

Start Here

This is a living document and subject to change

Teaching and learning are dynamic processes. In order to adjust to the real-time needs of the class, **changes may be made mid term in the assignments and content of the course**. If such a need arises, I will take care to notify you of these changes as soon as possible, and the version date (below) will be updated accordingly.

Revision date: 20August2020

A Frank Note From Your Instructor

I know that this is probably not the way you would choose to learn. This is tough time for all of us in different ways, whether you are experiencing this directly or indirectly. Some days just feel harder than others, and I'm aware of that. We are all in this together, so, let's help one another. Let's bring the same intention, respect, and kindness to our virtual interactions as we would to our in-person learning. Let's remind one another to practice good self-care, stick to routines that help us stay balanced, and communicate with one another about what we need to succeed. Let's use our time together to grow as scholars, to deepen our respect for the natural world, and to strengthen our bonds as a community of caring and capable Tarheels!

 [202DetailedSchedule\(Aug20\).pdf](#)

Instructional Team

Your Instructor

Dr. Zwemer or Dr. Z (lmzwemer@email.unc.edu)

Instructor Access

Piazza: For content questions

Group Office Hours For content questions, study help, or just to hang out and chat (live, portions will be recorded)

Individual Office Hours: For matters that are personal or to discuss individual grades. Use Sakai SignUp feature (live, not recorded)

Email: For all other questions or personal matters (lmzwemer@email.unc.edu)

Please do feel free to find me on LinkedIn

*Please do **not** find me on Facebook/Instagram. Thanks!*

Graduate TAs

Sarah Farrell (slfarrel@live.unc.edu)

Kayla Goforth (kaylago@live.unc.edu)

We are very lucky to have two excellent graduate students to assist this term - both of whom have served as TAs for 202 in the past. Graduate TAs run recitations, assist in exam grading, post to Piazza, and are often on-hand during synchronous sessions to help with breakout rooms. You can see the final portion of the syllabus for more information about recitations.

Your Supplemental Instruction Leaders (SIs)

Tanvi Saran (tanvis@live.unc.edu) Monday 1-2pm, Meeting ID: 376 848 2416 / No Passcode

Hayden Loeb (hlmyung@email.unc.edu) Wednesday 11am - 12noon **Meeting ID: 988 0314 8533 Passcode: 383590**

Students who have previously served as PMs and demonstrated excellence in teaching have been selected to serve as SI leaders. As with the PMs, SIs will be on-hand during synchronous sessions and assist during class activities. Twice a week, the SIs will offer live review / problem-solving sessions. The SI sessions will allow you to process and actively practice material that was taught in the previous week. In course feedback, successful students frequently refer to the PM & SI sessions as some of the most significant tools that improved their learning.

Check the Sakai Welcome Page for the PM schedule and Zoom link. These sessions will **not** be recorded and are only available live.

Your Peer Mentors (PMs)

Ankita Chopde (ankitajc@live.unc.edu)

Mohit Bhalani (mohitbha@live.unc.edu)

Megan Butler (meganbb@live.unc.edu)

Catherine Castoral (catcas@live.unc.edu)

James Chang (james279@live.unc.edu)

Stephanie Charlino (steph62@live.unc.edu)

Christina D'Ovidio (cdovidio@live.unc.edu)

Jayraj Jonnalagadda (jayraj@live.unc.edu)

Harshi Matada (harshi@live.unc.edu)

Sarah Ouslander (sarahk9@live.unc.edu)

Khusboo Patel (khushboo@live.unc.edu)

Michelle Rzepka (rzepka@live.unc.edu)

Students who have excelled in this class in the past are invited to serve as peer mentors. They will be on-hand during synchronous sessions to help with in-class activities. They will also lead small groups, described below (These sessions will **not** be recorded and are only available live).

Even though we will be teaching and learning away from a traditional classroom this semester, I want to make sure you feel connected to the teaching team and to your classmates. Based on your stated availability, you will be assigned to a

cohort of 15-30 classmates and a peer instructor. You will have the opportunity to meet with your “small group” and PM each week during a set time. Through this group you will have a default study group, an opportunity to ask questions, and an opportunity to earn participation points. I encourage you to get to know your group members because you will work with them throughout the term. If you experience conflict with your group members, please let me know via email (lmzwemer@email.unc.edu) so I can mediate the issue to reach a resolution that allows you to have a productive learning experience.

Course & Textbook Information

Textbook & Mastering Genetics

Klug et al., Essentials of Genetics 9th edition.

If you are waitlisted and want to wait to see if you get in before purchasing textbook / mastering access:

The first few reading assignments are available using the "Course Reserves" menu tab at left. Similarly, there is a trial access to Mastering that you can use for the first week or two, but after that you MUST purchase the Mastering Biology access code.

If you are enrolled, please go ahead and purchase the e-text & web-based software package called **Mastering Genetics (MG)** from the bookstore. **MG** will be the platform through which you will be quizzed and receive short pre-lecture and post-lecture assignments. An account with **Learning Catalytics (LC)**, one of our lecture response systems, is included too, as is the interactive e-book (our textbook). If you also want a physical copy of the textbook, you can purchase one from the Bookstore for an additional fee. Either way, **you must purchase the Pearson access code** to complete this course. To purchase the access code from the UNC Student Store's Digital Delivery Program (which is usually cheaper than purchasing directly from Pearson), check your official UNC email address for an email from the sender digitaldelivery@unc.edu. This email should arrive before classes start. It contains an individual, unique Pearson access code that is specific to our class. This code is live and can be used immediately (before payment, with a two-week grace period). At any point during this grace period, students may select "opt in" to charge their student accounts for the access. To opt in, they need only to reply "opt in" to the email they received. After paying, they can continue to use the code provided. If a student chooses not to opt in, their unique access code will be de-activated and the student will have to buy access separately. *Please be sure to **use your official @email.unc.edu for all technology associated with our course**, including LC and MG*. Pro-tip: use Firefox or Chrome, not Safari, to set up these accounts.

