Course Syllabus
BIOL 4500(6500), Cell Biology (4 credit hours)
Spring Semester 2020

Lecture (BC 2022): Mon-Wed 3:30 pm – 4:45 pm

Laboratory (BC 2071): Section A, Tue 9:30 am-12:20 pm; Section B, Wed 10:00 am-12:50 pm

Instructor: Dr. Cristina Calestani
Office: BC 2085
Phone: (229) 333-7175
Email: ccalestani@valdosta.edu

Office hours:

Tue-Thu 2:00 pm- 4:00 pm
Or by appointment (please send me an email to my valdosta.edu account with "appointment" in the subject line).

Pre-Requisites: BIOL 1107, 1107L, BIOL 1108, 1108 L, BIOL 3200, CHEM 1211, 1211L, CHEM 1212, 1212L with a grade of C or better or permission of instructor.

Course Description (as stated in the Undergraduate Catalogue): The organization and function of cellular structures in animal, plant, and microbial systems. Emphasis on the molecular basis of metabolism, transport, mobility, nerve conduction, and the cell cycle.

Textbook

Molecular Biology of the Cell, sixth edition (2015). Alberts B., Johnson A., Lewis J., Morgan D., Raff M., Roberts K., Walter P. Published by: Garland Science, Taylor & Francis Group. ISBN978-0-8153-4432-2 (hardcover); 978-0-8153-4464-3 (paperback).

Handouts will be provided by the Instructor for the laboratory component of the course.

ASSESSMENTS

Lecture

The lecture assessments will consist of four exams, a comprehensive final exam (optional) and one paper presentation. Exams 1,2, 3 and 4 will be taken during class time and must be turned in by the scheduled end of class. The final exam will be on Thursday May 7 from 2:45pm to 4:45pm in BC 2022.

Exam grades will be posted on Blazeview.

- All exams are based on lecture material and assigned readings.
- Exams questions are multiple choice, true/false, matching and short written answers.
- If you fail to attend one of the exams for any reason, you must provide documented evidence (e.g. from doctor, police, etc.) that circumstances beyond your control prevented you from taking the exam. Failure to provide reasonable evidence will result in a grade of 0 for the exam. Makeup exams will be administered at any time during the semester at the discretion of the instructor.

- If you arrive late for an exam you will be allowed to take the exam. However, you must turn in the exam paper at the regular scheduled end of the class. You will not be allowed extra time unless a documentable emergency has occurred.

- The final exam is optional and it can replace the lowest grade of exams 1, 2, 3 or 4. This applies only to the final exam; no other exam can replace the lowest grade. If the final exam is used to replace a lower grade in tests 1, 2, 3, or 4 the final exam grade will count only once in the course final grade calculation. The final exam cannot be used to replace a missed test.

- After each exam, students are strongly encouraged to review it. You can review an exam during office hours. Exam papers will not be returned to students.

- **Any student attempting to copy, take pictures or steal a hard-copy of a test, at any time during the semester, will receive an automatic F for the entire course and face disciplinary action for student misconduct.**

Attendance will be recorded at the beginning of class. Students arriving late, after the first 10 minutes of class, will be considered absent. If you do not attend class on a regular basis you will be at a significant disadvantage.

Paper Presentation

The paper presentation is a group assignment. A paper from current literature in cell biology will be assigned to each group of students by the Instructor. The students will present the paper in class in a PowerPoint presentation format. Guidelines and rubrics will be communicated to the students by the Instructor.
Your final grade for the presentation will be influenced by peer evaluation of your relative level of contribution; *i.e.* your group partners will grade your contribution on a scale of 0-100%. For example, if your group presentation receives a grade of 100% by the instructor and your partners estimate your effort to be 60% (instead of 100% for your assigned work) your presentation grade will be 60% of 80 points. An average taken from all members of the group will be used to calculate the percent effort for each person. Peer assessment will be anonymous.

Laboratory

The laboratory assessments consist of two practical exams. Students are required to maintain a laboratory notebook.
The practical exams questions may include microscope slides, organisms and instrumentation used in the laboratory and a written component.

Time outside of the assigned laboratory hours is required for certain laboratories.

There are no make-up labs. Attendance for the laboratory is mandatory. Attendance will be recorded at the beginning of each laboratory. Students arriving after the first 30 minutes of the laboratory will be considered absent. Any student missing 3 laboratories or more, with or without documented excuse, cannot receive a lab grade above a "D" (60%).

Extra-credit up to a maximum of 10 points will be offered. These points will be added to the student total points for the course before calculating the percentage grade. Extra-credit points can be earned with in-class activities during the lecture or the laboratory, take-home assignments and in-class written critique of the lecture paper presentations.

