

Course Syllabus
BIOL 4500(6500), Cell Biology (4 credit hours)
Spring Semester 2021

Lecture (BC 1011): 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
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Office hours through Collaborate Ultra only:

Tue 2:00 pm- 4:00 pm

Thu 10:00 am- 12:00 pm

Or by appointment (please send me an email to my valdosta.edu account with “appointment” in the subject line).

This course is offered as a face-to-face class. Although we continue to practice social distancing and everyone must wear a face covering while in class, the physical size of the classroom is large enough to accommodate all students registered for the class at the same time for lecture. For the laboratory, the section will be split into two groups: each group will attend a half-time laboratory session face-to-face. Therefore, this class will meet regularly in person on the schedule as listed in Banner. If students must be absent due to a quarantine or isolation requirement for COVID-19, they must report this situation via the COVID Self Reporting Link in MyVSU and through the Dean of Students Office to report any other absences as well. For those circumstances, they will be allowed to access the lecture remotely but they still need to attend the laboratory in person (see below for attendance policy).

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.

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

ASSESSMENTS

Lecture

If you do not attend class on a regular basis you will be at a significant disadvantage.

The lecture assessments will consist of four exams, a comprehensive final exam (optional) and online weekly quizzes (posted on Blazeview).

All exams, including the final, will be taken in class during class time and must be turned in by the scheduled end of class.

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 the lowest grade for tests 1, 2, 3, or 4, the final exam grade will count only once in the course 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.**

Weekly online quizzes

A quiz will be posted on Blazeview each week and it will be due on Sunday of that week, by 11:59 PM. The weekly quiz will cover the two lectures presented during that week (one lecture if it is an exam week). The first quiz will be due on Sunday, January 24th, 11:59 PM.

The quizzes will be open book/notes but they will require students to do a preliminary study of the material covered during the week before taking the quiz. The quizzes will have a time limit but it will be more time per question than usually given during a test. The quiz time will also depend on the number and nature of the questions (definitions, analysis, synthesis, problem solving). The question format will be multiple choice, true/false, matching, or short answers.

Laboratory

The laboratory assessments consist of two practical exams. Students are required to maintain a laboratory notebook. The practical exams will be taken in the laboratory during the scheduled time.

The practical exams questions may include microscope slides, organisms and instrumentation used in the laboratory and a written component.

Face-to-face attendance for the laboratory is mandatory. There are no make-up labs. The students will be split into two groups, one attending for the first hour and 30 minutes of the lab and one attending after that. Further instructions will be given by the Instructor. Attendance will be recorded at the beginning of each laboratory. Students arriving after the first 30 minutes of their assigned laboratory time 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, or take-home assignments.

| Grade Calculation* | | |
|---------------------------------|-----------------------|-------------|
| Assessment | | Max. Points |
| Lecture | Exam 1 | 100 |
| | Exam 2 | 100 |
| | Exam 3 | 100 |
| | Exam 4 | 100 |
| | Final Exam (optional) | (100) |
| | Weekly quizzes | 28 |
| Laboratory | Practical 1 | 100 |
| | Practical 2 | 100 |
| Total Max. Points | | 628 |
| 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 + Weekly quizzes + Lab practicals + Extra-Credit points)/628

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.**

As the Blazer Creed articulates, members of the VSU community are expected to live by the high standards of civility, integrity, and citizenship and embrace their responsibility as a member of the Blazer community. In recognition of this responsibility, and in response to the best available science and current guidance from the Centers for Disease Control and Prevention and the Georgia Department of Public Health, **every student must wear a face covering that covers their nose and mouth at all times while in any campus building, including in this classroom.** This requirement is intended to protect the health and safety of all VSU students, the instructor, and the entire university community. Anyone attending class without a face covering will be asked to put one on or leave. Students should also be sure they maintain a distance of at least six feet away from their fellow students and instructor and are seated in a seat that is designated to ensure that distance. Students who refuse to wear face coverings appropriately or adhere to other stated requirements may face disciplinary action for Code of Conduct violations.

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>

CORONAVIRUS RESOURCES FOR STUDENTS

VSU cares about student success both on and offline, and a variety of resources are available to help students academically and personally during the Spring 2021 semester.

