



# Bio 550, Cell Physiology

## Fall 2020, Course Information and Policies

### Welcome

My name is Dr. Susan Keenan (pronouns: she/hers), and I am excited to be teaching Cell Physiology this semester. I have been a professor at UNC since 2006, and have a background in chemistry, biochemistry, cell and molecular biology and computational biology/chemistry. I love cell physiology—and in particular signal transduction pathways and the activities of kinases.

A second research interest is equity and inclusion on campus. I am the project director on a Howard Hughes Medical Institute Inclusive Excellence grant through which we aim to help faculty create inclusive classrooms, and the Director of the Stem Inclusive Excellence Collective. These roles are important to me as a woman in science and a first-generation student. I was also a non-traditional student when I started my college journey.

I have over two decades of teaching experience, and I am excited to be teaching Bio 550 again this year. This semester however will be unique. Because of deaths of George Floyd, Breonna Taylor, and so many other BIPOC, 2020 has been a time of pain and grieving. I am committed to providing a space for us to learn together that is inclusive and respectful, and which honors and celebrates the many social identities and life experiences reflected in our community including differences in race, culture, age, religion, sexual orientation, and socioeconomic background.

Over the past six months, our lives have also fundamentally changed because of Covid-19. All students taking the course this semester will be doing so remotely. I usually record the lectures from the face-to-face section of this course and share them asynchronously with the students in the online sections. This fall, we will be using course lectures recorded in Fall 2019. I have edited the materials and created shorter, 15-minute videos. I hope that taking the material in smaller chunks will help with focus and will decrease connectivity/Wi-Fi issues

### Contact Information

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### Where to find important information

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## Getting Started

We have a **Getting Started module** in CANVAS. All of the information in this syllabus is available in that module with active links to other pages and information—so much more interactive than this syllabus!

## Communication

So, what are my communication practices? I will be checking the discussion boards daily. If you email me, I will get back to you within 24-48 hours (and usually less) during the workweek. I will also check my email periodically for urgent messages on the weekends and holidays. I have set up regular Q&A sessions on Fridays via Zoom (<https://unco.zoom.us/j/94579855107>)

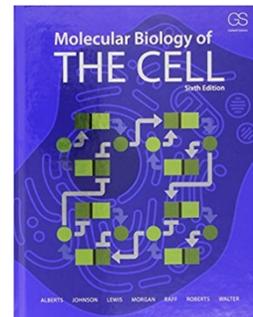
## What to expect from Bio 550

During the semester, we will be covering many of the fundamental aspects of cell physiology—from membrane dynamics, to cell signaling and much in between. The material has been divided into four modules. Each module has lectures, assigned reading, a quiz, and one or two blog posts. Each module is accessible from the home page and from the modules tab. The materials for each module are on the Course Materials page.

As the instructor for this course, I see my role as a facilitator and a collaborator in learning. As learning happens when you engage actively and not when you are passively listening, I plan to lecture less and have you engage directly with the material as much as possible. The activities described below are designed to help you to do this and facilitate your learning. Please keep in mind that we will be learning a lot of new information and addressing some novel concepts throughout the semester—and at times you are likely to struggle. Know that this is normal and even expected! But please don't struggle unproductively; use your fellow learners as a resource and reach out to me for help. We have a discussion board where you can post general questions and I have set up co-working spaces to facilitate group discussions and study. Check CANVAs for details.

