



SAINT LOUIS UNIVERSITY
MADRID

BIOL 1245 M36: Principles of Biology I Laboratory Spring 2018

Class Days and Time: W 16:00-18:50

Classroom: PAH 22

Prerequisite(s): None

Credit(s): 1

Instructor: Maria José Morell

Instructor's Email: mariajose.morell@slu.edu

Instructor's Campus Phone: 91 554 58 58, ext. 232

Office: PAH-206

Office Hours: M/W 11:30-13:30, T/R 11:30-12:30 and upon request

Course Description: To provide a direct hands-on experience with Biology and an opportunity to apply the scientific method. Students will acquire basic laboratory skills and should be able to successfully use them to carry out experiments.

Course Goals and Student Learning Outcomes: At the end of the course, students will:

- A. Know and understand the core concepts of biology:
 1. evolution as the unifying principle of biological science;
 2. the relationship between structure and function;
 3. transfer of energy and matter within and among organisms and the environment;
 4. transmission, flow and processing of information;
 5. the interconnectedness of biological systems.
- B. Connect and integrate their knowledge and understanding across all scales of biological organization, from cells and molecules to organisms and ecosystems.
- C. Understand the process by which scientific knowledge is constructed, analyzed and interpreted.
- D. Graduates will use scientific reasoning and appropriate techniques to propose research questions, articulate hypotheses, design and conduct experiments, represent results, and interpret data to draw appropriate conclusions.
- E. Graduates will be self-directed learners who seek information independently and use it to grow their knowledge base.
- F. Graduates will be able to effectively communicate their understanding of biology and/or their research findings, to diverse audiences and in multiple formats.

Student Learning Outcomes

Program Objectives	Student Learning Outcomes	Assessment Method
A	A.1. Learn how to use biochemical tests to study specific macromolecules and different biochemical and cellular processes. A.2. Learn how to use the light microscope. A.3. Recognize the diversity of cell types and functions by working with cells from prokaryotes and different eukaryotic organisms.	Lab work and observations Lab discussions Lab reports

	A.4. Learn to use lab equipment safely and effectively.	
D	D.1. Design and perform experiments by using laboratory skills and techniques. D.2. Analyze results from experiments and interpret the significance of these results. D.3. Introduction to hypothesis generation, and the use of null hypotheses in biology. D.4. Learn to synthesize and analyze data	Lab work and observations Lab discussions Lab reports Midterm Lab
E	E.1. Search for additional information related to each lab session. E.2. Propose a hypothesis for each lab session. E.3. Apply concepts learned in lecture to demonstrate biological processes	Pre-Lab questions Lab discussions Lab reports
F	F.1. Communicate clearly and effectively when describing processes and experiments.	Pre-Lab questions Lab discussions Lab reports

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, the Campus regularly assesses its teaching, services, and programs for evidence of student learning outcomes achievement. For this purpose anonymized representative examples of student work from all courses and programs is kept on file, such as assignments, papers, exams, portfolios, and results from student surveys, focus groups, and reflective exercises. *Thus, copies of student work for this course, including written assignments, in-class exercises, and exams may be kept on file for institutional research, assessment and accreditation purposes.* If students prefer that Saint Louis University - Madrid Campus does not keep their work on file, they need to communicate their decision in writing to the professor.

Required Texts and Materials: The laboratory manual (BIOL---1245 Lab) is required for this course. Each student MUST bring the manual to the lab sessions. The lab manual is available at the Bookstore.

Attendance Policy: It is mandatory to attend all labs unless a reasonable excuse is given. Any unexcused absences in excess of 3 will result in a lowered grade and even in automatic failure in the course.

Legitimate conflicts and excuses require written documentation. The documentation must be presented on the day the student returns to the university. Excuses that will NOT be considered include personal travel arrangements, non-University sponsored events, a conflicting appointment, or an illness that does not prevent you from coming to the exam.