One of the best resources is VSU's Coronavirus FAQ page located at <https://www.valdosta.edu/health-advisory/faq.php>. Information is available there about a variety of topics in VSU's return-to-campus plan. A website devoted to the health and wellness of VSU students can be seen at <https://www.valdosta.edu/administration/finance-admin/campus-wellness/student-resources.php>.

Learning Support

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.

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.

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 Office of Student Affairs.

TENTATIVE LECTURE SCHEDULE

| Lecture | Date | Topic | Textbook Readings |
|----------------|----------------|--|--------------------------|
| 1 | Jan 11 | Introduction to the Course | |
| 2 | Jan 13 | Visualizing Cells | Chapter 9 |
| | Jan 18 | Martin Luther King Holiday-NO CLASS | |
| 3 | Jan 20 | Visualizing Cells | Chapter 9 |
| 4 | Jan 25 | Chromatin Structure and Function | Chapter 4 |
| 5 | Jan 27 | DNA Repair and Transposition | Chapter 5 |
| 6 | Feb 1 | Control of Gene Expression | Chapter 7 |
| 7 | Feb 3 | Control of Gene Expression | Chapter 7 |
| -- | Feb 8 | EXAM 1 | Lecture no. 2-6 |
| 8 | Feb 10 | Membrane Structure | Chapter 10 |
| 9 | Feb 15 | Membrane Transport of Small Molecules and Electrical Properties of Membranes | Chapter 11 |
| 10 | Feb 17 | Membrane Transport of Small Molecules and Electrical Properties of Membranes | Chapter 11 |
| 11 | Feb 22 | Intracellular Compartments and Protein Sorting | Chapter 12 |
| 12 | Feb 24 | Intracellular Membrane Traffic | Chapter 13 |
| -- | March 1 | EXAM 2 | Lecture no. 7-11 |
| 13 | March 3 | Intracellular Membrane Traffic | Chapter 13 |
| 14 | March 8 | Energy Conversion: Mitochondria and Chloroplasts | Chapter 14 |
| 15 | March 10 | Energy Conversion: Mitochondria and Chloroplasts | Chapter 14 |
| 16 | March 15 | Cell Signaling | Chapter 15 |
| -- | March 17 | Wellness Day-NO CLASS | |
| 17 | March 22 | The Cytoskeleton | Chapter 16 |
| 18 | March 24 | The Cell Cycle | Chapter 17 |
| -- | March 29 | EXAM 3 | Lecture no. 12-17 |
| 19 | March 31 | The Cell Cycle | Chapter 17 |
| 20 | April 5 | Cell Death | Chapter 18 |
| 21 | April 7 | Cell Junctions and the Extracellular Matrix | Chapter 19 |
| 22 | Apr 12 | Cell Junctions and the Extracellular Matrix | Chapter 19 |
| 23 | Apr 14 | Cancer | Chapter 20 |
| 24 | Apr 19 | Stem Cells and Tissue Renewal | Chapter 22 |
| 25 | Apr 21 | Stem Cells and Tissue Renewal | Chapter 22 |
| 26 | Apr 26 | Review | |
| -- | April 28 | EXAM 4 | Lecture no. 18-25 |
| -- | Thursday May 6 | FINAL EXAM 2:45-4:45 pm | |

TENTATIVE LABORATORY EXERCISES

| Lab | Day: | Topic: |
|-----|-------------|--|
| -- | Jan 12-13 | NO LAB |
| 1 | Jan 19-20 | Visualizing cells |
| 2 | Jan 26-27 | Membrane permeability |
| 3 | Feb 2-3 | Enzyme kinetics I |
| 4 | Feb 9-10 | Enzyme kinetics II |
| -- | Feb 16-17 | Wellness Day-NO LAB for the week |
| 5 | Feb 23-24 | Phagocytosis in Tetrahymena I |
| 6 | March 2-3 | Phagocytosis in Tetrahymena II |
| -- | March 9-10 | Practical exam 1 |
| -- | March 16-17 | Wellness Day-NO LAB for the week |
| 7 | March 23-24 | Tissue homogenization |
| 8 | March 30-31 | DNA extraction |
| 9 | April 6-7 | DNA quantification and electrophoresis |
| 10 | April 13-14 | Genomic library preparation and sequencing |
| -- | April 20-21 | Sequence analysis |
| 11 | April 27-28 | Practical Exam 2 |