

CELL BIOLOGY LECTURE AND LAB

BIOL 4490

Syllabus Fall 2017

Professor: Dr. Danielle Goodspeed

Email: dmg048@shsu.edu

Phone: 936-294-3271

Office Hours: Tuesdays 1 PM – 3 PM

Most office hours are completely booked!! Email me in advance to reserve a spot.

Office: LDB 145

CLASS INFORMATION:

Lecture Meeting Times: Tuesdays and Thursdays 9:30 AM – 10:50 AM

Lab Meeting Times: Thursdays 1:00 PM – 3:50 PM

Location: Lee Drain Building 136

PLEASE READ THE SYLLABUS!!! It is an important document that explains:

- What I expect from each one of you
- What you can expect from me
- The topics that I will cover
- How you will be assessed to determine your grade in the class

If you have any questions please DO NOT hesitate to ask me. If anything is unclear to you in this syllabus ASK!! I have my contact information listed above. Emailing or coming to see me in person is the best way to get in touch with me.

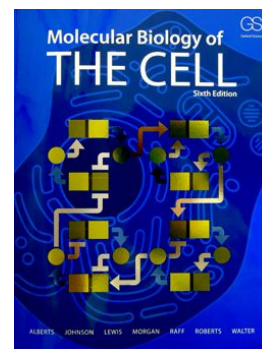
Required Materials:

Molecular Biology of the Cell 6th Edition

ISBN: 9780815344322

By: Alberts, Johnson, Lewis, Morgan, Raff,
Roberts, Walter

Garland Science Publishing



Laboratory Notebook

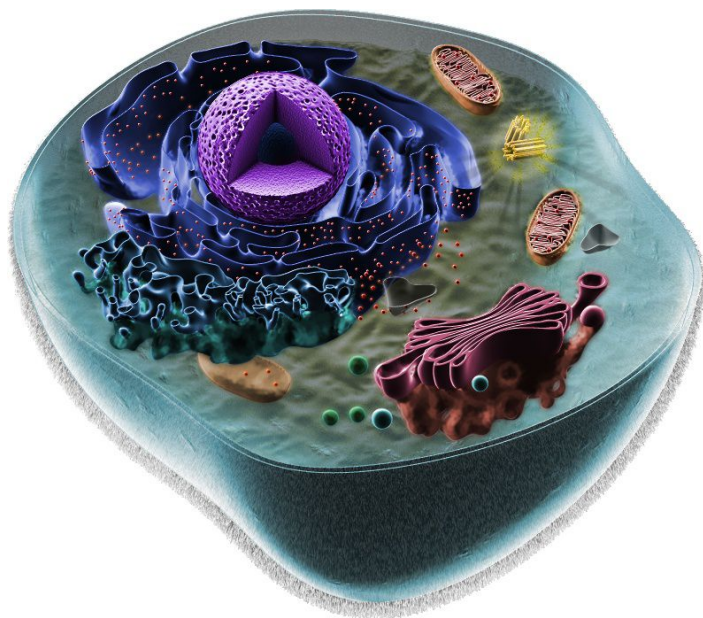
Goals for this Course:

Through this course I hope to:

1. The cell is simply amazing and I hope to teach you how hard working, intricate, and wonderful it truly is.
2. Biology is an ever-evolving field of study, my hope is that by the end of this class you have learned the concepts that drive the field of cell biology, while learning about what it takes to be a scientist.
3. Biology is exciting, and I hope that you end up with an appreciation for the world around you.

Course Description:

Have you ever wondered about what the cells in our body do? How they multiply? How they move? Why we have so many of them? How we study cells? Why we study cells? These are the types of questions we will answer in this course. Cell Biology is a course designed to teach you what the eukaryotic cell is along with its function. We will cover how our cells replicate DNA, transcribe our RNA, and synthesize proteins. We will delve into the intricacies of the cell, learning about the cell membrane and how it controls what can come into and what can leave the cell. We will also cover intracellular trafficking, cell communication, cell motility, mitosis, and cell cycle control.