Students will be responsible for any announcements, information, problems or course changes that are made in all classes. Students are expected to arrive on time to the lectures. Repeated lateness will not be tolerated.

Course Requirements and Grading Rationale/System:

- Each student MUST wear a lab coat during every lab session. Students need to bring their lab coat to the lab.
- Students should read each lab exercise before coming to the lab.
- Lab and equipment is shared with other Science courses, therefore, students MUST clean up the used material and the working area before leaving each session. This includes properly putting away the microscopes, washing any equipment and discarding the used material in the proper container. Neglecting to do this will result in the entire working group receiving a five-point deduction from that lab.
- For safety reasons, absolutely no food or drink is permitted in the lab.

Lab reports are based on experiments performed in lab and should be written completely in your own words.

Lab reports are **DUE at the start of the following laboratory session** (check schedule). Late lab reports will not be accepted.

Lab reports must include the following sections:

1. **Purpose of the lab:** In this section, you should indicate the objectives of the lab, and the theoretical concepts that you are supposed to learn, in your own words.
2. **Procedure:** This should be a summary of the methods and techniques used during each lab session.
3. **Results:** You must indicate the results obtained in the practice. Attach or copy any result section (tables, drawings) from your Lab Manual, or re--draw figures and tables.
4. **Discussion:** Did the results agree with the "expected" result? If so, briefly explain. If not, why not? Discuss any problem or source of error which could have influenced the experimental measurement. Make your comments about the results and/or observations.
5. **Questions:** Answer the questions given at the end of the lab (if any). Be sure to answer the question and not just put down general information

Lab grades are independent of lecture grades. This grade will be determined by attendance, satisfactory performance on the laboratory exercises, completion of the laboratory reports, laboratory pre---lab questions and proper and complete cleanup of the laboratory space. The final grade is calculated as follows:

Final exam: 35%

Pre-lab questions: 10%

Lab Reports: 50%

Attitude, laboratory work, cleanup: 5%

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%

E-mail: Campus and course announcements will often be handled by e-mail. Students should check their "@slu.edu" e-mail regularly.

University Statement on Academic Integrity: Academic integrity is honest, truthful and responsible conduct in all academic endeavors. The mission of Saint Louis University is "the pursuit of truth for the greater glory of God and for the service of humanity." Accordingly, all acts of falsehood demean and compromise the corporate endeavors of teaching, research, health care and community service via which SLU embodies its mission. The University strives to prepare students for lives of personal and professional integrity, and therefore regards all breaches of academic integrity as matters of serious concern.

The governing University-level Academic Integrity Policy can be accessed on the Provost's Office [website](#) at:. Additionally, SLU-Madrid has posted its academic integrity policy online: <http://www.slu.edu/madrid/academics>. As a member of the University community, you are expected to know and abide by these policies, which detail definitions of violations, processes for reporting violations, sanctions and appeals.

The professor will review these matters during the first weeks of the term. Please direct questions about any facet of academic integrity to your faculty, the chair of the department of your academic program or the Academic Dean of the Madrid Campus.

University 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 (marta.maruri@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 Multiplettherapy Institute, the off-campus provider of counseling services for SLU-Madrid (www.sinews.es; 917-00-1979). 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>.

Students with Special Needs: 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 with a documented disability who wish to request academic accommodations must contact Disability Services to discuss accommodation requests and eligibility requirements. Once successfully registered, the student also must notify the course instructor that they wish to access accommodations in the course. Please contact Disability Services at disabilityservices-madrid@slu.edu or +915 54 58 58, ext. 230 for an appointment. Confidentiality will be observed in all inquiries. Once approved, information about the student's eligibility for academic accommodations will be shared with course instructors via email from Disability Services. For more information about academic accommodations, see "Student Resources" on the SLU-Madrid webpage.

Note: Students who do not have a documented disability but who think they may have one are encouraged to contact Disability Services.