Registration instructions can be found [here](#).

After you enroll in Mastering Genetics, find the course using these codes:

Course name: Biology 202_006 Course code: **zwemer82378**

Please bear in mind that I am still adjusting the due dates of assignments - (5Aug20)

Course Prerequisites:

BIOL 101 and CHEM 101, with a grade of C or better.

Course Learning Outcomes (Skills)

Upon completion of the 202 course in Biology, a student should be able to...

- Build hypotheses to answer a specific scientific question, design an experiment using an appropriate technique/assay to answer the question, and predict results of their experiment.

- Give examples of how advances in genetics and molecular biology, from the discovery of DNA's structure to sequencing individual genomes, have changed the world (examples include recombinant insulin, personalized medicine, transgenic crops)

Course Learning Outcomes (Concepts)

Upon completion of the 202 course in Biology, a student should be able to...(Concepts):

- Explain the term “allele” for a single gene at a population, organismal, cellular, and molecular level; explain how dominance and recessiveness are expressed at these levels.
- Model the generation of genetic variation comes in a population (e.g. meiotic recombination, independent assortment of chromosomes in gametogenesis, and mutation)
- Predict genotypic and phenotypic ratios of offspring resulting from genetic crosses, or the reverse (when given data about offspring, determine the genotypes and phenotypes of the parents).
- Deduce modes of inheritance (example: autosomal dominance, X-linked recessive) from genetic pedigrees and explain how incomplete penetrance and variable expressivity complicate these analyses.
- Distinguish monogenic and polygenic traits. Explain the influence of the environment on phenotypes.
- Explain how DNA is replicated normally and abnormally in the cell and outline how these concepts are utilized in the polymerase chain reaction (PCR).
- Compare and contrast the consequences of various types of germline errors during meiosis (such as non-disjunction, and translocations) and somatic errors during abnormal mitosis (such as non-disjunction and errors in replication)
- Explain the flow of genetic information, based on the central dogma- from DNA to proteins and how mutations are carried through this flow of information.
- Describe the nature of the genetic code and the influence of mutations on the code
- Describe the general organization of prokaryotic and eukaryotic genomes, including the identity and significance of the different parts of a gene (e.g. regulatory/non-regulatory, exons/introns; transcription start site; translation start site; UTRs)
- Explain transcriptional and post-transcriptional regulation of regulation as well as their use to modify expression in different conditions (e.g. environmental, developmental, or in disease states)
- Predict the experimental outcomes when modified genes are used (e.g. GFP-tagging to investigate gene expression)
- Describe the basic steps in gene cloning (restriction, ligation, selective screening, etc.)
- Design an experiment to produce a transgenic animal/bacteria, where a protein of interest is specifically produced
- Explain the value of basic sciences research using model organisms to elucidate fundamental biological phenomena.

Email Policy

Email

You have each been furnished with an @unc.edu email address. You are required to check this email address at least once every 24 hours in case I need to send out essential last-minute information. I will respond to all emails within 36 hours of your sending them. Please remember to be [courteous and professional](#) in your emails, for example by using a relevant subject line, beginning with a greeting, and using a closing signature that includes your name.

Contributing to the Learning Environment

[Creating a Productive Learning Environment](#)

This course is an experience we are creating together. As your instructor, I will do everything I can to facilitate a productive, supportive, and engaging learning environment, but the rest is up to you. You're the one who has final responsibility for your own success in this course, regardless of how you personally define that success.

Your grade includes participation components (see also section on Assigned Work & Participation below) because **you are responsible for contributing to the educational experience of others in the course**. When interacting synchronously or asynchronously, please be sure to demonstrate respect and sensitivity for your classmates. This means using non-judgmental language, giving others time to express themselves in group work, and accepting that intelligent, mature & ethical people may hold differing viewpoints, and this is okay (and even good). We bring different types of diversity with us into the classroom (different ethical frameworks, values, personal experiences, family structures, physical abilities, intellectual strengths, religious backgrounds, cultural affiliations, personal identifications, etc.). This **diversity is a strength** - it allows us to more richly experience the spectrum of human experience through our work together.

Below are a few example guidelines (from CRLT University of Michigan) for both students and faculty to follow when interacting with others to create an environment that supports inclusive learning. These could be covered in a syllabus or in class.

- **Step up, Step back:** Be aware of how much you are contributing to in-class discussions. Try not to silence yourself out of concern for what others will think about what you say. If you have an idea, don't wait for someone else to say it; say it yourself. On the other hand, if you have a tendency to contribute often, give others the opportunity to speak.
- **Show Respect by Giving your Attention:** Don't interrupt, engage in private conversations, or turn to technology while others are speaking. Use attentive, courteous body language, even when engaging remotely. Keep your video on when you can and keep focused on the screen.
- **Let Curiosity Open your Mind:** Understand that there are different approaches to solving problems. If you are uncertain about someone else's approach, ask a question to explore areas of uncertainty. Listen respectfully to how and why the approach could work and respond based on that, not on your preconceptions.
- **Create the Environment you Need:** Make an effort to get to know the other students, especially in your small groups. Introduce yourself and make a point to share the pronunciation of your name and your preferred pronouns. Refer to classmates by name and make eye contact with other students (via the screen).

[Challenging Topics](#)

Broadly speaking, over the course of your college career, it is expected that you will engage with topics that you

may find emotionally challenging or unexpectedly difficult. It's perfectly normal for this to make you feel uncomfortable, and entirely appropriate for you to reach out to me and/or your friends to talk about that. But please do remember a college education is *designed* to confront you with things that challenge and at times even threaten your world-views. This is actually one of the privileges of an education. So, if you feel intellectually or emotionally disturbed by what you learn in class, that's not necessarily a bad thing. It may only mean that you are engaging with novel perspectives, which is what college is all about.

