

EVOLUTION – PCB4674 – Fall 2018

Syllabus

PROFESSOR INFORMATION

Lecturer: Camila Granados-Cifuentes, PhD
Phone: (305) 348-7531 (only for emergency purposes)
Office: OE-224
Office Hours: Wednesday 11 am -1:30 pm; 4-5:30 pm

E-mail: Please email me through the message service of Canvas and use a few, descriptive words in the subject line.

While the Internet allows us to send messages instantaneously, we are not always able to access our email in a similar fashion. My guarantee to you is that I will respond to you within 48-72 hours as long as it is sent between 8 am-5 pm ET Monday to Thursday, excluding holidays and when the university is closed. Messages sent outside this time window, during weekends, U.S. holidays, or when the university is closed will not be responded.

Please use best practices when communicating with me. Please remember you are contacting a professor. Therefore, courtesy matters even more. Please address your message with a courteous greeting, such as “Dear Dr. Granados-Cifuentes” or “Good morning, Professor Granados-Cifuentes”. I will not reply to your email if you fail to include a courteous greeting.

Last, but certainly not least, do not forget using the two kindest phrases: “please” and “thank you”

THE BIG PICTURE OF THIS COURSE

According to the AAAS 2011 Vision and Change report, Evolution is one of the top 5 core concepts you should understand when you are pursuing a degree in Biology or related fields. Here’s what they say: “*Evolution: the diversity of life evolved over time by processes of mutation, selection, and genetic change. Darwin’s theory of evolution by natural selection was transformational in scientists’ understanding of the patterns, processes, and relationships that characterize the diversity of life.*”

Because the theory is the fundamental organizing principle over the entire range of biological phenomena, it is difficult to imagine teaching biology of any kind without introducing Darwin’s profound ideas. Inheritance, change, and adaptation are recurring themes supported by evidence drawn from molecular genetics, developmental biology, biochemistry, zoology, agronomy, botany, systematics, ecology, and paleontology.

(...) These principles enable students to understand such processes as a microbial population’s ability to develop drug resistance and the relevance of artificial selection in generating the diversity of domesticated animals and food plants”.

EXPECTATIONS OF THIS COURSE

I expect you to work hard throughout this course. More than the grade, I expect you having a degree of self-motivation and self-discipline. I also expect 100% honesty, integrity, respect, tolerance, and cordial.

You can expect the same from me. I also work hard and I always give my 100% to each and every class. My motivation is your learning; your progress towards your professional goals. Also, if you’ve read this far, please clap once cheering up yourself.

WHAT YOU WILL BE READING

Easy Peasy. None is required, but I strongly suggest some books.

- **If you’re interested in examples of Evolution in medicine**, I suggest [Why We Get Sick: The New Science of Darwinian Medicine](#) by Randolph M. Neese and George C. Williams. It’s a 1994 book, but it still holds true. Can you catch what has changed since then?
- **If you’re interested in the Evolution of humans**, you can get [Sapiens: A Brief History of Humankind](#) by Yuval Noah Harari. This book is great even for non-biologists!
- **If you want to go in detail on Evolution topics:**
 - Evolution: Making Sense of Life, 2016 by Carl Zimmer, 2nd Edition, W. H. Freeman. ISBN: 9781319129743
 - Evolutionary Analysis, 2013, by Jon C. Herron, Scott Freeman, 5th Edition, Pearson. ISBN: 9780321616678

You can rent the electronic version of both of these books in [VitalSource](#) for 120 or 180 days for a more affordable cost than buying the textbook. Or you can purchase the electronic version there directly as well.

CLASS DYNAMICS

I will be giving lectures and asking Clicker questions to guide the discussion of the day. Make sure you bring a notebook and pencil to take notes, as I will not allow you using any electronic device, except your iClicker device and a scientific calculator. Oh! And I don't even want to see your electronic device on your desk, lap, pocket, etc. Please, keep them in your bag/backpack/purse/etc. You need your mind 100% in this class. If you need to be in contact, I need to know before class with the proper documentation.

Please, don't arrive more than 10 minutes late to class. And please, do not leave before class is dismissed. Both of them are disruptive and disrespectful.

In the case of missed lecture days or impending absences, you are responsible for obtaining lecture notes and in-class announcement information from fellow classmates. There is no way of replicating class interaction outside of class. Therefore, I will not be providing make-ups.

ASSESSMENTS

You will take the exams during the regular class time on the corresponding date (see Course Schedule).

In order to avoid disturbing your classmates and any conflict, you will not be allowed to take the exam and will receive a grade of zero if you arrive 10 min late or after a student finishes, whichever comes first.

If you miss an exam, you will need to provide a VALID document no later than one week after the missed exam. Once the document is approved, you will be able to take a make-up exam. Examples of acceptable excuses: documented medical emergencies, the death of members of immediate family, and jury duty. All of these must be accompanied by a valid and verifiable written letter signed by a professional or some other type of irrefutable and documental proof. Examples of unacceptable excuses: common cold, family problems, transportation problems, etc.

I do NOT drop any exam! All exams are mandatory!

ASSIGNMENTS

There will be in-class activities and online assignments.

For the in-class activities, you will be working on worksheets individually.

The online assignment is participation on a discussion board. We will be using Piazza, which is the Italian word for plaza. To register, visit this link: piazza.com/fiu/fall2018/pcb4674. For all our discussions, quality and not quantity matters, especially in your replies. We want to enrich our discussions. A comment such as "Peter, I really liked your post" does not add to the academic richness of the discussion. However, this is different if you provide scholarly replies to your fellow

classmates. And even better if they are supported with a scholarly reference or two (something as simple as Evolutionary Analysis textbook section 3.2).

