

1. Course objectives and content: This course will expand on the basic concepts of Genetics developed in Genetics (PCB 3063). Genetics II is an upper division class designed for students who have completed Genetics with a grade of B or better. One semester of either Molecular Cell Biology or Molecular Biology is desirable. Critical thinking skills will be emphasized.

Course material will focus on the organization of the human genome, the concept of the epigenome, epigenetic control of gene and chromosomal regulation, the role of the epigenetics in development and disease and the link between epigenetics and the environment in gene expression and phenotypic plasticity. The role of epigenetic processes in gene expression and disease will be a unifying theme.

2. Meeting times and course modality: Tuesday and Thursday: MSB 336 12-1:20pm. This is a face-to-face course.

3. Instructor:

Dr. Laurence von Kalm

Office: BL 433

Phone: (407) 823-6684

Email: lvonkalm@ucf.edu

Office hours: In person: Tuesday 10-11am and Thursday 10-11am. You can make a zoom appointment to talk anytime we are both available.

4. Communication with the class:

All announcements will be made on Webcourses. During the semester it may become necessary to change the syllabus, including, but not limited to test dates, assignment due dates and assessment. If a change to the syllabus is made, an announcement will be made on the Webcourse page and in class. All students are required to check for Webcourse announcements and will be held responsible for being aware of changes.

If you email me and I don't respond within 24 hours call me or talk to me in class. Response time will be slower on weekends.

5. Text:

I have not been able to find a suitable text for this course. Assigned reading will come from handouts including articles from the primary literature. All material will be posted on Webcourses.

6. Behavior in class:

It is assumed that all students will act in a mature manner in the classroom, showing consideration for their peers and the instructor. Any student who consistently distracts other students or the instructor will be removed from the course. Cell phones must be on silent mode and laptop computers and tablets should only be used to access lecture material or to take notes. Audio/video recording of lectures is allowed.

7. Grading Scale and Assessment:

Grade Scale:	Grade Range	Grade	GPA
	90 - 100	A	4.0
	87 - 89	A-	3.75
	84 - 86	B+	3.25
	80 - 83	B	3.0
	77 - 79	B-	2.75
	74 - 76	C+	2.25
	70 - 73	C	2.0
	60 - 69	D	1.0
	Below 60	F	0

Note that the University considers any GPA above zero a passing grade. Specific program requirements may vary.

Grading will be divided into three components.

- i. Tests - 60% of grade
- ii. Take Home Critical Thinking Exercises - 20% of grade
- iii. Take Home Experimental Design Exercises - 20% of grade

All grades will be posted on Webcourses. **I strongly encourage all students to review their grades with me.**

A 1% extra credit assignment will be offered during the first week of classes. The assignment requires you to answer questions about the syllabus and will be due no later than 5pm Friday January 14. If your answers indicate you didn't take the assignment seriously deductions will occur.

i.) Tests (60% of grade) - Note: All tests will be in short written answer format.

There will be four required tests each worth 15% of the final grade. Tests 1-3 will be held in the second lecture after material for the test has been covered. For example, if module 2 is completed on a Tuesday, then test 1 will be the following Tuesday. Test 4 will be held during finals week. All test questions will be based on material discussed in class. Material to be covered in each test is outlined below:

Test 1: Module 1: Bacterial and Eukaryotic Gene Organization and Structure
Module 2: Organization of the Human Genome

Test 2: Module 1: Bacterial and Eukaryotic Gene Organization and Structure
Module 3: Epigenetics and the Epigenome
Module 4: Epigenetic Regulation of X-Chromosome Inactivation

Test 3: Module 1: Bacterial and Eukaryotic Gene Organization and Structure
Module 5: Control of Gene and Chromosomal Regulation

Test 4: **Final's week: Thursday April 28, 10 am-12:50 pm**
Module 6: Epigenetic Control of Development and Disease
Module 7: Genes and the Environment
Paper: Epigenetic Programming by Maternal Behavior.

Missed test: If you are unable to take a test due to illness, injury, or other reasons such as official University business at which your presence was required, a makeup test will be scheduled as soon as possible at a time convenient for both the student and the instructor. Documentation showing that events beyond your control were responsible for missing the test must be provided. Note that I will not accept medical notes that say you were seen by a doctor without an explanation that an illness or injury was involved. All notes must be on letterhead with a phone number. In the absence of acceptable documentation, a grade of 0 will be assigned. You must notify me in advance if you will miss a test for a religious observance. For more information, see the UCF policy at <<http://regulations.ucf.edu/chapter5/documents/5.020ReligiousObservancesFINALJan19.pdf>>.