As for topics that are not just challenging, but are possible triggering: I know that some of us have trauma in our background and may need to seek extra support around topics that resonate with those painful experiences. So while I do not offer specific trigger warnings, I value making sure that each of my students is able to engage fully with the course and I trust my students to reach out to me for support as needed.

[Asking & Answering Questions in Chat](#)

Depending on what's going on in our class and the nature of your question, rather than answering right away I may decide to follow with either a post to Piazza or a personal email.

SIs will monitor the chat during class and triage the questions. I will stop periodically to review the chat and to take real-time questions.

If you are referring to a comment made by another person, reference that comment, for example “@Kayla - you mentioned special office hours, but I think the link you posted is broken, can you please check?”

[Using Personal Messages in Chat](#)

Great for messaging an SI or a PM if there is a pressing need and it cannot be placed in the “everybody” chat box. If I am presenting, I most likely will not be able to respond to personal messages, so please message an SI or email me instead so I can respond later.

Do not use it for socializing. You may think you're having fun, but you're detracting from somebody else's education. People work extremely hard to get and to be here - I will not tolerate disruptive behavior.

Deadlines & Accountability

[Deadlines](#)

All assignments due dates appear on the detailed schedule document; revisions to this schedule will be announced on Sakai. The time for all due dates is 11:59 pm. Generally speaking, I will NOT send reminders. You are responsible for following the schedule and submitting the assignments on time. Unless you have extraordinary extenuating circumstances, **late work receives a grade of 0**, and there will be no “second chances”. Make sure you check the Lessons tab deadlines and plan your time carefully.

Some students like having accountability buddies (somebody you check in with about assignment progress) or you might create a GroupMe or Slack channel with you “small group” and communicate this way to remind one another to stay on top of deadlines (see section on Synchronous Instruction).

The best way to make sure you succeed in a remote learning environment is to set yourself a schedule and stick to it. Remember that while you alone are responsible for your success in this class, you yourself are the one who will benefit from your hard work and dedication to the coursework. You owe it to yourself to hold yourself to

high standards. If you find yourself “slipping” behind or having trouble keeping on track, reach out to me immediately so that I can help you come up with a more structured approach that includes some oversight on my part. Students who ask for help always earn my respect, and often earn higher grades.

If you experience illness or are affected by emergency circumstances that impact your ability to complete our coursework on time, please reach out to me immediately so that we can discuss them. You are responsible for timely and clear communication so that I can best respond and support you.

Absences

Students are expected to log into Zoom on time and participate in both synchronous class meetings and recitations. Exams must be taken within the provided time-range; no makeup exams except in special circumstances, i.e. medical or family emergency as documented in writing. Make-up assessments may be more challenging than the original.

There will be no make-up opportunities for in-class recitation assignments if you have an unexcused absence. If you have a documented medical emergency or a truly unavoidable absence (e.g. family wedding or funeral), it is your responsibility to contact your TA as soon as possible, but no later than within 24-hours of the scheduled recitation to discuss the possibility of attending a make-up session. Please do not assume that you can simply attend another section if you miss a recitation.

Additional information can be found here:

<https://catalog.unc.edu/policies-procedures/attendance-grading-examination/#text>.

Academic Integrity

Academic Integrity

All activities and homework in the class are expected to conform to the standards summarized by the UNC Honor System and explained by the UNC Office of Student Conduct <https://studentconduct.unc.edu/>.

There are times when **we all struggle to do what is right or to find a way out of a stressful situation**. In my experience, most violations are not due to ill intent, but to either ignorance or desperation. If you find yourself falling behind or struggling and are tempted to violate the honor code, **please simply come to me directly ASAP** so that we can come up with a plan to move forward.

Plagiarism

It's very important that all work submitted be your own original work. Policies around plagiarism can be confusing to students. Many violations that I have seen are due to ignorance of the policy or lack of skill in this area, and could have been completely avoidable if the student had been **proactive about getting help** or clarifying their questions. Here are two good resources you can consult: <https://writingcenter.unc.edu/tips-and-tools/plagiarism/> or http://lib.usm.edu/plagiarism_tutorial/

For example, you may not simply “borrow” or “copy” phrasing from your classmates, even when doing group work. If you work together with a friend on writing assignments, you may **not** split up the questions and copy answers from one another - this is a form of cheating. I am a big fan of group work, but it's essential that each person takes the time to really understand the concepts and then express the answers in their own words. I

appreciate that it can be hard for some students to understand **the difference between group work and cheating** (especially if they have learned different standards in high school) so please do not hesitate to ask me for help if you want to be sure you understand correctly.

If you need to paraphrase an idea from a published source, please provide a proper citation. Learning when and how to properly cite material as well as how to avoid plagiarism are not as simple as they sound - please don't hesitate to reach out for help in developing these skills.

Exam Pledge

On exam days, you will be asked to check a box indicating your commitment to neither lie, cheat, nor steal in your academic endeavors, nor to accept the actions of those who do (this is the equivalent of a formal electronic signature). By signing this statement, you will indicate your commitment to upholding these ethical standards and that furthermore, you will refrain from taking screen shots of the exam, sharing information that would allow other students to cheat, and/or posting exam questions to online exam banks. Please note that all materials used in this course, including: slides; practice problems; homework assignments; small group assignments; and exams, are covered by **copyright protection, which forbids you from sharing class materials** with any outside individuals or groups.

These materials are the original work and intellectual property of the UNC Biology faculty and we have worked very, very hard to create them so as to offer the best possible learning experience for our students. It is a violation of copyright law (and also, quite simply, poor form) to share these materials without the explicit permission of the department.

Irregularities

If your work is suspected to have violated the Honor System standards, or it is suspected that you have assisted another student in violating the Honor System standards, then I am required to file a formal report to the University Honor Court (<https://studentconduct.unc.edu/report-violation-office-student-conduct>). In addition to whatever formal procedures are set forth by the University, you may fail the assignment.