GRADING

If you have a correction or question about your grade, you MUST let me know within a week of the grade being posted on Canvas. Otherwise, your grade stays as-is irrespective of your work.

"Keep them in your bag": The use and/or appearance of electronic devices, other than a scientific calculator or the iClicker, will result in me kindly asking you to leave the class and a lower grade.

The table below shows the activity types contained within this course and the assigned percentage to determine the final grade.

Item	Individual %	Total %
Exams	11%	55%
Clicker		5%
In-class activity	5%	15%
Discussions in Piazza	5%	25%

Note that In-class assignments and attendance are 37% of the grade – If you only come to exam days and complete the online work, your maximum grade will be a D.

Letter grades are on a 10-point scale (NO pluses/minuses, or incompletes). I do not curve. Grades are not negotiable. I do not round up or down! Here's the breakdown:

Range (%)	Letter
90-100	A
80-89	B
70-79	C
60-69	D
59 or less	F

COURSE SCHEDULE

FALL 2018	CONTENT	ONLINE TASKS
AUG 20-26	Let's be on the same page (Intro) What are frequencies?	
AUG 27 – SEP 2	<i>M Aug 27 - Add/Drop Deadline</i> Why do we care about frequencies? (Hardy-Weinberg equilibrium)	
SEP 3-9	<i>M Sep 3 - Labor Day University Closed</i> The source of it all (Mutation)	Discussion 1 in Piazza due Friday, Sep 7, 11:55 pm ET
SEP 10-16	Mutation continued EXAM 1 – WEDNESDAY, SEP 12: covers up to Sep 10	
SEP 17-23	Survival of the fit enough!! (Natural Selection)	
SEP 24-30	A word that means nothing and a lot at the same time: randomness (Genetic Drift)	Discussion 2 in Piazza due Friday, Sep 28, 11:55 pm ET
OCT 1-7	M Oct 1 – in-class activity EXAM 2 – WEDNESDAY, OCT 3: covers up to Oct 1	
OCT 8-14	Oh, commitment (Non-Random Mating and Sexual Selection)	
OCT 15-21	I'm outta here (Migration)	Discussion 3 in Piazza due Friday, Oct 19, 11:55 pm ET
OCT 22-28	M Oct 22 – in-class activity EXAM 3 – WEDNESDAY, OCT 24: covers up to Oct 22	
OCT 29 – NOV 4	<i>M Oct 29 - Last day to drop with DR/WI</i> Things are scarier outside than in class (Phylogenetic trees)	Discussion 4 in Piazza due Friday, Nov 2, 11:55 pm ET
NOV 5-11	Phylogenetic trees continued EXAM 4 – WEDNESDAY, NOV 7: covers up to Nov 5	
NOV 12-18	<i>M Nov 12 - Veterans Day University Closed</i> Human evolution	Discussion 5 in Piazza due Friday, Nov 16, 11:55 pm ET
NOV 19-25	Human evolution continued on M Nov 19; but no class on W Nov 21 to re-charge for the last part of the semester. <i>Nov 22-24 - Thanksgiving University Closed</i>	
NOV 26 – DEC 2	Human evolution continued with in-class activity and Closing Remarks on M Nov 26 EXAM 5 – WEDNESDAY, NOV 28: covers up to Nov 26	
DEC 3-9	Finals Week	

In case you need the specific details: Course Objectives

You will be able to discuss different lines of evidence that are used to understand evolution.	You will be able to explain the 5 mechanisms by which evolution occurs: genetic drift, migration, non-random mating, mutation, natural selection.	You will be able to calculate Hardy-Weinberg equilibrium to determine if a population is changing its allelic frequencies over generations.	You will be able to explain the connection between evolution and medicine.
You will be able to interpret and analyze phylogenetic trees.	You will be able to compare and contrast the different methods used to infer phylogenetic relationships	You will be able to discuss human evolution	

LET'S BE IN THE SAME PAGE

The use and appearance of an electronic device is absolutely forbidden, unless otherwise instructed: leave it/them in your bag; not even in your pocket or on the desk. Store them away. The use of any electronic device will result in no points for that day, irrespective of your work. If you need to be in contact because of an urgent situation, I need to know before class with the proper documentation. Otherwise, NO EXCEPTIONS.

I will only fill out evaluation forms to the top 5% of the class. I write letters of recommendation only to students who assisted or are assisting me as Learning Assistants (LAs) or PLTL Leaders.

I attempt to provide excellent instruction in a manner that is fair to all students. However, if you believe that you have not been dealt with fairly or that instruction has been inadequate, procedures exist for handling grievances:

- First, speak with me!! Perhaps I am unaware that a problem exists. Speaking with me may provide a satisfactory explanation to resolve the problem or make adjustments to accommodate special needs.
- Second, if the problem is not or cannot be resolved with me, speak with the department head or chairperson.
- Finally, if the problem still cannot be resolved, speak with the Dean of Students.

ACCESSIBILITY AND ACCOMMODATION

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.

ACADEMIC MISCONDUCT STATEMENT

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 honestly to 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.

Academic Misconduct includes... well... not being honest and lack of integrity. Your work should be yours and yours only and only for this class. If I catch you violating the Academic Misconduct, I will give you an F for the course, irrespective of your work, and a petition will be sent to Academic Affairs. NO EXCEPTIONS.

Good luck in your course

**** I reserve the right to modify this syllabus as needed**