**Syllabus**
**Genetics**
**PCB3063 – Fall 2018**

## PROFESSOR INFORMATION


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| **Lecturer:** | Camila Granados-Cifuentes, PhD |
| **Phone:** | (305) 348-7531 (only for emergency purposes) |
| **Office:** | OE-224 |
| **Office Hours:** | Wednesdays 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 (for example, "Sapling not loading"). |


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(s) if you fail to include a courteous greeting in it.

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

## THE BIG PICTURE OF THIS COURSE

I arranged this course so that we could start at the finest level, finding out how the DNA is replicated. Then, we discuss how the DNA is used to make the proteins. Then, we discuss how the genes are turned on or off depending on the internal and external environment. Some of these changes are due to changes in the DNA sequence, some occur outside the DNA sequence. And we end analyzing what happens to those genes across generations and why we have features from mom and some from dad.

## COURSE CALENDAR **MONDAY-WEDNESDAY SECTION ONLY**

| Fall 2018 | Content | Online Tasks on Sapling Learning | In-class Tasks |
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| **Week 1**<br>Aug 20-26 | Let's be on the same page (Intro)<br>Making more of me (Replication) | Ch12: Learning Curve due Wed, Aug 22, 2 pm ET | Ch12: Pre-quiz and Individual activity on Wed, Aug 22 |
| **Week 2**<br>Aug 27 – Sep 2<br>Aug 27 - Add/Drop Deadline | How is it that genes code for proteins? (Transcription) | Ch13: Learning Curve due Mon, Aug 27, 2 pm ET | Ch13: Pre-quiz and Group activity on Mon, Aug 27<br>Ch13: Individual activity Wed, Aug 29 |
| **Week 3**<br>Sep 3-9<br>Sep 3 - Labor Day University Closed | Same language for making proteins (Genetic Code and Translation) | Ch15: Learning Curve due Wed, Sep 5, 2 pm ET | Ch15: Pre-quiz and Group activity on Wed, Sep 5 |
| **Week 4**<br>Sep 10-16 | Ch15 continued on Mon Sep 10<br>**EXAM 1 – WEDNESDAY, SEP 12: covers up to Sep 10** | | Ch15: Individual activity Mon, Sep 10 |

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| **Week 5**<br>Sep 17-23 | Very few genes are expressed all the time. What about the rest? (Gene Expression Regulation in Bacteria) | Ch16: Learning Curve due Mon, Sep 17, 2 pm ET | Ch16: Pre-quiz and Group activity on Mon, Sep 17<br><br>Ch16: Individual activity on Wed, Sep 19 |
| **Week 6**<br>Sep 24-30 | And that gene expression regulation is different in us… eukaryotes (Gene Expression Regulation in Eukaryotes) | Ch17: Learning Curve due Mon, Sep 24, 2 pm ET | Ch17: Pre-quiz and Group activity on Mon, Sep 24<br><br>Ch17: Individual activity on Wed, Sep 26 |
| **Week 7**<br>Oct 1-7 | **EXAM 2 – MONDAY, OCT 1: covers up to Sep 26**<br><br>When things go cray cray (Gene Mutations and DNA Repair) | Ch18: Learning Curve due Wed, Oct 3, 2 pm ET | Ch18: Pre-quiz and Group activity on Wed, Oct 3 |
| **Week 8**<br>Oct 8-14 | Chapter 18 continued Mon, Oct 8<br><br>Wait! There's more and the DNA sequence has nothing to do? (Epigenetics) | Ch21: Learning Curve due Wed, Oct 10, 2 pm ET | Ch18: Individual activity on Mon, Oct 8<br><br>Ch21: Pre-quiz and Group activity on Wed, Oct 10 |
| **Week 9**<br>Oct 15-21 | Chapter 21 continued Mon Oct 15<br><br>**EXAM 3 – WEDNESDAY, OCT 17: covers up to Oct 15** | | Ch21: Individual activity on Mon, Oct 15 |
| **Week 10**<br>Oct 22-28 | Good. So, how do all these *things go and look* in your kids? (Basic Principles of Heredity) | Ch3: Learning Curve due Mon, Oct 22, 2 pm ET | Ch3: Pre-quiz and Group activity on Mon, Oct 22<br><br>Ch3: Individual activity on Wed, Oct 24 |
| **Week 11**<br>Oct 29 – Nov 4<br>Oct 29 - Last day to drop with DR/WI | It's a… boy or girl? (Sex Determination and Sex-Linked Characteristics) | Ch4: Learning Curve due Mon, Oct 29, 2 pm ET | Ch4: Pre-quiz and Group activity on Mon, Oct 29<br><br>Ch4: Individual activity on Wed, Oct 31 |
| **Week 12**<br>Nov 5-11 | **EXAM 4 – MONDAY, NOV 5: covers up to Oct 31**<br><br>Oh, wait! It's not *that basic*… (Extensions and Modifications of Basic Principles) | Ch5: Learning Curve due Wed, Nov 7, 2 pm ET | Ch5: Pre-quiz and Group activity on Wed, Nov 7 |
| **Week 13**<br>Nov 12-18<br>Nov 12 - Veterans Day University Closed | Chapter 5 continued | | Ch5: Individual activity on Wed, Nov 14 |
| **Week 14**<br>Nov 19-25<br>Nov 22-24 - Thanksgiving University Closed | That's all great. But, how are these traits studied in humans? And can I do it? (Pedigree Analysis, Applications, and Genetic Testing) | Ch6: Learning Curve due Mon, Nov 19, 2 pm ET<br><br>Hard deadline online assignments: Wed, Nov21, 11:55 pm ET – **no class** | Ch6: Pre-quiz and Group activity on Mon, Nov 19 |
| **Week 15**<br>Nov 26 – Dec 2 | Chapter 6 continued and Closing Remarks<br><br>**EXAM 5 – WEDNESDAY, NOV 28: covers up to Nov 26** | | Ch6: Individual activity on Mon, Nov 26<br><br>Concluding remarks on Mon, Nov 26 |
| **Week 16**<br>Dec 3-9 | **Finals Week** | | |