Your Voice

Giving Feedback on the Course

Because this is a new mode of delivery for this course, I want to make sure to take advantage of your feedback about the structure of the class. [This link](#) will take you to an anonymous form for you to submit your feedback and/or ideas about the course. If you wish, you can sign your name and indicate whether or you would like me to follow up with you (but this is not required). Please do know that this form comes directly to me - it does not go to the department or the university administration - and I read each word with careful attentions. As such, please be respectful, constructive, and specific with your feedback, suggesting possible solutions if you want something to change.

Support

Getting Support for Anxiety and Stress

College is a wonderful time in many ways, but it can also be a time of unique challenges and stresses. This can of course be amplified when studies are taking place in the context of a national crisis such as the one we are navigating now in the Fall of 2020. One of the many benefits of being a UNC student is that you have access to excellent formal support services, whether you are on campus or in another country. Please feel welcome to reach out to me to discuss getting connected to UNC resources and/or review this list of options: <https://keeplearning.unc.edu/wellness/>

Supporting Fellow Students in Distress

As members of the UNC community, we each share a personal responsibility to express concern for one another and to ensure that our course meetings and the campus as a whole remain a healthy environment for learning. Occasionally, you may become worried or concerned about a fellow classmate's well-being. When this is the case, I would encourage you to share these concerns with the professionals at CAPS (<https://caps.unc.edu/support-student>). As always, if you think there is immediate danger call 9-1-1.

Accessibility

Accessibility Resources

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in difficulties with accessing learning opportunities.

Although I am very happy to help and want to support all of my students to succeed, it is your own responsibility to get the appropriate documentation filed and to approach me about your needs. All accommodations are coordinated through the **Accessibility Resources and Service Office**. See the ARS Website for contact information: <https://ars.unc.edu> or email ars@unc.edu. Relevant policy documents as they relate to registration and accommodations determinations, as well as the student registration form, are available on the [ARS website](#) under the About ARS tab.

Letters of Recommendation

Letters of Recommendation

If you feel that by your participation in this course you have contributed to creating a rich learning environment that has enabled you and your classmates to grow as scholars and scientists, then I would be happy to write you a short letter or recommendation for your own use. If you think you will need this letter, please (ideally) ask me either during the term or no later than 2 weeks after the conclusion of the course so that I may draft the letter while my recollections are still fresh. If I agree that I can write you a strong letter, then I will furnish you with a list of questions to answer, which will guide me in writing you the best possible letter.

Grading Breakdown

Grading

To earn a high grade in this course, you will need to: commit yourself to growing as a learner; demonstrate your mastery of the course content through performance on assessments; and earnestly contribute to the creation of a robust and productive online classroom environment.

<u>Component</u>	<u>Weight</u>
Participation	8%
Mastering Genetics	10%
Exam 1	18%
Exam 2	18%
Exam 3	18%
Cumulative Final Exam	18%
Recitation	10%

Points, and not letter grades, will be assigned for individual exams. The percentage of points earned over the course of the entire semester vs. those offered will determine course grade:

(93-100) A	(90-92.9) A-	(87-89.9) B+	(83-86.9) B	(80-82.9) B-	(77-79.9) C+
(73-76.9) C	(70-72.9) C-	(66-69.9) D+	(60-65.9) D	(<60) F	

Please note that grades will not round up (e.g. B= 83, NOT 82.96)

I am well aware that many of you have a minimum grade that you “need” to earn in order for this course to “count”. Please do not confuse your need for a grade with my obligation to issue that grade. Similarly, please know that hard work alone is no guarantee for success, and practices that bring you success in other courses may or may not be effective in this course. Time and again, I have seen students spin their wheels as they try to work harder rather than learning new strategies. Whether or not you believe you are on track to earn your desired grade, be proactive about reaching out for help during office hours and peer instruction

Assigned Work & Participation

Guided Reading Questions (GRQs)

The guided reading questions (GRQs) guide you through the assigned reading, training your attention on the most relevant points and challenging you to apply the information. Before you can access a given lecture video, you will be prompted to answer a subset of the GRQ questions associated with that lecture. Although I *strongly* recommend that you complete each GRQ in its entirety, you do not need to submit it and you will only be graded based on whether or not you answer the subset of questions included within the Sakai prompt.

Mastering Genetics

Take your time completing Mastering Genetics (MG). These assignments are an easy way to earn (or lose) up to 10% of your total grade (and they are a great way to learn the material - check out the Study Area!). Take your time as you complete the assignments, and don't just guess. Read the e-text, watch the online videos, and open the hints to try to make sure that you understand the answer choices. At the end of the semester, you will be thanking yourself for having earned as many of these points as possible.

The course access code is **zwemer82378** and the registration instructions can be found [here](#).

Participation (a la carte)

There are a variety of ways to engage with the class and enrich the class learning environment through both synchronous and asynchronous participation. Eight percent of your final course grade is associated with participation - to "capture" these points, you need to engage with some combination of the following options. See below for a description of your options, the amount of points you can earn through each route, and then finally a concrete example.

1. Asynchronous Participation: Learning Catalytics (LC)

Part of your grade will come from a program called Learning Catalytics (accessed via your Mastering account). The questions for each lesson will only be **made available during specific ranges of time**, which will be clearly stated on the Sakai Lessons page. This time limit will help you stay on top of your work without slipping behind. That being said, life happens, so if you miss a few, don't worry...you can make up the points by doing other types of participation! If you need help with LC- check out the Pearson support page:

https://help.pearsoncmg.com/learning_catalytics/student/mx_stud/Topics/lc_looking_for_help.htm

Credit earned for each LC question answered (regardless of accuracy). If you answer all LC questions, you can earn a full 5% points. If you complete 95%, you get 4.75%, etc. etc.

2. Asynchronous Participation: Piazza

We will use an online platform called "Piazza" this semester. You may post any questions that you have about the course to this site at any time and they will be answered by either a fellow student, a mentor, or me. Your questions may be more general and may relate to the course itself or they may be more specific and instead relate directly to content and/or material from class. In any case, Piazza will help you get them answered ASAP.

