

General Biology II – BSC 2011
Guidelines for your success
(Syllabus)

Instructor

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Schedule

Semester: August 21st – December 10th, 2017

Room: Student Academic Success Center
T and Th 12:30 to 1:45 PM

Office hours at OE 211

Tuesday 3:00 PM to 5:00 PM
Wednesday: 11:00 AM to 1:00 PM

General Biology is about the history of life

“I like to define biology as the history of the earth and all its life — past, present, and future. To understand biology is to understand that all life is linked to the earth from which it came; it is to understand that the stream of life, flowing out of the dim past into the uncertain future, is in reality a unified force, though composed of an infinite number and variety of separate lives.” - Rachel Carson.

This quotation encapsulates the flow and interconnectedness of life at all scales of time and space. In this course we will explore the history of life on earth in the context of the great tree of life and seek to answer many fascinating questions. What was the Earth like before there was life? How did the conditions on Earth change as a result of the presence of living organisms? Could we live on another planet? Why do you have to eat? How did life on Earth change when organisms started eating each other? Why do we need organ systems? How was the invasion of land similar and different for animals as compared to plants? Why are there so many species on Earth? What is your relationship to other animals and plants? Can we live in a human-engineered world completely separated from nature?

By mastering skills such as evolutionary tree thinking and analysis of energy flow, you will be able to understand and address these and many more intriguing puzzles. We will use principles of anatomy, physiology, evolution and ecology to understand patterns of biological diversity and the processes that generate that diversity.

What will I be able to do after successfully completing this course? General course objectives

General Biology II is fundamentally a class about diversity: how it is generated, maintained, and constrained. By the end of the class you will be able to explain many features of organismal diversity using the following list of specific skills.

- 1) List all features that distinguish life from non-life and describe the conditions that led to the origin of life on Earth and how conditions on Earth changed as a result of biological processes.
- 2) Represent the diversity and evolutionary history of life on earth using a tree diagram and demonstrate that all life is united in a single great tree of life.
- 3) Describe and diagram principles of energy flow in organisms and ecosystems.
- 4) Compare and contrast unicellular and multicellular life from a physiological and ecological perspective and predict the consequences of large body size.
- 5) Analyze the transition from water to land in all groups that made this transition in terms of the physiological requirements and body support.
- 6) Locate your position in both a graphical representation of the tree of life as well as in a traditional classification system.
- 7) Evaluate the impact of human behavior on all other organisms and make informed predictions about the future of life on Earth.

How will I learn to do all this?

Education, the process of transmitting knowledge, values and information, is going through a transformation from a teaching oriented process towards an active learning process where students will engage in an active, challenging role in each class session. Results from empirical studies indicate that knowledge is better retained and used by students when acquired through active, participatory learning rather than a passive receptive process (Fink 2003).

Following those findings, this course is centered in an active learning rather than a passive-teaching process. The structure of the course is designed to motivate and engage students in active learning processes promoting critical thinking through the solution of concrete problems. The course will be composed of short lectures, in-class activities, online quizzes, and assessments.

Descriptions of Learning Activities

To maximize your learning (and grade) in this course, you must attend class regularly, and you must prepare ahead for each class.

Quizzes

Quizzes are used in this class as a learning interactive tool that will increase your long-term memory and retention of material, in addition it will help you understand the concepts and make links between them resulting in an increase of your knowledge of Biology. You will be directed to Master in Biology link to conduct your weekly quizzes.

MasteringBiology: MasteringBiology's Dynamic Study Modules is an online interactive, adaptive study tool that assesses a student's proficiency and knowledge within a specific course. You can complete the weekly Dynamic Study Modules activities using the Mastering Biology system (see link in you Blackboard menu). You are encouraged to review past material before attempting a Dynamic Study Module. Dynamic Study Module activities will be calculated as 20% of the overall grade.

You will have a quiz with 10 questions per week, and unlimited time to answer them. You have the option of coming back to the questions until you get them right, then you will get a 100% score. Or you can just run it once and you will get the corresponding score to the number of right answers. You will have a follow up activity to enhance your learning that you can complete in the following 4 days to the quiz deadline.

Quizzes will be due on **Mondays at 11:59 PM**. The quiz questions will be representative of the questions you can expect to see on the exams and will serve as practice tests.

iClickers

Participation in large courses can be difficult, however a dialogue between students and lecturer enrich the teaching-learning process and create an active learning ambiance. You are encouraged to participate asking question, as well as by using the iClicker option.

There will be two kinds of clicker questions in class. We will begin the class with three preparation clicker questions. For preparation clicker questions you will receive one clicker point for each correct answer. Throughout the rest of the class there will be participation clicker questions. For participation questions you will receive one participation point if you answer 75% or more of the total questions of each particular lecture. **It will be your responsibility to make sure that your clicker points are being recorded correctly.** If your score is not accurate, you must contact me within one week to correct the problem.

