

BIO 101, Introduction to Biology: Genetics, Evolution, and Ecology
Department of Environmental Sciences, Fall 2018

I. COURSE INFORMATION

Instructor:	Patrick Della Croce	
Instructor's e-mail	pdellacroce@fus.edu	
Office hours:	Thu	14:30 - 17:30 (first come first serve)
Class location	LAC 2	11:30 – 13:00 (by appointment only) (North Campus)
Class meeting times	Tue / Fri	10:00 - 11:15

II. COURSE DESCRIPTION

The course focuses on the fields of genetics, evolutionary biology, and ecology. It will cover Mendelian genetics, the role of DNA and its expression, as well as recombinant DNA and genetic diseases. It will then shift to examine the theory of evolution, including the mechanisms of natural selection, and speciation. Lastly, it will explore several areas of ecology: behavioral, population, community, and ecosystem. The course will also cover a discussion on conservation biology. Lab sessions are included in the course. (from Franklin Course Catalogue)

III. RATIONALE

This course is required for all Environmental Sciences and Studies major, minor, and combined major.

IV. COURSE GOALS

The broad goal of this course is to make students familiar with the basics of genetic inheritance, genes' functioning and regulation, evolution, and ecology.

V. SPECIFIC LEARNING OUTCOMES

Students who successfully pass this course are able to:

- describe and apply Mendelian rules of genetic inheritance and major exceptions thereof;
- describe the major stages in cell mitosis and meiosis;
- describe the transcription and translation of DNA for the synthesis of proteins;
- describe the expression of viral, prokaryotic, and eukaryotic genomes;
- discuss the application of recombinant DNA technology;
- describe the basis of the theory of evolution;
- describe the processes of natural selection, speciation, and the importance of gene flow;
- explain how animal behavior relates to the local environment;
- explain the patterns of diversity in communities and ecosystems;
- discuss several threats to biodiversity.

VI. TEXTBOOK

The material for this course is largely taken from the book listed below. The book is not mandatory or required, but it is strongly recommended if you want additional support for this class.

Campbell Biology. Pearson New International Edition: Concepts & Connections

Authors: Jane B. Reece, Martha R. Taylor, Eric J. Simon, Jean L. Dickey

VII. ASSESSMENT OVERVIEW

At the end of the semester you will receive a final score between 0 and 100%, based on:

In-class participation	5%
Quizzes	20%
Exams	35%
Final exam	40%

Nonattendance may lower your final score as described below.

VIII. ASSESSMENT DETAILS

In-class participation:

This score will reflect: a) your participation during lectures and b) the quality of your presentations and homework assignments.

Quizzes:

This grade reflects your average in 70-80% of the quizzes you will receive during the semester. Quizzes are short-answer questions about course material that will be regularly asked at the beginning of classes. You should expect one quiz per week. Quizzes are normally graded as "right" (equal 100%) or "wrong" (equal 0%). Missed Quizzes will count as "wrong". There will be no make-up quizzes.

Exams

This grade reflects your average performance in the two best exams (out of three) you will receive during the semester. Missed exams count as zero. There will be no make-up exams. **Final Exam:**

This grade reflects your performance in the final exam.

Attendance:

Regular class attendance is required. You may miss 2 classes without penalty (justified absences included), but I will reduce your final score by 5% for each further missed class.

IX. GRADING POLICIES AND EXPECTATIONS

Your final grade will be determined from your final score as follows:

Excellent			
Good	B+ = 89.9% - 87%	A = 100% - 93%	A- = 92.9% - 90%
Adequate	C+ = 79.9% - 77%	B = 86.9% - 83%	B- = 82.9% - 80%
Inadequat	D+ = 69.9% - 67%	C = 76.9% - 73%	C- = 72.9% - 70%
Poor	F = below 60%	D = 66.9% - 63%	D- = 62.9% - 60%

Refer to Moodle for a more detailed explanation of grades.

X. HOW TO DO WELL IN THIS COURSE (POLICIES / REQUIREMENTS)

To be successful in this course you have to come prepared to classes and be active during lectures. This means that you should: (a) read the book chapters associated with the material we will cover in class before the class; (b) take notes during classes; (c) regularly review your notes and the reading assignments, and; (d) contact me, or ask questions in class if something is unclear. This course covers quite a bit of material. It is therefore important to keep up from the very beginning.

Note that if you miss a class it is your responsibility to find out (from fellow students) what material was covered and what announcements were made during the missed class. This is important to do well in the quizzes. Missing classes will not count as an excuse to not take or count a quiz.

XI. ACADEMIC INTEGRITY: STATEMENT ON CHEATING AND PLAGIARISM

Please refer to Franklin's Statement on Cheating and Plagiarism in the Academic Catalog for the full version (p. 42, http://www.fus.edu/images/pdf/Catalog_2014-2016.pdf) but to summarize here: you are to do your own work. Behaviors such as copying the work of others, using third-party services, or any other circumvention of doing your own work are dishonest and not acceptable in this class or at this institution.

- For papers and presentations, this includes proper use of references and citations. Copying text without the use of quotations or paraphrasing the ideas of others without proper citations are both examples of plagiarism and thus unacceptable.
- For testing situations, this includes the use of notes, cell phones, talking to others, or copying off of the exam of others. The first case of academic dishonesty will result in an automatic grade of a zero on the assignment and a report to the Dean. The second case will result in expulsion from the university.

XII. COURSE SCHEDULE (subject to changes. All changes will be posted on Moodle)

Week	Day	Date	Class Topic	Book Ch.
1	Tue	28 Aug.	Introduction and course overview	
	Fri	31 Aug.	Bio Basics and Cells	1 to 5
2	Tue	4 Sep.	Mitosis	8
	Fri	7 Sep.	Meiosis	8
3	Tue	11 Sep.	Genetics (part I)	9
	Fri	14 Sep.	Genetics (Part II)	9
4	Tue	18 Sep.	Exam #1	
	Fri	21 Sep.	Genes' Functions and Regulation (part I)	10
5	Tue	25 Sep.	Genes' Functions and Regulation (part II)	11
	Fri	28 Sep.	Genetic testing	
6	Tue	2 Oct.	Viruses	10
	Fri	5 Oct.	Prokaryotes	10
7	Tue	9 Oct.	Exam #2	
	Fri	12 Oct.	Correction of exam and GMO	12
8	Tue	16 Oct.	Earth history and Evolution (part I)	13 to 17
	Fri	19 Oct.	Evolution (part II)	13 to 17
<i>Oct. 20th - Nov 4th : Academic Travel - no class</i>				
11	Tue	6 Nov.	Evolution (part III)	13 to 17
	Fri	9 Nov.	Antibiotic resistance	
12	Tue	13 Nov.	Ecology (part I)	35 to 37
	Fri	16 Nov.	Ecology (part II)	35 to 37
13	Tue	20 Nov.	Ecology (part III)	35 to 37
	Friday Nov. 23rd Thanksgiving Break - No Class			
14	Tue	27 Nov.	Conservation Biology (part I)	38
	Fri	30 Nov.	Conservation Biology (part II)	38
15	Tue	4 Dec.	Exam #3	
	Fri	7 Dec.	Review for Final Exam	
<i>Dec 10th to Dec 14th - Finals' week</i>				
<i>Final Exam: Friday Dec 14th - 8:30 to 10:30pm - LAC</i>				