



**BIOL-1040 PRINCIPLES OF BIOLOGY I
SAINT LOUIS UNIVERSITY-MADRID CAMPUS
DIVISION OF SCIENCE AND ENGINEERING**

Lecturer:	María-José Morell
e-mail:	mmorell@slu.edu
Credits:	3+1(lab)
Semester:	Spring 2016
Timetable:	10:00 - 10:50 (MWF)
Office hours:	9:15am-10:00am and 12:00pm - 13:00pm (M/W/F) Other times by appointment
Prerequisites:	none

I Course Description

To provide a basic introduction to biology, the study of life. At the end of the course, the student should have a clear understanding of basic biological principles and concepts. Laboratory sessions will complement the material covered in class.

II Course Contents

Part 1: The Chemistry of Life; the chemical context of life; water and the fitness of the environment; carbon and molecular diversity; the structure and function of macromolecules; an introduction to metabolism

Part 2: The Cell: Cell structure and function; membrane structure and function; cellular Energy I: Photosynthesis; Cellular Energy II: Cellular respiration; Cellular Reproduction I: Mitosis; Cellular Reproduction II: Meiosis

Part 3: The Genetic basis of life; Mendelian patterns of inheritance; Chromosomes and genes; The molecular basis of inheritance (DNA); From gene to protein (the "central dogma" of biology); Genetics of viruses, bacteria and gene expression in eukaryotes

III Learning outcomes

Expected knowledge, skills and abilities:

- Students will demonstrate knowledge and understanding of the topics covered.
- Students will apply their knowledge to understand and connect higher levels, as well as to evaluate and solve problems.
- Students will develop a critical thinking following the scientific method steps, and apply it to the topics covered in class and in lab.

- Students will learn to work in teams and how to distribute tasks to make their work more efficient.

IV Course outline

Week 1: The Chemistry of Life, the Chemical context of life

Week 2: Water and the fitness of environment; Carbon and molecular diversity. The structure and function of macromolecules

Week 3: Cell structure and function

Week 4: Membrane structure and function

Week 5: Review and First exam

Week 6: An introduction to metabolism

Week 7: Cellular respiration

Week 8: Photosynthesis

Week 9: Review and Second exam

Week 10: Mitosis and Meiosis

Week 11: The Genetics basis of life; Mendelian patterns of inheritance

Week 12: The chromosomal basis of inheritance

Week 13: The molecular basis of inheritance

Week 14: From gene to protein. Genetics of viruses, Bacteria, Eukaryotes

Week 15: Review week and final exam

IMPORTANT DATES:

January 26 - Last Day to Drop a Class Without a Grade of W and /or Add a Class

February 17 - Registration for Summer 2016 Sessions begins

March 11 - Last Day to Drop a Class and Receive a Grade of W

April 6 - Registration for Fall 2016 Semester begins

May 3 - Spring 2016 Final Day of Classes

V Textbook:

Biology by Campbell, 10th edition. Reece et al., 2013. Benjamin Cummings/Pearson. ISB 978--0321775658

Additional Bibliography and Web Sites:

Biology texts are held in the library. There is wide selection and it's advisable to go and have a browse. In particular, the following are recommended:

- Molecular Cell Biology (Lodish, Baltimore et al)
- Molecular Biology of the Cell (Alberts, Bray et al)
- Biochemistry (Stryer)
- Biology: Concepts and Connections (Campbell, Mitchell, Reece)
- Life: the science of biology (Purves, Orions et al)

VI Examinations:

There will be three exams:

- First exam: Monday, February 22
- Second exam: Wednesday, March 16

The first exam will examine the material covered up to this exam.

The second exam will examine the material covered *after* the first one.

There is one final exam:

- Wednesday, May 4 (8:30-11:30)

The final exam will examine the material covered *after* the second exam.

However, there is also a different final exam that examines all of the course material. This exam is obligatory for students who fail or miss either first or second exams. It is voluntary for any students who, having done their exams, would like to try and improve their grade (but a poor result may obviously reduce the grade).

All students are also invited to prepare a paper (around 10 pages) and a presentation when corrected to improve their grade. Deadlines will be posted on Blackboard Learn.

VII Grading System

VERY IMPORTANT: Students should have a grade of D or more for the laboratory. A laboratory grade of F will result in a final grade of F for the course.

The final grade is calculated as follows:

First exam: 20%

Second exam: 20%

Final exam: 20%

Homework assignments: 15%

Laboratory grade: 25%

Grading System

A	93-100%,
A-	90-92.9%
B+	87-89.9%
B	83-86.9%
B-	80-82.9%
C+	77-79.9%
C	73-76.9%
C-	70-72.9%
D	60-69.9%
F	0-59.9%

Homework assignments are on Blackboard, and they will be collected the first day of class of every week. They will be marked and returned to the student. Home-works are not accepted if handed-in late.