## TEXTBOOK

Genetics: A Conceptual Approach, Benjamin A. Pierce, W. H. Freeman, 6 ed, 2016
You need to have access to Macmillan Sapling Learning online platform, as 13% of your grade comes from activities done through this platform. The publisher's bundle of the ebook + Sapling Learning is $91.99. You will have access to the electronic textbook for 24 months.

Please follow the instructions provided in Canvas on how to register to Sapling.

## 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 have to come prepare and participate actively in class. This means watching the videos and doing the assignments *before* class, being willing to contribute to class discussion, and do the activities carried out in class.

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.

## ASSESSMENTS

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

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!**

## CLASS DYNAMICS

You will be completing in-class and online assignments in this course.

If you can't make it to class, you need to provide a valid excuse (same ones accepted for missed exams, see above). 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. Not only there will be days you will be working in teams and your presence is valuable for all the team members, but the individual assignments will also have interactions with your group. There is no way of replicating this interaction outside of class. Therefore, I will not be providing make-ups. I will, however, drop the lowest in-class assignment. Clap once for yourself if you've read this far.
So that we all know what to expect each day, we will be using the following format in class:

| **Day 1 of covering a new chapter** | **Day 2 of covering a new chapter** | **Only one day covering a chapter** |
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| Before class (2-3 hours):<br>– Watch videos on Canvas, take notes, read<br>– Learning Curve due in Sapling<br><br>During class:<br>– 15 min Pre-Quiz in class<br>– 45 min activity graded as a group<br>– 15 min wrap-up | Before class:<br>Review from the previous class<br><br>During class:<br>– 10 min clarifying doubts (iClickers)<br>– 45 min activity graded individually<br>– 20 min wrap up | Before class (2-3 hours):<br>• Watch videos on Canvas, take notes, read<br>• Learning Curve due in Sapling<br><br>During class:<br>– 15 min Pre-Quiz in-class<br>– 45 min activity graded individually<br>– 15 min wrap-up/clarifying doubts (iClickers) |

As you can see, you will need to plan accordingly so that you complete the activities required before class. This will allow you coming prepared to class to answer more challenging questions.

| For each class, you need to bring: | You might also want to bring: |
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| • your PID<br>• a scientific calculator<br>• your printed notes (If you take them in an electronic device, you need to print them)<br>• a binder for the worksheets and draft paper<br>• pencil No.2, eraser, pencil sharpener, lead refills No.2 (not pen) | • printed PowerPoint lectures<br>• you can also bring the hard copy of the textbook (rent it in the library). But if you have good notes, you don't need to bring the textbook. |

*Online assignments on Sapling*: there are one to two assignments weekly due in Sapling. They are not compatible with mobile devices and so please, do not take them using your cell phone or tablet. You will be allowed to submit the assignments late with a 95% credit of the original points. Each day reduces 5%. Having said that, there is a hard deadline for online Sapling assignments before Thanksgiving. After that, your will grade will be zero (0) for all missed assignments – absolutely no extensions and no excuses!