## Textbook:

Readings will be assigned from Albert's Molecular Biology of the Cell. We are using the sixth edition co-authored by Bruce Alberts, Alexander D. Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, and Peter Walter and published by Garland Science, Taylor and Francis Group. It is available as an e-Textbook (to purchase or rent), in hardcover, and paperback. **ISBN-13:** 978-0815344322 **ISBN-10:** 9780815344322



## How to be successful

- Don't get behind. Set up a schedule and make sure that you are making progress each week.
- Gaining an understanding of this material will take time. For each class session, you should expect to study for a minimum of two productive hours. Productive time is time during which you are truly focused on learning the material with limited interruptions. That means each week, you should be spending no less than nine hours watching videos, reading articles, and generally working through concepts in Cell Physiology

- Don't just listen--be active! Take notes, summarize material, draw (especially pathways), ask yourself how concepts fit together. Keep the model assignment in mind. How is the concept presented challenging or adding to your model?
- Study with others. I have added co-working spaces which will be available each week. Join the Zoom meetings and create study groups!
  - Wednesdays 10:15-11 am: <https://unco.zoom.us/j/91830383439>
  - Sundays 7-8 pm: <https://unco.zoom.us/j/93592551918>
- This can be a tough class. Please know that struggling is normal, and even expected. Please ask for help when you need it. Use the Course Discussion board first, but if you continue to have questions, join me on Friday's for Office hours (10:15-11 am <https://unco.zoom.us/j/94579855107>). I will record these sessions and post them if we cover materials and address questions. You can also contact me directly at [susan.keenan@unco.edu](mailto:susan.keenan@unco.edu). If you ask for help early, you will have more time to turn things around—so if you are struggling, let me know. I am here to help!

### What to do if you have questions

#### **Start by posting the question to the [discussion board](#)**

Check the discussion boards often--if you have a question, it is likely that others will as well. As a citizen of the course please also respond to and answer discussion board questions when you can. I hope the discussion boards can be a place for lively and thoughtful community interaction.

If you have a **technical problem or question about canvas contact** IT support. You can call them at 970 351 HELP (4357) or 1-800 545 2331. Get help [Online: visit help.unco.edu](#) **Or via email:** [help@unco.edu](mailto:help@unco.edu). There is also a link to IT Support in the lower left of your canvas shell (Look for the (?) Support on the lower left). IT Support is available Monday-Friday 7 am to 7 pm and 10 am to 7 pm on the weekends (Mountain time).

Join me on Fridays from 10:15-11 am. This is an optional Zoom meeting scheduled so you can ask questions (<https://unco.zoom.us/j/94579855107>). Please note that I will leave the meeting at 10:30 am if no one joins me. If you plan to arrive later than 10:30, just let me know and I will hang around. If you have a concern or problem that you would like to discuss directly with me, you can contact me by email at [susan.keenan@unco.edu](mailto:susan.keenan@unco.edu) and we can set up a one-on-one appointment.

### Learning Goals

At the end of this course I hope that you will be able to say "*yes, I have done that!*" to the learning goals for this course. The learning goals are:

- **Goal One:** Develop an advanced knowledge of cell physiological concepts
- **Goal Two:** Be able to apply knowledge and awareness to questions in cell physiology
- **Goal Three:** Demonstrate the ability to critically examine data and interpretations using scientific reasoning skills

- **Goal Four:** Be able to use scientific vocabulary and effectively communicate key concepts in cell physiology
- **Goal Five:** Gain a greater understanding of how concepts in cell physiology impact, and are impacted by, the world around us.

### Assessments and Assignments

There are a variety of assessments for this course which were designed to align with our learning goals. In all aspects of the course, but especially in terms of assessment, please remember the UNC honor code and the five fundamental values of honesty, trust, respect, fairness and responsibility.

There are two types of assignments for this course

- **Blogs.** Throughout the semester you will be writing blogs related to material that we are exploring in class. Each blog is worth 12 points, and collectively the blogs are worth approximately 30% of your overall grade.
  - [Blogging Assignment Details and rubric](#) 
- **Quizzes.** We will have four quizzes throughout the course; one at the end of each of the four modules. The Quizzes will be timed, but will be open book. Each quiz will be available for a three day window from Friday through Sunday. See the schedule on the [Syllabus](#) page for specific dates. Quizzes are worth approximately 70% of your grade

### Grading

I believe in creating a cooperative learning environment where we help each other as we learn together. There is no limit to the number of A grades that can be earned in this course—in fact, it is my hope that each of you walks away in December earning an A.