I want each and every one of you to do well in this class!! Please come to see me if you are not understanding the material, need help studying, or have any questions about your grade. It is imperative to come to me as soon as you start to need help in the course! **IF YOU WAIT TO THE LAST MINUTE IT WILL BE TOO LATE!!!** On the first page of this syllabus are numerous ways to contact me. USE THEM!!

Some particulars about this course:

I will be setting you up in groups on the first day of class and you will be in these groups for the entire semester. Why? In science your success depends on collaboration. What is collaboration? It is working with others that have the expertise needed to answer a question. What if I am not planning on going into science? Learning to work with others is a very important skill for ANY career you go into.

During the course of the semester we will have several active learning activities where your groups will work together. I hope that during the course you will learn to work well with each other and you will be excited about the group classes we have scheduled. The best part about group study: Everyone will have a different point of view and through discussions you will have a priceless opportunity to learn!!!

Important Dates:

The lecture schedule gives you important dates for this class.

EXAM DATES ARE SET IN STONE, THEY WILL NOT CHANGE AND YOU WILL NOT BE ABLE TO MAKE UP THE EXAM! A missed exam will result in a zero for that exam. If there is an emergency and you need to miss an exam, contact me as soon as possible. All exams will be a mixture of multiple choice, true/false, short answer, and essay questions.

THE FINAL EXAM IS CUMULATIVE, all the material from the course will be on the final.

If you have a documented disability that will impact your work in the class, please contact me to discuss your needs. All discussions are confidential. It will be your responsibility to contact me ahead of time to make sure your needs are met. If you need special accommodations please contact Services for Students with Disabilities in the Lee Drain North Annex building, telephone number: 936-294-3512.

Assignments and Grading Scheme:

Exams: There will be three (3) exams worth 100 points each. Each exam will consist of multiple choice, true/false, short answer, and essay. Each exam will be closed book, and use of any notes is prohibited. During any exam, **ALL** electronic equipment including cell phones must be TURNED OFF and put away. The one exception made is for primary care givers. Before taking the exam, all books, notes, and electronic equipment including cell phones will be stowed in the student's backpack and placed out of sight under the student's desk. **PLEASE NOTE:** *Once the lecture exam begins, a student may not leave the room and be readmitted to the exam room to resume taking the exam.*

In-class group assignments/quizzes: Throughout the semester there will be a variety of in-class group discussions and quizzes. **Please come prepared for class.** If a quiz is given, it will be closed book, and all electronic devices will need to be turned off and out of sight. All quizzes will be group quizzes.

Journal Club Assignments: One of the most important aspects of being a scientist is learning how to critically read a peer-reviewed article. Throughout the semester, papers will be assigned to read. You will be required to write a critique of the paper, including a summary, positive assessments of the article, and negative assessments of the article if you have any. Then, in class, we will work in groups to have a discussion of the article. There will be four (4) articles in total.

Lab Summary: After the first set of labs you will be required to hand in your notebook for review. You will be required to have a detailed notebook, with an account of: your hypothesis, the significance of the work, methods used, results, conclusions.

Lab Project/Presentation: After you have learned how to do the cell biology techniques you will be required to participate in a group independent laboratory project. You will be given a list of possible small group projects to do and then you will have to write up a proposal for this project. You will be given a period of time in class to work on the project and then you will have to turn in a final paper, written in a journal article format. You will be required to turn in your laboratory notebooks at this time as well. On the final day of lab your group will present their findings to the rest of the class.

Final Exam: The final exam will be a comprehensive, cumulative final exam worth 150 points. The final exam will be a combination of multiple choice, true/false, short answer, and essay. The exam will be closed book, and use of any notes is prohibited. **ALL** electronic equipment including cell phones must be TURNED OFF and put away. Before taking the exam, all books, notes, and electronic equipment including cell phones will be stowed in the student's backpack and placed out of sight under the student's desk. **PLEASE NOTE:** *Once the lecture exam begins, a student may not leave the room and be readmitted to the exam room to resume taking the exam.*

Your final grade will be a combination of:

Exams 100 pts Each (total of 3)	300 pts
In-Class Group Assignments/quizzes	150 pts
Journal Club Assignments	200 pts
Lab Summary	50 pts
Lab Project/Presentation	150 pts
Final Exam	150 pts
Total Possible Points	1000 pts

The class schedule on the last page of the syllabus lists the due dates for every assignment throughout the semester. This is important to note because **NO LATE ASSIGNMENTS WILL BE ACCEPTED**. If you try to turn in your assignment after the due date it will NOT be accepted and you will receive a zero for that assignment. Contact me immediately as soon as possible if you have an emergency which causes you to miss a deadline.