## 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.

Arriving more than 10 minutes late to class is terrible for the class dynamics. I will give 50% credit for the activities done that day and marked as late in Attendance. Additionally, you won't have extra time to finish the pre-quiz or any assignment. Two tardiness will be marked as an unexcused absence. Because you have to stay to the end, this tardy policy also applies for leaving class before it is dismissed.

"Keep them in your bag": The use and/or appearance of electronic devices, other than a scientific calculator or the iClicker, will result in a zero for all activities of that day. It is very distracting and disrespectful. 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.

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

| Course Requirements | Number of Items | Points for Each | Percentage for Each | Weight |
|---|---|---|---|---|
| Learning Curve on Sapling | 11 | 20 | 1.18% | 13% |
| In-class pre-Quizzes | 11 | 10 | 1% | 11% |
| In-class assignments graded as a group | 10 | 10 | 1% | 10% |
| In-class assignments graded individually | 11 | 20 | 1% | 11% |
| Attendance (starts counting the class after Add/Drop date; excludes exam days) | | | | 5% |
| Exams | 5 | 100 | 10% | 50% |

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:

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

## IN CASE YOU NEED THE SPECIFIC DETAILS: COURSE OBJECTIVES

The course has the goal of providing a strong foundation for examining, analyzing, and addressing genetics.

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| 1. You will be able to identify the molecular components and mechanisms necessary to preserve to copy and duplicate a genome | 2. You will be able to discuss the molecular mechanisms necessary for gene expression and protein formation | 3. You will be able to explain gene expression regulation in the three domains of life. | 4. You will be able to discuss Mendel's principles of inheritance and apply them to problems of inheritance. |
| 5. You will be able to interpret pedigrees and distinguish between dominant, recessive, autosomal, X-linked, and cytoplasmic modes of inheritance. | 6. You will be able to explain how gene expression can be altered, including without change in the DNA sequence. | 7. You will be able to identify the different types of gene mutations and DNA repair mechanisms. | |

## POLICIES

To reiterate: the use and appearance of an electronic device, except your scientific calculator and clicker remote, is absolutely forbidden during Every. Single. Class: leave it/them in your bag.

Please review the FIU's Policies webpage. The policies webpage contains essential information regarding guidelines relevant to all courses at FIU.

As a member of the FIU community, you are expected to be knowledgeable about the behavioral expectations set forth in the FIU Student Code of Conduct.

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. Clap twice cheering for yourself for reading this far ☺

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.

## WHAT YOU NEED TO DO IN YOUR COMPUTER

Please set aside a little bit of time these first days of the semester to familiarize with the organization of the course in Canvas and MacMillan Sapling Learning Plus.

You must **complete all the Module 0 items** in order to unlock the rest of the course in Canvas.

## 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.

Please visit our ADA Compliance webpage for information about accessibility involving the tools used in this course.

Please visit Canvas Accessibility webpage for more information.
For additional assistance please contact FIU's Disability Resource Center.

## 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:

**Cheating** – The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. (Yes, this includes the material and information shared unauthorized through social media or other websites. Yes, it also includes giving your clicker device to a fellow classmate to answer for you or you accepting doing it for a fellow classmate.)

**Plagiarism** – The use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is responsible for plagiarism.

Learn more about the academic integrity policies and procedures as well as student resources that can help you prepare for a successful semester.

I will strictly enforce the Academic Misconduct policies and procedures. I am honest and have integrity and expect the same from you. Any type of violation to the Academic Misconduct will result in an F for the course, irrespective of your work, and a petition will be sent to Academic Affairs. NO EXCEPTIONS.

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**Good luck in your course**

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