There are two types of assignments in the course: Blog Posts are worth 12 points each, and Quizzes are worth 50 points each. Blog posts constitute approximately 30% of your grade with the remaining approximately 70% from the quizzes.

I have set deadlines to the blogging assignments throughout the course. I do so to encourage you to stay engaged with the material and make progress through the course. Quizzes have a three-day window during which you can take the assessment. If, however you need an extension for any reason, please let me know.

The grading policy for the course will be no more rigorous than 90%, 80%, 70%, 60%, 50% for A, B, C, D, and F grades respectively.

You will notice in the blogging rubric, the lowest grade you can receive for a post is 50% and not zero—even if you do not turn in the assignment. This is also true for the quizzes. Why? Great question! The difference between most of the letter grades is 10%, but traditionally an F represents 0-59%. Setting the F range to 10% (50%-59.9%) normalizes the grades and provides the same opportunity to move from a F to a D as from a B to an A

## Tentative Schedule

Day	Week	Date	Topics and Assignments
M	Week One	24-Aug	Introduction to course, beginning blogging, cell visualization
W		26-Aug	
F		28-Aug	
Su		Aug 30 (Sunday)	
M	Week Two	31-Aug	Module One (Part I): Membrane Structure
W		2-Sep	
F		4-Sep	
M	Week Three	Labor Day Sept 7	Blog Post--due by 11:59 pm MT
W		9-Sep	
F		11-Sep	
Su		13-Sept (Sunday)	
M		14-Sep	
W	Week Four	16-Sep	Module One (Part II): Membrane Proteins
F		18-Sep	
M		21-Sep	
W	Week Five	23-Sep	Quiz One--Module One Parts I & II (Completed by 11:59 pm MT)
F		25-Sep	
F-Su		Sept 25- Sept 27	
Su		27-Sep	
M	Week Six	28-Sep	Module Two: Cytoskeleton and Cell Junctions
W		30-Sep	
F		2-Oct	
M	Week Seven	3-Oct	Quiz Two--Module Two. (Completed by 11:59 pm MT)
W		7-Oct	
F		9-Oct	
M		12-Oct	
W	Week Eight	14-Oct	Blog Post--due by 11:59 pm MT
F		16-Oct	
F-Su		Oct 16-Oct 18	
Su	18-Oct		
M	Week Nine	19-Oct	Module Three: Intracellular Compartments, protein sorting and membrane trafficking
W		21-Oct	
F		23-Oct	
M	Week Ten	26-Oct	Quiz Three--Module Three (Completed by 11:59 pm MT)
W		28-Oct	
F		30-Oct	
Su		1-Nov	
M	Week Eleven	2-Nov	Module Three: Intracellular Compartments, protein sorting and membrane trafficking
W		4-Nov	
F		6-Nov	
M		9-Nov	
W		11-Nov	
F	Week Twelve	13-Nov	Quiz Three--Module Three (Completed by 11:59 pm MT)
F-Su		Nov 13 - Nov 15	
Su	15-Nov	Blog Post--due by 11:59 pm MT	
M	Week Thirteen	16-Nov	Module Four: Cell Signaling
W		18-Nov	
F		20-Nov	
M	Week Fourteen	23-Nov	Quiz Four--Module Four (Completed by 11:59 pm MT)
W		Thanks Giving Nov 25-27	
F		30-Nov	
M		2-Dec	
W	Week Fifteen	4-Dec	Blog Post--due by 11:59 pm MT
F		Dec 4- Dec 6	
F-Su		6-Dec	
Su	7-Dec	Final Summary Blog Post due by 11:59 pm	
M	Week Sixteen		
W			
F			

## Pronouns

In my welcome material, I listed my pronouns as she, her, hers. If you have specific pronouns that you would like us to use, please let me know.

