



UVA IN VALENCIA PROGRAM

BIOL 3000 – CELL BIOLOGY FALL 2026

I. COURSE DESCRIPTION

This course will examine fundamental principles of cell biology at the molecular level, focusing on eukaryotes. Learning objectives will be presented during the first lecture. Topics will include macromolecular assembly, membrane transport and structure, protein trafficking, vesicular trafficking and organelle biogenesis, cell signalling, cytoskeleton, and cell growth and division.

II. GRADING SCALE AND BREAKDOWN

A 10-9	B+ 7,9-7	C 5,4-5	F 4,9-0
A- 8,9-8	B 6,9-6		
	B- 5,9-5,5		

In class progressive evaluations (best 5 of weekly x10 mcq tests)	25%
Individual Oral Presentation	20%
Midterm exam	20%
Final exam	20%
Attendance and participation (in-class and feedback forms)	15%

In-class progressive evaluations (25%)

There will be **eight short MCQ tests**, each held at the beginning of eight different sessions. Only your **best five scores will count toward the final 25% of your grade**. This means you have flexibility: if you miss one or two tests due to illness, lateness, or any other reason, you will not be penalized. Because of this system, no make-up tests will be offered unless you miss more than five tests in total. If you are late or absent, you simply lose the opportunity to take that test.

Tests are scheduled at the start of class to reduce stress and allow the rest of the session to focus on learning. For this reason, punctuality is essential, especially on test days. All test dates are listed in the course schedule so you can plan ahead.

These rules have been designed carefully to ensure fairness and flexibility for everyone. Counting only the best five scores gives students room for unexpected situations without affecting their final grade. Limiting make-up tests avoids logistical challenges and ensures equal treatment for all. Starting tests at the beginning of class helps maintain a calm and focused learning environment. Finally, announcing dates in advance provides transparency and allows you to organize your time effectively.

Individual Oral Presentation (20%)

Students will research and present a topic related to the themes and issues discussed throughout the course. Each student will deliver an individual 7-minute oral presentation following a set of guidelines that will be provided approximately one month before the presentation date.

Presentation topics will be assigned/released two weeks before the presentation is due. Students must submit their presentation materials by 12:00 p.m. (noon) on the day before their scheduled presentation via email.

Presentations will be delivered in front of the entire class. Following each presentation, classmates and the instructor will have the opportunity to ask questions and engage in discussion related to the topic. Students are expected to demonstrate preparation, effective communication skills, and a solid understanding of their chosen topic.

Assessment criteria will include content quality, organization, delivery, use of supporting materials, and ability to respond to questions.

Midterm exam (20%)

This exam will cover the material you worked on since the beginning of the course until the week before the exam. Only topics covered during course will be asked. The format of the exam will be composed by one or several of each of the following types of exercises: multiple choice questions, definitions, concept questions, numerical calculations, problems. More information will be given during the last week of class before the Midterm Exam.

Final exam (20%)

This exam will cover the second half of the course. Only topics covered during course will be asked. The format of the exam will be multiple choice questions. More information will be given during the last week of class before the Final Exam.

Attendance and participation (15%)

Students will have the opportunity to discuss their learning through team-based learning activities, open in-class discussions, and quizzes. Team based learning activities and quizzes will be typically between 5-10 questions: multiple-choice questions, application or numerical calculation or problems, etc. and they will be graded as done/not done.

Students are expected to comply with the assigned work plan on a weekly basis. Coming prepared to class is essential to the learning process. The following rubric is important regarding participation grades:

A The student always attends class, arrives on time, prepares the class and complies with the work plan assigned; they participate voluntarily and frequently, work well in a team, and contribute positively to the classroom environment. They hand over homework when assigned, fill out surveys when asked and actively participate in TBL activities and open discussions.

B The student participates voluntarily and frequently by answering questions from the teacher

C The student participates sporadically when the teacher asks and he/she/they occasionally asks questions.

D The student does not make effort to participate or minimum work is done.

F The student is absent and shows disrespect to other peers and to the professor.

III. BIBLIOGRAPHY AND MATERIALS

Materials and slides will be posted online before class. Sometimes we may also use external articles when appropriate. All material needed along the course will be at your disposition online, so you do not need to buy any book.

The following **bibliography** may also be useful, but purchase is not mandatory:

Hardin and Bertoni. 2022. *Becker's World of the Cell*, 10th Ed. Benjamin Pearson.

IV. COURSE PLANNING AND CALENDAR

A complete syllabus is found below. The order of topics and readings may vary slightly; the first slide of every lecture will contain the most up-to-date learning outcomes. Changes to the syllabus will be announced in class, emailed or posted online.

SESSIONS-DATES	CONTENTS
1. Mon 09/07	Course introduction & Foundations of Cell Theory.
2. Wed 09/09	Visualizing cells and organelles.
3. Wed 09/09	Museum Visit. Following Santiago Ramón y Cajal's steps.
4. Mon 09/14	Macromolecules of the cell.
5. Wed 09/16	Cells and organelles (overview). DNA, Chromosomes, and the Nucleus.
6. Wed 09/16	Discussion Session 10xMCQ MOCK TEST
7. Mon 09/21	10xMCQ Test 1; up to 09/16 Central Dogma of Biology, DNA Replication.
8. Wed 09/23	DNA Mutation & Repair.
9. Wed 09/23	Discussion Session
10. Mon 09/28	10xMCQ Test 2; from 09/16 to 09/23 Transcription.
11. Wed 09/30	Translation & mutations.
12. Wed 09/30	Discussion Session
13. Mon 10/05	10xMCQ Test 3; from 09/23 to 09/30 Protein Folding, Modification & Degradation
14. Wed 10/07	Bioenergetics & Metabolism & Enzyme Catalysis
15. Wed 10/07	Discussion Session
12-16 OCTOBER	FALL BREAK
16. Mon 10/19	<u>Mitochondria I.</u>
17. Mon 10/21	Mitochondria II.
18. Wed 10/21	10xMCQ Test 4; to 09/30 to 10/07 Discussion Session
19. Mon 10/26	10xMCQ Test 5; from 10/07 to 10/21 Review
20. 10/28	Mid-term exam
21. 10/28	Mid-term exam