Please be courteous, take time to explain your questions or comment precisely, and read through prior posts to see if your question has already been addressed. You also should not post anything unrelated to the class in Piazza. No personal attacks or usage of offensive language will be allowed. No posts that directly give the answers to assignments are allowed - for instance, "The answer to #5 is C". That being said, you are allowed to ask questions concerning the assignments, and your classmates are allowed to respond, as long as the conceptual framework is being discussed.

*All sorts of questions are welcome on Piazza, but if you want it to earn credit for asynchronous participation, it needs to pass a higher bar. Credit is earned by posting a **thoughtful, relevant and***

*specific content-based question *or* by giving a **thorough answer & explanation** to another person's as-yet unanswered question. To have your post considered for participation points, be sure to include #Participation and we will review it. 0.2% per post, for a maximum of 2%.*

3. Asynchronous Participation: PeerWise

One of your assignments during the semester will be to create multiple choice questions that address the material we learn. Asking questions and evaluate your peers' questions has been shown to be an invaluable tool in developing deep learning. Posting and reviewing questions will be done through an interactive system called PeerWise. Instructions on how to register and how to use PeerWise will be given during the semester. **CourseID 19803**. Student Identifier is your PID.

*Credit is earned by posting a **challenging, well-written, and relevant** question and **providing the correct answer** - and it must be a question that has not already been posted. 0.1% per question for a maximum of 1%.*

4. Synchronous In-Class Participation

Most weeks there will be **at least one strongly recommended synchronous session**. I am not requiring them because of the extraordinary circumstances we are all navigating during this pandemic, but I strongly recommend them. The specific day that I offer this will vary from week to week, but will clearly posted in the Lessons section of our course and will be scheduled to occur during the normal meeting times (**Tu/Th 3-4:15**).

During these sessions, I will hold group office hours (for any and everybody in the class to attend), offer formal reviews, hold problem-solving sessions, etc. These sessions may be recorded, in which case your image/voice may inadvertently be included in the recording. Breakout rooms that occur during these sessions are NOT recorded.

Credit is earned by attending synchronous sessions. Although you are encouraged to contribute verbally or via chat, simply attending is enough to earn you the points. 0.2% per session for a max of 2% points.

5. Synchronous Peer Instruction Participation

Even though we will be teaching and learning away from a traditional classroom this semester, I want to make sure you feel connected to the teaching team and to your classmates. Based on your stated availability, you will be assigned to a cohort of 15-30 classmates and a peer instructor. You will have the opportunity to meet with your "small group" and PM each week during a set time. Through this group you will have a default study group, an opportunity to ask questions, and an opportunity to earn participation points. I encourage you to get to know your group members because you will work with them throughout the term. If you experience conflict with your group members, please let me know via email (lmzwemer@email.unc.edu) so I can mediate the issue to reach a resolution that allows you to have a productive learning experience. Small groups are NOT recorded.

Examples of meaningful synchronous participation include:

- a. Risk-taking in asking questions for clarification, even if you worry that you are "the only one" who is confused (I guarantee you are not!)

- b. Demonstrated ability to occupy each of a variety of roles in group work during class (main speaker, support speaker, researcher, scribe etc.)
- c. Sensitivity to dynamics of a class discussion: willingness to balance contributions with judicious silence - abstaining from commenting so that others may step forward (don't be afraid of silence!)

Credit is earned by attending synchronous sessions and participating productively and thoughtfully during discussions. 0.2% per session for a max of 2% points.

Need an Example?

Theres many different ways you can earn you participation points...you can personalize your approach.

Example 1. By the end of the semester, Nisha had...

- attended 5 peer instruction sessions ($5 \times 0.2\% = 1\%$)
- attended 8 synchronous sessions ($8 \times 0.2\% = 1.6\%$)
- completed 90% of her LC questions ($0.9 \times 5\% = 4.5\%$)
- submitted 6 Peerwise questions ($6 \times 0.1\% = 0.6\%$)
- asked/answered 3 questions on Piazza ($3 \times 0.2\% = 0.6\%$)

Her total participation earned would be 8.3% - she's an overachiever! Nisha won't get credit for more than the maximum of 8% points, but all of that extra effort really helped her connect to the class, individualize her learning, and also contributed to the success of her peers.

Her classmates had other approaches based on their own availability and interests...

Example 2: Marcus (Prefers asynchronous)

- 10 piazza posts =2%
 - 9 Peerwise posts =0.9%
 - 2 Group Office Hours =0.4%
 - 1 PM Small Groups =0.2%
 - 90% LC =4.5%
- Total: 8% (100% participation score)**

Example 3: Jake (Likes people, not posts)

- 2 Piazza posts =0.4% points
 - 3 Peerwise posts =0.3% points
 - 6 Group Office Hours =1.2% points
 - 8 PM Small Groups =1.6% points
 - 90% of LC =4.5% points
- Total: 8% (100% participation score)**

Example 4: Aleeza (Likes to do her own thing)

- 6 Piazza posts =0.6% points

- 5 Peerwise posts =0.5% points
 - 3 Group Office Hours =0.6% points
 - 2 PM Small Groups =0.4% points
 - 95 % of LC =4.75% points
- Total: 7.75% (98% participation score)

Example 5: Maritza (The Generalist)

- 5 Piazza posts =1% points
- 6 Peerwise posts =0.6% points
- 5 Group Office Hours =1% points
- 5 PM Small Groups =1% points
- 85% of LC Questions =4.25% points

Total: 7.85% (98% participation score)

Exams

Online Exams

Our course will have 3 full exams and one mini-exam. None of these exams is technically cumulative, but they all build on one another, so you may be expected to remember material from the prior unit if it is relevant to the current unit's question. While the course follows the textbook, some of the material discussed in lecture may not be found in the text. **You are responsible for all material and announcements made in lectures.** You are not responsible for textbook material that was not covered in class, unless it was specifically assigned (see schedule document for assigned readings).