## Netiquette

Please be thoughtful in your communication with your fellow learners in this course. Core rules of netiquette are in CANVAS. To maintain an equitable and collaborative community, please adhere to these norms in our communications with each other and in your communications with me.

**Course Description** (3 Lecture) Prerequisite: BIO 220 and CHEM 331, recommended CHEM 481 or CHEM 381.

Study of the structural and functional relationships among biological macromolecules, cell organelles and cellular processes. Prerequisites: BIO 220 (Genetics), CHEM 331; recommended CHEM 481

## Syllabus Statements

Academic and support resources are listed on the Academic and Resources page in the Getting Started module in CANVAS.

### Disability Resources

It is the policy and practice of the University of Northern Colorado to create inclusive learning environments. If there are aspects of the instruction or design of this course that present barriers to your inclusion or to an accurate assessment of your achievement (e.g. time-limited exams, inaccessible web content, use of videos without captions), please communicate this with your professor and contact Disability Resource Center (DRC) to request accommodations.

Office: (970) 351-2289, Michener Library L-80.

Students can learn more here: [www.unco.edu/disability-resource-center](http://www.unco.edu/disability-resource-center) (Links to an external site.)

### Food Insecurity and Basic Needs

Research shows that college students experience food insecurity at higher rates than the American household rate, and that food insecurity can negatively impact academic performance and persistence. In recognition of this problem, UNC offers assistance to students facing food insecurity through an on-campus food pantry. The Bear Pantry is located in University Center 2166A and is open for regular hours throughout the semester. Please visit [www.unco.edu/bear-pantry](http://www.unco.edu/bear-pantry) (Links to an external site.) for more information.

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is also urged to contact Student Outreach and Support (SOS) for assistance. SOS can assist students during difficult circumstances which may include medical, mental health, personal or family crisis, illness or injury. SOS can be reached at [sos@unco.edu](mailto:sos@unco.edu) or via phone at 970-351-2796.

### Academic Integrity

You are expected to practice academic honesty in every aspect of this course. Students who engage in academic misconduct are subject to grading consequences with regard to this course and/or university disciplinary procedures through the Office of Community Standards and Conflict Resolution.

### Title IX

The University of Northern Colorado is committed to providing a safe learning environment for all students that is free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. UNC has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more.

Please be aware all UNC faculty and most staff members are “responsible employees,” which means that if you tell a faculty member about a situation involving sexual harassment, sexual assault, dating violence, domestic violence, or stalking, they must share that information with the Title IX Coordinator, Larry Loften. Larry or a trained staff member in the Office of Institutional Equity and Compliance (OIEC) will contact you to let you know about accommodations and support services at UNC as well as your options for pursuing a process to hold accountable the person who harmed you. You are not required to speak with OIEC staff regarding the incident; your participation in OIEC processes are entirely voluntary.

If you do not want the Title IX Coordinator notified, instead of disclosing this information to your instructor, you can speak confidentially with the following people on campus and in the community. They can connect you with support services and help explore your options now, or in the future.

- UNC’s Assault Survivors Advocacy Program (ASAP): 24 Hr. Hotline 970-35-4040 or [www.unco.edu/asap](http://www.unco.edu/asap) ([Links to an external site.](#))
- UNC Counseling Center: 970-351-2496 or [www.unco.edu/counseling](http://www.unco.edu/counseling) ([Links to an external site.](#))
- UNC Psychological Services: 970-351-1645 or [www.unco.edu/cebs/psych\\_clini](http://www.unco.edu/cebs/psych_clini) ([Links to an external site.](#))

If you are a survivor or someone concerned about a survivor, or if you would like to learn more about sexual misconduct or report an incident, please visit [www.unco.edu/sexual-misconduct](http://www.unco.edu/sexual-misconduct) ([Links to an external site.](#)) or contact the Office of Institutional Equity and Compliance (970-351-4899). OIEC is located on the third floor of the University Center in room 3060.