You can calculate your current grade at any time throughout the semester. To do this, total up your points received for each assignment and exam. Then divide by the total number of points possible so far. Multiply by 100 to get the percentage of your grade. This is how your final grade will be determined. The following scale will be used to determine your letter grade:

100-90	A
89-80	B
79-70	C
69-60	D
59 and below	F

Other Important Stuff You Should Know:

Attendance Policy: You are required to attend every class, attendance is MANDATORY.

If you miss the lectures you will not do well in this class. Going to class will teach you a lot about yourself, what I expect from you in each class (i.e. listening, note taking, the material), and how to work with others. You can only get credit for the in-class assignments by ATTENDING CLASS. The ONLY way that you have an opportunity to make up an in-class assignment is for a medical or another official excuse. Four or more absences may result in an “F” grade for the course.

Academic Dishonesty: The professor-student relationship is based on trust. You trust that I will do my best to teach you the subject-matter and that I will be available when you need me. I trust that you will put your best effort into your work. This also means that you will be honest in your work.

ABSOLUTELY NO FORM OF COPYING, PLAGIARISM OR ANY OTHER TYPE OF ACADEMIC DISHONESTY WILL BE TOLERATED.

Students who turn in plagiarized work or who are caught cheating will receive a zero for that assignment and may even result in an F for the class. Please note that cheating includes copying from your classmates or allowing someone else to copy from you. Plagiarism includes copying directly from sources on the web. If you are unsure if something constitutes cheating or plagiarism, please ASK. Claiming ignorance is not an excuse. **Absolutely NO PHONES OR OTHER ELECTRONIC OR COMMUNICATION EQUIPMENT IS ALLOWED ON YOUR PERSON DURING EXAMS.**

Sam Houston State University’s Academic Dishonesty Statement States *“All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom.”* Cheating hurts you in many ways. Make the right choice – don’t do it!!

Suggestions for doing well in this course (your responsibilities in this class):

- **Come to class!** This is an opportunity to not only learn about the content of the course but also to learn note-taking skills, how to work on a schedule, how to work with others, and how to figure out what is important with the material covered. One of the main aspects of my class is working in groups. Therefore, you missing class means you are not only affecting yourself, but others as well. Please keep this in mind!
- **Participate in class discussions!** Group discussions are very important in my class. This is where you will talk to your classmates and hearing others you will learn about different viewpoints and learn how to organize your thoughts. This is important! We want to know what you think.
- **Take good notes!** You will receive my slides, you do not need to copy everything I say. That being said, you want to take notes on the main points I make. Therefore, *Listening* is very important. One of the best ways to study is to rewrite your notes as you study, adding to them as you study in more detail. If you miss class, get a classmate's notes.
- **Read ahead!** In the course schedule I have listed the chapters we will be covering that day. To get the most out of lecture, it is important that you read these chapters BEFORE you get into class.
- **Study!** The rule of thumb is that you spend 2 hours of study time for each hour spent in class but you may need more or less time – only you can determine that. Some topics will require more time, others less. You should get into the habit of studying weekly, not just right before exams. Do not procrastinate. We cover a lot of material and it will get overwhelming quickly if you do not keep up. Studying for exams will be a lot easier if you have reviewed on a weekly basis. Your grade will show it!
- **Draw and write as you study!** Test yourself. Writing and drawing things out is a great way to make sure you really understand the material.
- **Study in groups!** This is one of the best ways to study! It helps to reinforce the concepts, and also to determine what you are lacking understanding in and may need more time studying. If you can explain things to others, it means you have learned them.
- **Get help if you need it!** Ask questions. My class is an informal lecture setting. That means when I am speaking, if you don't understand something, STOP ME! I want to know if I am not being clear on a concept. If this is not something you are comfortable with, then come to me after lecture or during office hours and I can work with you to understand the concepts. Additionally, UST has a Tutorial Services Center that offers a vast array of activities, workshops and information that can help you improve your study, time-management, and test-taking skills. They also offer free peer tutoring in all subjects! Take advantage of these opportunities – they are free and offered to help you succeed.



