



SAINT LOUIS UNIVERSITY
MADRID

BIOL 1240 M01: Principles of Biology I Spring 2018

Class Days and Time: MWF, 10:00-10:50

Classroom: PAH 24

Prerequisite(s): None

Credit(s): 3

Instructor: María 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: This course is designed to provide a presentation of the basic concepts of biology, and understand and apply the scientific method to the study of life. The course is appropriate to students majoring in biology, the health professions, and other disciplines.

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

- A. Know and understand the core concepts of biology:
 - evolution as the unifying principle of biological science;
 - the relationship between structure and function;
 - transfer of energy and matter within and among organisms and the environment;
 - transmission, flow and processing of information;
 - 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. Describe the structure and function of subatomic, atomic, molecular, organelle and cell level components. A.2. Describe the catabolic and anabolic processes in the cell. A.3. Describe the transport mechanism across a membrane. A.4. Describe the cell signaling process. A.5. Describe the division processes.	Weekly quizzes Partial and Final Exams . Conceptual questions . Apply knowledge questions . Problems

	A.6. Describe Mendel laws and experiments. A.7. Describe the structure of chromosomes, their interactions, and what happens when there is a different number or a different structure. A.8. Describe the processes of replication, transcription and translation. A.9. Describe the types of small-scale DNA mutations.	
B	B.1. Apply the structure and function of lower levels to upper levels, to understand how they are interconnected. B.2. Understand how the different structural levels depend on an increased degree of complexity to integrate new functions.	Weekly quizzes Partial and Final Exams . Conceptual questions . Apply knowledge questions . Problems Class Discussions
C	C.1. Understand the steps of the scientific method, and develop a critical thinking. C.2. Apply the scientific method to understand how it has been used to identify structures and to describe biological processes.	Weekly quizzes Partial and Final Exams . Conceptual questions . Apply knowledge questions . Problems Class Discussions
F	F.1. Communicate clearly and effectively when describing processes and structures.	Partial and Final Exams . Conceptual questions . Apply knowledge questions

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:

Text book: Campbell, et al. 2015. Biology A Global Approach (10th ed.). Pearson, San Francisco, CA.

Mastering Biology (www.masteringbiology.com)

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)

Attendance Policy: It is mandatory to attend all classes 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 lectures. Students are expected to arrive on time to the lectures. Repeated lateness will not be tolerated.

Course Requirements and Grading Rationale/System:

The final grade is calculated as follows:

First exam: 30%

Second exam: 30%

Final exam: 30%

Homework assignments: 10%

In case any student misses or fails either the first or the second or both exams, there is a mandatory comprehensive final exam. The final grade then will be calculated as:

First exam: 17.50%

Second exam: 17.50%

Final exam: 55%

Homework assignments: 10%

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%

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.

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. Introduction to Biology
Thursday 11	
Friday 12	Atoms and Molecules
Monday 15	The Chemistry of Water
Tuesday 16	
Wednesday 17	The Chemistry of Water cont.
Thursday 18	
Friday 19	Carbon, the Basis of Molecular Diversity
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	Biological Macromolecules: Carbohydrates and Lipids
Tuesday 23	

Wednesday 24	Biological Macromolecules: Proteins
Thursday 25	
Friday 26	No Classes Application Deadline for Spring Semester Degree Candidates
Monday 29	Biological Macromolecules: Nucleic Acids
Tuesday 30	
Wednesday 31	Energy and Life
FEBRUARY	
Thursday 1	
Friday 2	Energy and Life cont. Cell Structure and Function
Monday 5	Cell Structure and Function
Tuesday 6	
Wednesday 7	Cell Structure and Function cont. Cell Membranes
Thursday 8	
Friday 9	Cell Membranes cont.
Monday 12	Review
Tuesday 13	
Wednesday 14	Ash Wednesday Registration for Summer 2018 Begins FIRST EXAM
Thursday 15	
Friday 16	Cellular signaling
Monday 19	Cellular signaling cont.
Tuesday 20	
Wednesday 21	Cell Respiration
Thursday 22	No Classes (Winter Break)
Friday 23	
Monday 26	Cell Respiration cont.
Tuesday 27	Professors' Deadline to Submit Midterm Grades
Wednesday 28	Cell Respiration cont.
MARCH	
Thursday 1	
Friday 2	Photosynthetic Processes
Monday 5	Photosynthetic Processes cont.
Tuesday 6	
Wednesday 7	Photosynthetic Processes cont.
Thursday 8	
Friday 9	Last Day to Drop a Class and Receive a Grade of W Mitosis
Monday 12	Mitosis cont.
Tuesday 13	
Wednesday 14	Meiosis
Thursday 15	Last Day to Submit Transfer Application for Fall Semester
Friday 16	Meiosis cont.
Monday 19	Review
Tuesday 20	
Wednesday 21	SECOND EXAM
Thursday 22	Mendelian Genetics
Friday 23	Mendelian Genetics cont.
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	Linkage and Chromosomes
Tuesday 3	
Wednesday 4	Registration for Fall 2018 Semester Begins Linkage and Chromosomes cont.
Thursday 5	
Friday 6	Nucleic Acids and Inheritance
Monday 9	Nucleic Acids and Inheritance cont.
Tuesday 10	
Wednesday 11	Nucleic Acids and Inheritance cont.
Thursday 12	
Friday 13	Expression of Genes
Monday 16	Expression of Genes cont.
Tuesday 17	
Wednesday 18	Expression of Genes cont.
Thursday 19	
Friday 20	Control of Gene Expression
Monday 23	Control of Gene Expression cont.
Tuesday 24	
Wednesday 25	Control of Gene Expression cont.
Thursday 26	
Friday 27	Genetic Problems
Monday 30	Genetic Problems
MAY	
Tuesday 1	<i>Día del Trabajador</i> (Campus Closed)
Wednesday 2	<i>Día de la Comunidad</i> (Campus Closed)
Thursday 3	Spring 2018 Final Day of Classes
Friday 4	
Monday 7	FINAL EXAM MAY 7 8:30-11:30
Tuesday 8	Spring 2018 Final Exams
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	---