## Equity and Inclusion Statement

The University of Northern Colorado embraces the diversity of students, faculty, and staff, honors the inherent dignity of each individual, and welcomes their unique perspectives, behaviors, and world views. In this course, people of all races, religions, national origins, sexual orientations, ethnicities, genders and gender identities, cognitive, physical, and behavioral abilities, socioeconomic backgrounds, regions, immigrant statuses, military or veteran statuses, size and/or shapes are strongly encouraged to share their rich array of perspectives and experiences. Course content and campus discussions will heighten your awareness to each other’s individual and intersecting identities. If you would like to report an incident or learn more about identity-based discrimination/harassment, please visit [www.unco.edu/institutional-equity-compliance](http://www.unco.edu/institutional-equity-compliance) ([Links to an external site.](#))

## Honor Code

All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: *Honesty, Trust, Respect, Fairness, and Responsibility*. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community’s academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

## Pronouns

In my welcome material, I listed my pronouns as she, her, hers. If you have specific pronouns that you would like us to use, please let me know.

## Netiquette

Please be thoughtful in your communication with your fellow learners in this course. Core rules of netiquette are in CANVAS

## MBS Program Policies

Many of you are in the MBS program, so we will simply adopt the MBS Academic Misconduct for Bio 550. The important information from the MBS Policy document is copied below.

### Academic Misconduct

An understanding of academic misconduct is assumed upon enrollment in the MBS program or any course at UNC. Academic misconduct is any action or attempted action that may result in creating an unfair academic advantage for oneself or an unfair academic advantage or disadvantage for any other member or members of the academic community. This includes, but is not limited to, a wide variety of behaviors such as cheating, plagiarism, altering academic documents or transcripts, gaining access to materials before they are intended to be available, helping a friend to gain an unfair academic advantage, sharing Connect login information, unprofessional behavior, and violation of laws or UNC policies. Ignorance of the definition of academic misconduct is not a reasonable defense against accusations of academic misconduct or a justification for having committed academic misconduct. Therefore, commission of academic misconduct at any time will be recognized as a deliberate and purposeful violation of expected conduct.

### Cheating

Cheating includes, but is not limited to, copying material from slides or websites and using that material on exams, sharing information about exam/quiz/homework material with other students, accessing any websites other than the exam website during an online exam and sharing Connect login information.

Cheating in any form by a student while enrolled in the MBS program will result in:

For the first offence, any student who is found to have cheated while enrolled in the MBS program will lose all points for the assignment in which the cheating occurred. Instructors may have more strict policies for individual classes, which will be detailed in the syllabus for that class.

For the second or subsequent offence, any student who is found to have cheated while enrolled in the MBS program will be terminated from the MBS degree program. Instructors may have more strict policies for individual classes, which will be detailed in the syllabus for that class.

### Plagiarism

The following is UNC's approved definition of plagiarism: Plagiarism is the act of appropriating the written, artistic, or musical composition of another, or portions thereof; or the ideas, language, or symbols of same and passing them off as the product of one's own mind. Plagiarism includes not only the exact duplication of another's work but also the lifting or a substantial or essential portion thereof. Regarding written work in particular, direct quotations, statements which are a result of paraphrasing or summarizing the work of another, and other information which is not considered common knowledge must be cited or acknowledged, often by listing author(s) and year of the cited source. Quotation marks or a proper form of indentation shall be used to indicate all direct quotes.

Plagiarism in any form by a student while enrolled in the MBS program will result in:

For the first offence, any student who is found to have plagiarized while enrolled in the MBS program will lose all points for the assignment in which the plagiarism occurred. Instructors may have more strict policies for individual classes, which will be detailed in the syllabus for that class.

For the second or subsequent offence, any student who is found to have plagiarized while enrolled in the MBS program will be terminated from the MBS degree program. Instructors may have more strict policies for individual classes, which will be detailed in the syllabus for that class