CELL BIOLOGY
REVISED TENTATIVE LECTURE AND LABORATORY SCHEDULE

Date		Topic	Chapter	Due Dates
8/24/2017	Thurs	Introduction LAB: No Lab		
8/29/2017	Tues	NO CLASS		
8/31/2017	Thurs	NO CLASS		
9/5/2017	Tues	Introduction to the Cell: Cells and Genomes	1	
9/7/2017	Thurs	Introduction to the Cell: Cells and Genomes; Proteins LAB: Introduction and Microscopy	1, 3 9	
9/12/2017	Tues	Introduction to the Cell: Proteins	3	
9/14/2017	Thurs	Internal Organization of the Cell: Proteins LAB: Analyzing Cells, Molecules and Systems	3	
9/19/2017	Tues	Journal Club Discussion Review		Critique of Article Due
9/21/2017	Thurs	EXAM 1 LAB: How to Write a Research Proposal; Microscopy of Plant and Animal Cells	1, 3, 10	Research Topic Due
9/26/2017	Tues	Internal Organization of the Cell: Membrane Structure, Membrane Transport of Small Molecules	10, 11	
9/28/2017	Thurs	Internal Organization of the Cell: Membrane Transport of Small Molecules and Electrical Properties of Membranes LAB: Microscopy of Plant and Animal Cells	11	
10/3/2017	Tues	Internal Organization of the Cell: Intracellular Membrane Traffic	13	
10/5/2017	Thurs	Internal Organization of the Cell: Intracellular Membrane Traffic, Cell Signaling LAB: DNA Extraction	13, 15	
10/10/2017	Tues	Internal Organization of the Cell: Cell Signaling	15	
10/12/2017	Thurs	Internal Organization of the Cell: Cell Signaling LAB: Lipid Solubility of Membranes, Protein Extraction	15	Group Project Proposal Due
10/17/2017	Tues	Journal Club Discussion Review		Critique of Article Due
10/19/2017	Thurs	EXAM 2 LAB: Group Projects	11, 13, 15	Notebooks due at end of Lab
10/24/2017	Tues	Internal Organization of the Cell: The Cytoskeleton	16	
10/26/2017	Thurs	Internal Organization of the Cell: The Cytoskeleton LAB: Group Projects	16	
10/31/2017	Tues	Internal Organization of the Cell: The Cytoskeleton The Cell Cycle	16, 17	
11/2/2017	Thurs	Internal Organization of the Cell: The Cell Cycle Cell Death LAB: Group Projects	17, 18	
11/7/2017	Tues	Cells in their Social Context: Cancer	20	
11/9/2017	Thurs	Cells in their Social Context: Cancer LAB: Group Projects	20	
11/14/2017	Tues	Journal Club Discussion Review		Critique of Article Due
11/16/2017	Thurs	EXAM 3 LAB: Group Projects- Last Day	16, 17, 18, 20	Notebooks due at end of Lab

				Laboratory Papers Due
11/21/2017	Tues	Cells in their Social Context: Stem Cells and Tissue Renewal	22	
11/23/2017	Thurs	THANKSGIVING HOLIDAY- NO CLASS OR LAB		
11/28/2017	Tues	Cells in their Social Context: Stem Cells and Tissue Renewal	22	
11/30/2017	Thurs	Journal Club Discussion Review LAB: Presentations on Projects		Critique of Article Due
12/7/2017	Thurs	COMPREHENSIVE FINAL EXAM		9:30-11:30 AM

Please note: this schedule is tentative and subject to change by instructors. Topics per date may vary, but **exam and lab practical dates are set and will not change.**