

Accessibility Resources and Service

Accessibility Resources and Service ⬀ **(https://ars.unc.edu))** (ARS – **ars@unc.edu (mailto:ars@unc.edu)**) receives requests for accommodations, and through the Student and Applicant Accommodations Policy determines eligibility and identifies reasonable accommodations for students with disabilities and/or chronic medical conditions to mitigate or remove the barriers experienced in accessing University courses, programs and activities.

ARS also offers its Testing Center resources to students and instructors to facilitate the implementation of testing accommodations.

Faculty and instructors with any concerns or questions about accommodations and/or their implementation, are invited to **reach out to ARS (mailto:ars@unc.edu)** to discuss.

Counseling and Psychological Services

UNC-Chapel Hill is strongly committed to addressing the mental health needs of a diverse student body. The **Heels Care Network** ⬀ **(http://care.unc.edu)** website is a place to access the many mental health resources at Carolina. CAPS is the primary mental health provider for students, offering timely access to consultation and connection to clinically appropriate services. Go to their

website **https://caps.unc.edu/** ⤷ **(https://caps.unc.edu/)** or visit their facilities on the third floor of the Campus Health building for an initial evaluation to learn more. Students can also call CAPS 24/7 at 919-966-3658 for immediate assistance.

Title IX and Related Resources

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the EOC at **https://eoc.unc.edu/report-an-incident/** ⤷ **(https://eoc.unc.edu/report-an-incident/)** or by contacting the University's Title IX Coordinator (Elizabeth Hall, **titleixcoordinator@unc.edu (mailto:titleixcoordinator@unc.edu)**) or the Report and Response Coordinators in the Equal Opportunity and Compliance Office (**reportandresponse@unc.edu (mailto:reportandresponse@unc.edu)**). Confidential resources include Counseling and Psychological Services and the Gender Violence Services Coordinators (**gvsc@unc.edu (mailto:gvsc@unc.edu)**). Additional resources are available at **safe.unc.edu** ⤷ **(https://safe.unc.edu/)** .

Generative Artificial Intelligence Use

The University has offered various resources related to setting policies around the use of Generative AI (i.e. ChatGPT), but faculty are expected to set explicit policies for each class. In other words, what is allowed in one class may not be allowed in another. In our class, use of Generative AI for the purposes of answering Piazza posts or submitting any type of graded work is strictly prohibited. You are responsible for the scientific accuracy of your work, and the purpose of assignments is to provide opportunities for you to demonstrate your scientific knowledge and your communication skills. Use of Generative AI circumvents those goals, rendering the assignment useless to your learning process, and potentially misleading to others who may read the text. Failure to adhere to these policies will constitute a lapse of personal integrity and a violation of the UNC Honor Code.

Policy on Non-Discrimination

The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's **Policy Statement on Non-Discrimination** ⤷ **(https://eoc.unc.edu/our-policies/policy-statement-on-non-discrimination/)** offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, genetic information, disability, veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered, and that equitable and consistent standards of conduct and performance are applied.

If you are experiencing harassment or discrimination, you can seek assistance and file a report through the Report and Response Coordinators (email **reportandresponse@unc.edu (mailto:reportandresponse@unc.edu)** or see additional contact info at **safe.unc.edu** ⤷

(https://safe.unc.edu/)) or the Equal Opportunity and Compliance Office at
https://eoc.unc.edu/report-an-incident/ ⬦ **(https://eoc.unc.edu/report-an-incident/)** .

Undergraduate Testing Center

The College of Arts and Sciences provides a secure, proctored environment in which exams can be taken. The center works with instructors to proctor exams for their undergraduate students who are not registered with ARS and who do not need testing accommodations as provided by ARS. In other words, the Center provides a proctored testing environment for students who are unable to take an exam at the normally scheduled time (with pre-arrangement by your instructor). For more information, visit **http://testingcenter.web.unc.edu/** ⬦ **(http://testingcenter.web.unc.edu/)** .

Learning Center

Want to get the most out of this course or others this semester? Visit UNC's Learning Center at **http://learningcenter.unc.edu** ⬦ **(http://learningcenter.unc.edu)** to make an appointment or register for an event. Their free, popular programs will help you optimize your academic performance. Try academic coaching, peer tutoring, STEM support, ADHD/LD services, workshops and study camps, or review tips and tools available on the website.

Writing Center

For free feedback on any course writing projects, check out UNC's Writing Center. Writing Center coaches can assist with any writing project, including multimedia projects and application essays, at any stage of the writing process. You don't even need a draft to come visit. To schedule a 45-minute appointment, review quick tips, or request written feedback online, visit **http://writingcenter.unc.edu** ⬦ **(http://writingcenter.unc.edu)** .