Exams will be administered through Gradescope. They will be made available only during a set span of time (e.g. between 1pm and 7pm on September 10th) and once you start your exam, you will be required to finish it within the indicated span of time (e.g. you will have one hour to complete the exam before it is automatically submitted for grading). **Exams must be taken during the scheduled date and time ranges that are indicated** (accommodations will be made for students with appropriate documentation).

There will be no make-up exams except in special circumstances, i.e. unexpected medical or family emergency as documented in writing, in which case you will be issued a make-up assessment that is more challenging than the original. Additional information can be found here:

<https://catalog.unc.edu/policies-procedures/attendance-grading-examination/#text>.

To prepare, you should study as though this were a normal, in-person exam. It will be most helpful if you create study guides and do the included practice problems from the slides. During the exam, please do not try to simply google the answers. Simply put, you may encounter many incorrect answers and you will most certainly run out of time. Instead, you can consult any study guides, notes, books, assignments, etc. that you have.

Although exams are open note, you may NOT consult any other people (inside or outside of our class), nor can you tell others in the class what is on the exam. I hope that my approach reflects the respect that I have for each of you as scholars and as individuals juggling a lot right now. In keeping with this spirit, **please afford me**

and your classmates that same respect by honoring the rules I have set forth above, in keeping with the UNC Honor System. On exam days, you will be asked to sign a statement indicating that you are upholding these ethical standards and that furthermore, you will refrain from taking screen shots of the exam, sharing information that would allow other students to cheat, and/or posting exam questions to online exam banks.

If you have any questions or need clarification during the exam, do not hesitate to email me directly (lmzwemer@email.unc.edu) and I will respond as quickly as I can.

Tips for Success

Dr. Z's General Tips for Success

As your instructor, I will do everything I can to facilitate a productive, supportive, and engaging learning environment, but the rest is up to you. It's my job to create opportunities for you to learn, but it's your job to do the actual learning. **This is NOT a class for passive learners. You are expected to be actively engaged in this course through class discussions, class activities and pre- as well as post-lecture assignments and readings.**

Note Taking

The material for the course will be presented from prepared slides, which are NOT sufficient by themselves, so students are **encouraged to print the PowerPoint slides from Sakai before class, then take notes on them.** Educational research has shown that students engage more fully with the material when they take notes by hand (Psychol Sci. 2014 Jun; 25(6): 1159-1168); this practice allows you to process the information in real time, analyzing and synthesizing the information right away as you determine how the concepts related, and identifying any questions about the material in real time. Make note of your questions and ask about them in real time, if possible. If you seem lost, you are not alone, but you may be the only one brave enough to admit it. Help your colleagues out by asking the questions that they might be too timid or embarrassed to ask.

If you are accustomed to typing notes, or to simply transcribing lectures verbatim, it may feel cumbersome and difficult to figure out how much to write down and what to write down - that's because making those decisions is actually the first stage of learning. To decide what to take notes on, ask yourself:

“What is the main point of this slide?”

“Why is this specific information being presented to me?”

“How does this information relate to the previous slides?”

“Is there anything confusing to me about this concept?”

I'm happy to meet during office hours to help you learn the art of scientific note taking, which may be unfamiliar to you, or to review material that you are still unclear on. Additionally, reviewing notes (remotely!) with a classmate is a fantastic way to help you fill in any details you may have missed, to test your comprehension, to build your science communication practice, and of course to build friendships and have fun!

Preparation & Review

As an aside, the more work you can put into learning the material outside of the lectures - the better your outcomes will be. Listening actively at normal speed, pausing when necessary to review a concept, taking selective notes - these practices will all paradoxically save you time in the long run as well as boost your performance. If you stay on top of your reading and homework, there will be no need to cram for an exam (which is good, because cramming doesn't work very well for this kind of material). **Practice, practice, and practice more**, reviewing your notes frequently, testing yourself on the concepts (use PeerWise and the internet to find more problems if you run out from your textbook), and working with your classmates in (remote) study groups. **Always remember that you are the only one who controls your success in this course, regardless of what your shape your goals take.**

Taking Charge

We are here to help you, but you have to be proactive about your academic success. You are expected to visit the online **Peer Mentor** and **Supplemental Instruction** sessions routinely. Don't wait until there is an issue - you should attend these sessions regularly to go over the slides, work through practice problems, and challenge yourself to apply the material (not just understand it). Schedule to log on to Zoom at the same time as a buddy if you like! Finally, complete all of the !

Recitation

TA Info:

Sara Farrell (She/her/hers)

Email: slfarrel@live.unc.edu

Education:

Environmental Science B.S. (Here!),
Graduate Student in Environmental Science
and Engineering at UNC

Hometown:

Charlotte, NC

About Sara:

My research involves air quality modeling of harmful air pollutants in the Southeast U.S. I can speak a little bit of Thai and in 2016 I jumped out of a perfectly good airplane (sky-diving) ... and lived to tell the tale!

Kayla Goforth (She/her/hers)

Email: kaylago@live.unc.edu

Education:

Marine Science B.S. (University of Florida),

Graduate Student in Biology at UNC

Hometown:
Corning, NY

About Kayla:

My research involves working with sea turtles! I love coffee and books, and did color guard all through college and am now one of the color guard instructors with the UNC marching band. [Intro Video](#)

Office Hours:

By appointment! Please come to us if you have questions or concerns, or want to know about our amazing research or how we got into grad school! All office hours will be held via zoom. To arrange office hours with your TA please see their info below:

Sara's Office Hours: To arrange an individual meeting with Sara, please refer to [Sara's Google Calendar](#) to identify her free times, and then email her to arrange a time. Sara is happy to meet anytime available between 8am-6pm!