XIII Academic Honesty

The University is a community of learning, whose effectiveness requires an environment of

mutual trust and integrity, such as would be expected at a Jesuit, Catholic institution. As members of this community, students, faculty, and staff members share the responsibility to maintain this environment. Academic dishonesty violates it. Although not all forms of academic dishonesty can be listed here, it can be said in general that soliciting, receiving, or providing any unauthorized assistance in the completion of any work submitted toward academic credit is dishonest. It not only violates the mutual trust necessary between faculty and students but also undermines the validity of the University's evaluation of students and takes unfair advantage of fellow students. Further, it is the responsibility of any student who observes such dishonest conduct to call it to the attention of a faculty member or administrator.

Examples of academic dishonesty would be copying from another student, copying from a book or class notes during a closed-book exam, submitting materials authored by or editorially revised by another person but presented as the student's own work, copying a passage or text directly from a published source without appropriately citing or recognizing that source, taking a test or doing an assignment or other academic work for another student, tampering with another student's work, securing or supplying in advance a copy of an examination without the knowledge or consent of the instructor, and colluding with another student or students to engage in an act of academic dishonesty.

Where there is clear indication of such dishonesty, a faculty member or administrator has the responsibility to apply appropriate sanctions. Investigations of violations will be conducted in accord with standards and procedures of the school or college through which the course or research is offered. Recommendations of sanctions to be imposed will be made to the dean of the school or college in which the student is enrolled. Possible sanctions for a violation of academic integrity include, but are not limited to, disciplinary probation, suspension, and dismissal from the University. The complete SLU Academic Honesty Policy can be found at the following link:

<http://www.slu.edu/Documents/Madrid/academics/AcademicIntegrity.pdf>

IX Policies

- (1) Students are encouraged to participate in class discussions and to ask questions.
- (2) Announcements may be made during the semester.
- (3) Useful information for the course may be found on Blackboard
- (4) Syllabus, reading and homework problems are subject to change.
- (5) Students are responsible for all lecture material, handouts, homework and assigned reading.
- (6) It is mandatory to attend all classes unless a reasonable excuse is given.
- (7) Make up exams are not given. Students who legitimately miss an exam, due to a doctor's visit or family emergency must provide written documentation of the circumstances. A letter from the university counselor is accepted. Exams that are missed illegitimately result in a score of F. Grades for these students will be based on the remaining exams. Missing more than one exam results in an F grade.

Title IX Statement:

Saint Louis University and its faculty are committed to supporting our students and seeking an environment that is free of bias, discrimination, and harassment. If you have encountered any form of sexual misconduct (e.g. sexual assault, sexual harassment, stalking, domestic or dating violence), we encourage you to report this to the University. If you speak with a faculty member about an incident of misconduct, that faculty member must notify SLU's Title IX deputy coordinator, Marta Maruri, whose office is located on the ground floor of Padre Rubio Hall, Avenida del Valle, 28 (mmaruri@slu.edu; 915-54-5858 ext. 213) and share the basic fact of your experience with her. The Title IX deputy coordinator will then be available to assist you in understanding all of your options and in connecting you with all possible resources on and off campus.

If you wish to speak with a confidential source, you may contact the counselors at the SLU-Madrid's Counseling Services on the third floor of San Ignacio Hall (counselingcenter-madrid@slu.edu; 915-54-5858 ext. 230) or Sinews Multiple therapy Institute, the off-campus provider of counseling services for SLU-Madrid (www.sinews.es; 91-700-1979) To view SLU-Madrid's sexual misconduct policy and for resources, please visit the following web address: <http://www.slu.edu/Documents/Madrid/campus-life/SLUMadridSexualMisconductPolicy.pdf>.

Accommodations:

In recognition that people learn in a variety of ways and that learning is influenced by multiple factors (e.g., prior experience, study skills, learning disability), resources to support student success are available on campus. Students who think they might benefit from these resources can find out more about: Course-level support (e.g., faculty member, departmental resources, etc.) by asking your course instructor. University-level support (e.g., tutoring/writing services, Disability Services) by visiting the Academic Dean's Office (San Ignacio Hall) or by going to <http://www.slu.edu/madrid/learning-resources>.

Students who believe that, due to a disability, they could benefit from academic accommodations are encouraged to contact Disability Services at +34 915 54 58 58, ext. 230, send an e-mail to counselingcenter-madrid@slu.edu, or to visit the Counseling Office (San Ignacio Hall). Confidentiality will be observed in all inquiries. Course instructors support student accommodation requests when an approved letter from Disability Services has been received and when students discuss these accommodations with the instructor after receipt of the approved letter.

Information regarding the collection of student work for assessment.

Saint Louis University - Madrid Campus is committed to excellent and innovative educational practices. In order to maintain quality academic offerings and to conform to relevant accreditation requirements, we regularly assess our teaching, services, and programs for evidence of student learning outcomes achievement. For this purpose we keep on file anonymized representative examples of student work from all courses and programs such as: assignments, papers, exams, portfolios, and results from student surveys, focus groups, and reflective exercises. Thus, copies of your work for this course may be kept on file for

institutional research, assessment and accreditation purposes. If you prefer that Saint Louis University-Madrid Campus does not keep your work on file, you will need to communicate your decision in writing to your professor.