22. 11/02	Biomembrane Structure I
23. 11/04	Biomembrane Structure I
24. 11/04	Transport across membranes. Discussion Session
25. 11/09	10xMCQ Test 5; from 10/21 to 11/04 The Endomembrane system I
26. 11/11	The Endomembrane system II -
27. 11/11	Discussion Session Student presentations
28. 11/16	10xMCQ Test 6; from 11/04 to 11/11 Signal Transduction I
29. 11/18	Signal Transduction II
30. 11/18	Cytoskeletal systems & cellular movement I Discussion
31. 11/20	10xMCQ Test 7; from 11/11 to 11/18 Cytoskeletal systems & cellular movement II
32. 11/23	Cell adhesions, junctions and extracellular structures.
33. 11/25	Sexual Reproduction, Meiosis and Genetic Recombination Discussion
34. 11/25	INVITED SPEAKER TBC
35. 12/9	10xMCQ Test 8; from 11/18 to 11/25 Hallmarks of Cancer,
36. 12/09	Final review session.
37. 14-17 DECEMBER	FINAL EXAM (Follow official schedule)

IMPORTANT INFORMATION

1) Use of Spanish at the Center

The use of Spanish at the Center is strongly encouraged. Remember that you have come to Spain to learn Spanish and immerse yourself in its culture, and there is no better way to do so than by using Spanish on as many occasions as possible.

2) Class Attendance and Tardiness

2.1) Attendance and punctuality are essential for the successful completion of the course. Consequently, unexcused absences and lateness will negatively affect the final grade.

2.2) Only one unexcused absence is permitted. Please bear this in mind when planning trips or outings.

2.3) Arriving more than 5 minutes late to class will count as half an absence (1/2). It is the student's responsibility to notify the instructor of an absence before the class begins.

2.4) Arriving more than 30 minutes late to class will be considered an absence.

2.5) Four (4) unexcused absences will result in the student not receiving credit for the course.

2.6) Only documented absences will be considered excused: a religious holiday, a family emergency, or a medical appointment. Medical absences must be supported by a doctor's note and submitted at reception on the day the student returns to class after the incident has ended.

3) Academic Integrity

3.1) The exchange of information is not only permitted but is also a way of enriching the knowledge acquired during the course. However, all work submitted for each course must be individual and original in every respect. Any sources and direct quotations used must be properly cited.

3.2) Remember that the use of artificial intelligence to complete assignments or examinations is strictly prohibited unless an instructor expressly states otherwise. Such use constitutes a lack of authenticity, and may amount to direct plagiarism, in

addition to undermining the development of critical thinking and writing skills, which are among the primary goals of this program. Failure to comply with this rule will result in a grade of “F” for the course.

3.3) Any work that has received credit for one course will NOT be accepted for credit in another course. There will be NO exceptions to this rule. Reusing such work will result in immediate failure of the second course. If assignments for two different courses are related in any way and the student has questions about whether the second project is permissible, the matter must be discussed with all instructors involved. This will prevent any possible unintentional violation of this rule.

3.4) As with punctuality, assignments must be submitted on time. Any late submission will result in a reduction of the grade for that assignment.

3.5) Failure to comply with the provisions set out above will result in the loss of the corresponding course credits for the course in which these rules have been violated.

3.6) If you have a documented special need that requires academic accommodations (SDAC), it must be certified by your home institution. Please contact the Head of Studies in Valencia, María Andrés (maria.andres@uvavalencia.org).

4) Activities, Workshops, and Lectures

Throughout the course, various activities, workshops, and lectures are organized. Participation may be voluntary or mandatory if the instructor considers the activity relevant to the course.

5) Classroom Conduct

5.1) It is very important that all students arrive to class on time, prepared, and with the materials needed for the day. During class, students must treat one another and the instructor with respect, demonstrate a positive attitude, and help create a participatory and collaborative environment that supports effective learning. Any violation of these expectations will have direct consequences.

5.2) Electronic devices (laptop, mobile phone, smartwatch) may be used in class only for course-related purposes. If a student uses such technology for personal reasons during class, the student may be penalized with an unexcused absence.

5.3) The use of computer or electronic technology during examinations is prohibited unless the instructor determines otherwise in accordance with the examination format.

6) Course Content

On occasion, and always within the context of the course, certain “sensitive” topics may be addressed both inside and outside the classroom. Therefore, if a student feels offended by such content in a particular class, the student may leave the class, and doing so will not have any negative effect whatsoever on the final grade. Faculty members will always be open to communication and dialogue in order to promote better intercultural understanding.

7) Final Clarification

The instructor may modify or add activities and/or change the dates indicated according to the learning needs of the group. Effective learning requires not only careful planning, but also a certain degree of flexibility.