Grade Calculation*		
Assessment		**Max. Points**
Lecture	Exam 1	100
	Exam 2	100
	Exam 3	100
	Exam 4	100
	Final Exam (optional)	(100)
	Paper Presentation	80
	Attendance	20
Laboratory	Practical 1	100
	Practical 2	100
Total Max. Points		**700**
Extra-credit max. Points		**10**

Grade Distribution	
Letter	**Percentage**
A	90 -100%
B	80 - 89%
C	70 - 79%
D	60 - 69%
F	≤ 60%

***Final grade calculation: (Lecture exams + Paper Presentation +Attendance + Lab practicals + Extra-Credit points)/700**

NOTE: Graduate students enrolled in BIOL 6500 will have additional assignments and adjusted grading scale in a supplementary syllabus.

Behavior in the Classroom
It is assumed that all students will act in a mature manner in the classroom, showing consideration for their peers and the instructor. Any student who consistently distracts other students or the instructor will be removed from the course. **Cell phones must be turned off or set to silent mode in the classroom.**

Cheating or Plagiarism
Incidents of cheating or plagiarism will result in **an automatic F for the course and referral to The Office of Student Conduct for disciplinary action.** For VSU's Academic Integrity Code please see http://www.valdosta.edu/administration/student-affairs/student-conduct-office/
For VSU's Academic Honesty policies and procedure please see http://www.valdosta.edu/academics/academic-affairs/vp-office/academic-honesty-policies-and-procedures.php

Learning Support

The Academic Support Center: The Academic Support Center provides free peer tutoring for most core courses and some upper-division courses. It also offers time management and study skills workshops as well as other learning support services.
Call 333-7570 to make an appointment, or visit the website: https://www.valdosta.edu/asc/

Odum Library provides a variety of services to assist classroom instruction, including library instruction, course reserves, and interlibrary loan. Please see https://www.valdosta.edu/academics/library/ for further information.

Access Statement: Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: access@valdosta.edu.

Title IX Statement: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus

community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, titleix@valosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

TENTATIVE LECTURE SCHEDULE

Lecture	Date	Topic	Textbook Readings
1	Jan 13	Introduction to the Course	
2	Jan 15	Visualizing Cells	Chapter 9
	Jan 20	**Martin Luther King Holiday-NO CLASS**	
3	Jan 22	Analyzing Cells, Molecules and Systems	Chapter 8
4	Jan 27	Cells and Genomes	Chapter 1
5	Jan 29	Cell Chemistry and Bioenergetics	Chapter 2
6	Feb 3	Energy Conversion: Mitochondria and Chloroplasts	Chapter 14
7	Feb 5	Proteins	Chapter 3
8	Feb 10	DNA, Chromosomes and Genomes	Chapter 4
--	Feb 12	**EXAM 1**	**Lecture 2-7**
9	Feb 17	DNA Replication, Repair and recombination	Chapter 5
10	Feb 19	From DNA to Protein and Control of Gene Expression	Chapter 6-7
11	Feb 24	**Paper Presentation-Group 1, 2 and 3**	
12	Feb 26	**Paper Presentation-Group 4, 5, and 6**	
13	March 2	Membrane Structure	Chapter 10
14	March 4	Membrane Transport of Small Molecules and Electrical Properties of Membranes	Chapter 11
15	March 9	Intracellular Compartments and Protein Sorting	Chapter 12
--	March 11	**EXAM 2**	**Lecture 8-14**
--	March 16	**SPRING BREAK-NO CLASS**	
--	March 18	**SPRING BREAK-NO CLASS**	
16	March 23	Intracellular Membrane Traffic	Chapter 13
17	March 25	Cell Signaling	Chapter 15
18	March 30	**Paper Presentation-Group 7, 8, and 9**	
19	April 1	**Paper Presentation-Group 10, 11 and 12**	
20	April 6	The Cytoskeleton	Chapter 16
21	April 8	The Cell Cycle	Chapter 17
22	Apr 13	Stem Cells and Tissue Renewal	Chapter 22
--	Apr 15	**EXAM # 3**	**Lecture 15-21**
23	Apr 20	Cell Death	Chapter 18
24	Apr 22	Cell Junctions and the Extracellular Matrix	Chapter 19
25	Apr 27	Cancer	Chapter 20
26	April 29	Review	
--	May 4	**EXAM #4**	**Lecture 22-25**
--	Thursday-May 7	**FINAL EXAM 2:45 pm-4:45 pm**	**Optional-Lecture 2-25**

TENTATIVE LABORATORY EXERCISES

Lab	Day:	Topic:
--	Jan 14-15	NO LAB
1	Jan 21-22	Visualizing cells
2	Jan 28-29	Phagocytosis in Tetrahymena
--	Feb 4-5	Effects of ocean acidification on fertilization of sea urchins
3	Feb 11-12	Effects of ocean acidification on cell division and development of sea urchins
4	Feb 18-19	Enzyme kinetics
5	Feb 25-26	Mitochondria isolation and Analysis
6	March 3-4	**Practical exam 1**
--	March 10-11	Membrane permeability
--	March 17-18	**Spring Break-NO LAB**
7	March 24-25	Cell Fractionation
8	March 31-April1	Protein Isolation and Quantification
9	April 7-8	Protein electrophoresis, SDS-PAGE
10	April 14-15	Western Blot
--	April 21-22	Western blot
11	April 28-29	**Practical Exam 2**