Spring 2018 Course Schedule:

JANUARY	
Wednesday 10	First Day of Classes
Thursday 11	
Friday 12	
Monday 15	
Tuesday 16	
Wednesday 17	Introduction
Thursday 18	
Friday 19	
Sunday 21	Last Day to Drop a Class without a Grade W and/or Add a Class; Last Day to Choose Audit (AU) or Pass/No Pass (P/NP) Options
Monday 22	
Tuesday 23	
Wednesday 24	Carbohydrates
Thursday 25	
Friday 26	No Classes Application Deadline for Spring Semester Degree Candidates
Monday 29	

Tuesday 30	
Wednesday 31	Lipids
FEBRUARY	
Thursday 1	
Friday 2	
Monday 5	
Tuesday 6	
Wednesday 7	Proteins
Thursday 8	
Friday 9	
Monday 12	
Tuesday 13	
Wednesday 14	Ash Wednesday Registration for Summer 2018 Begins Enzymes
Thursday 15	
Friday 16	
Monday 19	
Tuesday 20	
Wednesday 21	DNA
Thursday 22	No Classes (Winter Break)
Friday 23	
Monday 26	
Tuesday 27	Professors' Deadline to Submit Midterm Grades
Wednesday 28	Biological Membranes
MARCH	
Thursday 1	
Friday 2	
Monday 5	
Tuesday 6	
Wednesday 7	Microscope
Thursday 8	
Friday 9	Last Day to Drop a Class and Receive a Grade of W
Monday 12	
Tuesday 13	
Wednesday 14	Plants and Animals
Thursday 15	Last Day to Submit Transfer Application for Fall Semester
Friday 16	
Monday 19	
Tuesday 20	
Wednesday 21	Protozoa and Fungi
Thursday 22	
Friday 23	
Monday 26	<i>Semana Santa</i> Holiday (Campus Closed)
Tuesday 27	
Wednesday 28	
Thursday 29	<i>Jueves Santo</i> (Campus Closed)
Friday 30	<i>Viernes Santo</i> (Campus Closed)
APRIL	
Monday 2	
Tuesday 3	
Wednesday 4	Registration for Fall 2018 Semester Begins Bacteria
Thursday 5	

Friday 6	
Monday 9	
Tuesday 10	
Wednesday 11	Cell Respiration
Thursday 12	
Friday 13	
Monday 16	
Tuesday 17	
Wednesday 18	Photsynthesis/Mitosis
Thursday 19	
Friday 20	
Monday 23	
Tuesday 24	
Wednesday 25	FINAL LAB EXAM
Thursday 26	
Friday 27	
Monday 30	
MAY	
Tuesday 1	<i>Día del Trabajador (Campus Closed)</i>
Wednesday 2	<i>Día de la Comunidad (Campus Closed)</i>
Thursday 3	Spring 2018 Final Day of Classes
Friday 4	Spring 2018 Final Exams
Monday 7	
Tuesday 8	
Wednesday 9	
Thursday 10	
Friday 11	University Housing Move-out Date
Saturday 12	Commencement
Sunday 13	Professors' deadline to submit spring 2018 final grades

Final Exam Schedules Spring 2018

	4 May (Fr)	7 May (Mn)	8 May (Tu)	9 May (Wd)	10 May (Th)
08:30-11:30	Mn classes that meet at 9:00 & 9:30	Mn classes that meet at 10:00	Mn classes that meet at 11:00 & 11:30	Tu classes that meet at 9:30	Tu classes that meet at 8:00
12:00-15:00	Tu classes that meet at 11:00	Mn classes that meet at 13:00	Tu classes that meet at 14:30	Mn classes that meet at 12:00 & 12:30	Tu classes that meet at 12:30
15:30-18:30	Mn classes that meet at 14:30	Tu classes that meet at 17:00 & 17:30	Mn classes that meet at 16:00	Tu classes that meet at 16:00	Mn classes that meet at 17:30
19:00-22:00	---	---	Mn classes that meet at 18:30 & 19:00	Tu classes that meet at 19:00	---