After that time, I cannot guarantee that the problem can be solved.

Participation in the clicker questions will constitute a large portion of your participation grade, so please make sure you bring your clicker to each class. In a class this size we cannot accept written answers to clicker questions, so it must be your responsibility that your clicker is not lost, forgotten, or nonfunctional.

PLTL (Peer-led team learning) is an active learning program, where small groups of students meet once a week outside of class with a peer-leader who has successfully completed the course. Student attendance for General Biology II PLTL is optional. PLTL is a semester long commitment, sections will meet once a week, every week, for 75min. Students must arrive on time and will be evaluated by their PLTL Leader. Each week your PLTL Leader is required to give you points based on whether you came prepared, whether you participated, and on the correctness/completeness of your readiness survey. At the end of the semester, your PLTL points will be incorporated in your exams part of the grading (see below grading description). Please read the PLTL syllabus for any other clarifications. Students will be notified via e-mail how to enroll for the program during the beginning of the semester.

Exams

There will be four midterm exams that will each be worth 10% of your grade and a final exam worth 25% of your grade (see modification if you decide to take the PLTL option). Exams will be multiple choice and will focus on higher order learning such as analysis, prediction, and conceptual understanding. The weekly quizzes will consist of exam-type questions to help prepare you for the level and format of questions you can expect.

Please arrive on time to exams. You will want to have the maximum amount of time to carefully think about each question. Because of the possibility of information leakage, we cannot let anyone start the exam after the first exam has been turned in. **There will be no make-up exams** given for this course. If you must miss an exam, **you may use your final exam score to replace the missed exam score** (see below). Please check **within the first week of class** the exam schedule as soon as possible for any conflicts with religious observances.

The final exam will be a comprehensive exam that synthesizes major concepts from the entire semester. The questions on the final will be in a similar format and level of difficulty as the midterm exams and will emphasize connections between different parts of the course. Because the final exam represents the end point of where we hope your understanding of the material will be by the end of the semester, we will use your exam score as a “recovery score”. What this means is that the score you get on the final will be used as both your final exam score, and will also replace your lowest midterm exam score. **This will only be done if you have taken all of the midterm exams or if you have missed an exam with a valid, documented excuse**. If your final exam score is lower than all of your midterm scores, then no scores will be replaced (i.e. this can only help your grade).

OTHER SUPPORT MATERIALS

Please visit the Blackboard website for support material

Grading policies

No matter what you do in life, your ability to assess your own performance will be critical. You will be given many opportunities to learn and practice this skill in this course. It is critical to your professional preparation that you exercise this skill by taking advantage of all opportunities to self-assess your understanding and critically examine your learning process.

Out of class activities: 20% of course grade

Weekly quizzes: 20%

Follow up quiz results 1 Extra credit point per quiz. Will be added at each mid-term exam

Learning space (encourage but not graded)

Classwork: 15% of course grade

Clicker questions: 15%

Exams: 65% of course grade

Four midterms: 10% each = 40 %

Comprehensive exam: 25%

If you take PLTL your grading will be as follow

Out of class activities: 20% of course grade

Weekly quizzes: 20%

Follow up quiz results 1 Extra credit point per quiz. Will be added at each mid-term exam

Learning space (encourage but not graded)

Classwork: 15% of course grade

Clicker questions: 15%

Exams: 65% of course grade

Four midterms: 8% each = 32 %

PLTL: 10%

Comprehensive exam: 23%

Other optional programs are available to improve your learning process with an impact on your final performance in the class as described below.

TLC

In addition to PLTL, you may also participate in the learning center's study skills development program, which is described in full on the course website. Participation in this program will be worth 5 points added to your mid-term exam scores.

Final Grades

Your final score will be the average of the individual component scores, weighted as described above. Final grades will be computed as a percentage of the maximum number of points:

Score	Grade
95-100%	A
90-94%	A-
86-89%	B+
83-85%	B
80-82%	B-
76-79%	C+
70-75%	C
60-69%	D
Below 58%	F

Respecting your learning process and that of others Aka “Academic Integrity”

Professionals in any field are expected to maintain the highest standards of ethics, integrity, and personal responsibility at all times. The best way to make these standards a matter of habit is to use them consistently at all times. This course is designed to be highly interactive and collaborative; a culture of trust is essential for it to work well. We are all honest people here – be your best self.

Although you are an honest student, there may be times when you are tempted to help another student cheat. Any student seen with **more than one iClicker in class will have all clickers confiscated, to be returned after their numbers are recorded, and all clicker numbers involved will receive a zero for participation for the course.** If you are in this situation, involved students will automatically lose 15% of their grade.

We will follow strictly the “Student Handbook” regarding cheating. Procedures for both formal and informal disciplinary actions can be found under the section “Academic Misconduct” in the “Conduct & Policies” chapter.

“Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and to honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.”

Schedule of topics and exam dates: Please visit the Blackboard website for full schedule.