Kayla's Office Hours: Kayla will be available to meet from 8am-10:30am on Fridays. Friday office hours will be by appointment only: please use the Sign-Up tab on Sakai to register for a meeting time. Kayla will hold open office hours on the Wednesday of an exam week from 5-6pm. Please see below for the dates, times and zoom links for these open office hours:

Kayla's open office hours:

Wed. 9/9 5-6pm:

[Join Zoom Meeting](#)

Meeting ID: 917 1045 5313

Passcode: k@yl@22

Wed. 10/7 5-6pm:

[Join Zoom Meeting](#)

Meeting ID: 917 1045 5313

Passcode: k@yl@22

Wed. 11/4 5-6pm:

[Join Zoom Meeting](#)

Meeting ID: 917 1045 5313

Passcode: k@yl@22

Wed. 11/18 5-6pm:

[Join Zoom Meeting](#)

Meeting ID: 992 0933 1472

Passcode: k@yl@22

Recitation Meeting Information:

All sections will be synchronous and held on Zoom. The link for each section will be the same link each week, and can be found below and in the lessons tab on Sakai.

Thursdays, Sara's Sections:

601: 1:15-2:05pm

Zoom Info: [zoom link](#)

Meeting ID: 947 8683 3578

Passcode: G3n3T1C\$

602: 4:45-5:35pm

Zoom Info: [zoom link](#)

Meeting ID: 916 1951 1541

Passcode: G3n3T1C\$

603: 5:45-6:35pm

Zoom Info: [zoom link](#)

Meeting ID: 943 6602 8655

Passcode: G3n3T1C\$

604: 7:00-7:50pm

Zoom Info: [zoom link](#)

Meeting ID: 927 8056 0780

Passcode: G3n3T1C\$

Fridays, Kayla's Sections:

605: 10:40-11:30am

Zoom Info: [Join Zoom Meeting](#)

Meeting ID: 939 9171 0832

Passcode: k@yl@22

606: 12:00-12:50pm

Zoom Info: [Join Zoom Meeting](#)

Meeting ID: 976 8623 8694

Passcode: k@yl@22

607: 1:20-2:10pm

Zoom Info: [Join Zoom Meeting](#)

Meeting ID: 960 4802 8539

Passcode: k@yl@22

608: 2:40-3:30pm

Zoom Info: [Join Zoom Meeting](#)

Meeting ID: 915 2471 5841

Passcode: k@yl@22

Official Attendance Policy:

Students are *required to attend and actively participate* in all recitations. You are responsible for marking your attendance by typing your name/"here"/"present"/etc in the zoom chat at the beginning of recitation. Any lack of participation will be brought to your attention and if not rectified will impact your recitation "Participation" grade (grade scale below).

Students are responsible for arranging to make-up the missed work, but the instructors have the discretion to refuse.

Extenuating Circumstance Absences: If you know you will be absent for a very important commitment (wedding, funeral, interviews, etc.) please notify your TA at least a week in advance to arrange a make-up. If you would like to attend a section taught by the other TA, please copy both on an email.

Illness Absences – You must contact your TA within 24-hours of your section's start time to explain why you will be missing/missed class to arrange a make-up.

Recitation Work:

All work will be submitted via Gradescope. Late work will not be accepted unless you have emailed about an extenuating circumstance, illness, etc. ahead of the due date for each assignment.

Please find all pre and post assignments on Sakai, under the Lessons tab. Announcements made throughout the recitations will also be posted under their specific recitation within the Lessons tab.

ALL pre-assignments will be due by 11:59pm the night before your recitation. If your recitations are on Thursday, your assignments will be due Wednesday nights at 11:59pm. If your recitations are Friday, your assignments will be due Thursday nights at 11:59pm.

All post-assignments will be due by 11:59pm the night after your recitation. If your recitations are on Thursday, your assignments will be due Friday nights at 11:59pm. If your recitations are Friday, your assignments will be due Saturday nights at 11:59pm.

Remote Learning Etiquette:

Remote learning brings up some things that you may not have anticipated having to deal with throughout your time at UNC, such as what if there's a giant thunderstorm and your internet goes out? Or, how will you make friends with your classmates? Below are a few issues related to remote learning that may occur, and our suggestions for how to deal with and accept the current circumstances.

1. If YOUR internet goes out in the middle of recitation, don't freak out - simply email your TA about the issue as soon as possible, and consult the recording of the recitation that will be posted on Sakai.
2. If OUR (TA's) internet goes out, please be patient - if we do not return after 10 minutes that probably means a great internet catastrophe has occurred in our respective locations. After 10 minutes of no TA please leave the zoom, and be assured that we will email ASAP about the missed recitation material, and include a recording of us going over material if necessary.
3. We will be doing (yes, somewhat corny) icebreakers on the first day of recitation and in the recitations that follow. We know you may find them silly, but they do build a sense of community and help us get to know

you and vice versa!

4. Please be **ON TIME** (aka, a little bit early) to virtual recitations. Time is precious, especially with everything being remote, and it may take 5-10 minutes for your video and audio to completely connect.
5. Please be respectful of your classmates when they are speaking, and be aware that everyone needs to contribute during recitation - juggling who is speaking on zoom can be a bit difficult.

Another remote etiquette point that would be of GREAT help to us, is if you could add your preferred personal pronouns (eg. she/her/hers, he/him/his, they/them/theirs) to your display name in Zoom. Please see these instructions for how to change your display name: <https://support.palcs.org/hc/en-us/articles/226794367-Changing-Your-Display-Name-in-Zoom-Rooms>.

Recitation Grade = 10% of course grade:

Your recitation grade is composed of the following three categories:

Attendance (15%)

Participation in discussions (40%)

Recitation assignments (45%)

Note: Pre and post assignments will be graded for accuracy, not just completion, so please put your best effort into them.

Recitation Schedule (subject to change):

Week 1: 8/10-8/14

No recitation

Week 2: 8/17-8/21

Introduction and Genetics-Related Careers

Week 3: 8/24-8/28

BRCA Discussion

Week 4: 8/31-9/4

PCR and DNA Fingerprinting

Week 5: 9/7-9/11

No recitation - Labor Day

Week 6: 9/14-9/18

Meiosis & Mitosis

Week 7: 9/21-9/25

The Mystery of Princess Anastasia

Week 8: 9/28-10/2

Complementation and Gene Interaction

Week 9: 10/5-10/9

Gene Expression

Week 10: 10/12-10/16

No recitation

Week 11: 10/19-10/23

Current Genetics Research Introduction

Week 12: 10/26-10/30

Prokaryotic Gene Expression

Week 13: 11/2-11/6

No recitation

Week 14: 11/9-11/13

Current Genetics Research Group Presentations

Week 15: 11/16-11/20

No recitation

Lastly and most importantly, we want to say that we are looking forward to a great semester with you all! If you have any questions or concerns prior to the first recitation, please don't hesitate to contact us!

Masking

Community Standards and Mask Use in our Course. Even though our course is remote, we have been asked to reinforce this important information by putting it into our syllabus:

While we are in the midst of a global pandemic, all enrolled students are required to wear a mask covering your mouth and nose at all times in classrooms. This requirement is to protect our educational community -- your classmates and myself – as we learn together. If you choose not to wear a mask, or wear it improperly, you will be asked to leave immediately, and a report will be submitted to the [Office of Student Conduct](#). At that point you will be dis-enrolled from the course for the protection of our educational community. Students who have an authorized accommodation from

Accessibility Resources and Service and have an approved health exception for mask-wearing must submit official documentation for any alteration in this UNC Standard. For additional information, see <https://carolinatogether.unc.edu/university-guidelines-for-facemasks/>. Please remember that masking is as much about protecting your own health as it is about demonstrating that you care for the health and comfort of others in the community.

Biology 202_006 Schedule of Lessons and Assignments

Note that this schedule is subject to change at the discretion of the professor to suit the needs of the class. *(Last Revision 20 August 2020)*

Week	Lesson	Topic	Mastering (due before 11:59pm)
One	(8/10-8/14) NO RECITATION		MG Introduction (20Aug) MG #1 (20Aug) MG#2 (20Aug)
	1	SYNCHRONOUS Introduction to the course	
	2	Overview of genetic information	
Two	(8/17-8/21) Recitation #1 Introduction & Overview		MG #2 (23Aug) MG#3 (23Aug)
	3	How genetic information is stored in the genome	
	4	How genetic information flows from DNA to RNA to protein	
Three	(8/24-8/28) Recitation #2 A Right to her genes: BRCA cast study		MG #4 (30Aug)
	Official College "Pause" August 24th & 25th		
	5	Variation in genetic information – from genotype to phenotype	
Four	(8/31-9/4) Recitation #3 PCR and DNA "fingerprinting" Activity		MG#5 (30Aug) MG #6 (6Sept) MG Practice Quiz #1 (6Sept) Post & Comment Peerwise Unit 1
	6	Process of Science: Discovery of DNA Structure & Process of Replication	
	7	Transmission of genetic information	
Five	(9/7-9/11) No Recitation (In Honor of Labor Day Holiday!)		MG #7 (13Sept) MG #8 (13Sept) MG #9 (13Sept)
	8	Mutation & Phenotypic Variation	
	(9/8) SYNCHRONOUS Class Review Session		
	(9/10 available 1pm-7pm) Exam 1: Lessons 1-8		
Six	(9/14-9/18) NO RECITATION		MG #10 (20Sept) MG#11 (20Sept)
	9	Meiotic Recombination	
	10	Meiotic Errors	
Seven	(9/21-9/25) Recitation #4 Meiosis		MG #12/13 (27Sept) MG #14 (27Sept) MG #12.5/13.5 (27Sept) MG#14.5 (27Sept)
	12	Linkage & Independent Assortment	
	13	Pedigrees and human disease	
Eight	(9/28-10/2) Recitation #5 TBD		MG#15 (4Oct) MG #16 (4Oct) MG Practice Quiz #2 (4Oct) Post & Comment Peerwise Unit 2
	14	Modifying Mendel	
	15	Gene Interactions, Epistasis & Complementation	
Nine	(10/5-10/9) NO RECITATION		MG #17a (10/11) MG #17b (10/11)
	16	Gene Expression: Transcription	
	(10/6) SYNCHRONOUS Class Review Session		
	(10/8 available 1pm-7pm) Exam 2: Lessons 9-15		

(Schedule continued on next page)

Biology 202_006 Schedule of Lessons and Assignments

Note that this schedule is subject to change at the discretion of the professor to suit the needs of the class. *(Last Revision 20 August 2020)*

Week	Lesson	Topic
Ten	(10/12-10/16) Recitation #6 Gene Expression	
	17	Co- & Post-Transcriptional Processing
	18	Gene Expression: Translation
Eleven	(10/19-10/23) Recitation #7 Anastasia	
	19	The Genetic Code
	20	Mutations & Alleles
Twelve	(10/26-10/30) Recitation #8 Prokaryotic Gene Expression	
	21	Prokaryotic Gene Expression 1
	22	Prokaryotic Gene Expression 2
Thirteen	(11/2-11/6) #9 Reiew & Problem Solving	
	23	Regulation of Eukaryotic Gene Expression 1
	24	Regulation of Eukaryotic Gene Expression 2
Fourteen	(11/9-11/13) NO RECITATION	
	(11/9) SYNCHRONOUS Class Review Session	
	25	Weird Science: Wacky Gene Expression
	(11/12 available 1pm-7pm) Exam 3: Lessons 16-24	
Fifteen	(11/16-11/20) NO RECITATION	
	26	CRISPR & Gene Editing
	(TBD) OPTIONAL SYNCHRONOUS REVIEW SESSION	
(11/19 at 12noon) Cumulative Final Exam (Lessons 1-26)		