Rounding up policy: If your final average across all grading components is less than or equal to one point below a higher grade, rounding up to the higher grade will occur if two of the four tests **and** the critical thinking exercises scored at the higher grade. For example, if your final grade is 89.2 and two tests and the critical thinking exercises were scored at 90 or above, your grade will be rounded up from an A- to an A. **There will be no exceptions to this policy.**

Late for the test: If you arrive late for a test you will be allowed to take the test. However, you must turn in the test paper at the regular scheduled end of the test. You will not be allowed extra time unless a documentable emergency has occurred.

ii.) Take Home Critical Thinking Exercises (20% of grade)

Thirteen critical thinking exercises will be offered throughout the semester. Each exercise is worth 2% of the final grade. A maximum of 20% of the final grade may be accrued from these exercises. Specific guidelines for the critical thinking exercises will be discussed in class and posted on Webcourses. **If you fail to submit a response by the submission deadline you will not receive credit for that exercise.** You may discuss the exercises with other students enrolled in the class, however you may not seek advice or any form of assistance from individuals not registered in the class. Regardless of whether you worked with other students or not each student must submit a response to Webcourses by the submission deadline.

iii.) Take Home Experimental Design Exercises (20% of grade)

Seven experimental design exercises will be offered throughout the semester. Each exercise is worth 4% of the final grade. A maximum of 20% of the final grade may be accrued from these exercises. Specific guidelines for the experimental design exercises will be discussed in class and posted on Webcourses. **If you fail to submit a response by the submission deadline you will not receive credit for that exercise.** You may discuss the exercises with other students enrolled in the class, however you may not seek advice or any form of assistance from individuals not registered in the class. Regardless of whether you worked with other students or not each student must submit a response to Webcourses by the submission deadline.

ORDER OF MATERIAL TO BE COVERED (see Webcourses for assigned reading)

Introduction and Syllabus

Module 1:	Review of Bacterial and Eukaryotic Gene Organization and Structure
Module 2:	Organization of the Human Genome
Module 3:	Epigenetics and the Epigenome
Module 4:	Epigenetic Regulation of X-Chromosome Inactivation
Module 5:	Control of Gene and Chromosomal Regulation
Module 6:	Epigenetic Control of Development and Disease
Module 7:	Genes and the Environment
Paper:	Epigenetic Programming by Maternal Behavior

Important Academic Dates:

January 10	Classes Begin
January 9	Drop/Swap/Add Deadline
January 21	Payment Deadline
March 25	Withdrawal Deadline
April 25	Grade Forgiveness Deadline and Last Day of Classes
April 27-May 3	Final Examination Period
May 5-May 7	Commencement
May 8	Grades Available (may be posted earlier if available)

Holidays:

January 17	Martin Luther King Day
March 6-13	Spring Break

Academic Integrity:

Academic dishonesty in any form will not be tolerated. At the discretion of the instructor, penalties will range from loss of credit for the test or assignment to an F for the entire course.

Students should familiarize themselves with UCF's Rules of Conduct at

<https://regulations.ucf.edu/chapter5/documents/5.008RulesofConductFINALSept21.pdf>

According to Section 1, "Academic Misconduct," students are prohibited from engaging in

- (a) Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course related material also constitutes cheating.
- (b) Communication to another through written, visual, electronic, or oral means. The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment or project.
- (c) Commercial Use of Academic Material: Selling of course material to another person and/or uploading course material to a third-party vendor without authorization or without the express written permission of the University and the Instructor. Course materials include but are not limited to class notes, instructor's power points, tests, quizzes, labs, instruction sheets, homework, study guides, and handouts.**
- (d) Falsifying or misrepresenting the student's own academic work.
- (e) Plagiarism: Whereby another's work is used or appropriated without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- (f) Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- (g) Any student who knowingly helps another violate academic behavior standards is also in violation of the standards.
- (h) Soliciting assistance with academic coursework and/or degree requirements. The solicitation of assistance with an assignment, lab, quiz, test, paper, etc., without authorization of the instructor of record or designee is prohibited. This includes but is not limited to asking for answers to a quiz, trading answers, or offering to pay another to complete an assignment. It is considered Academic Misconduct to solicit assistance with academic coursework and/or degree requirements, even if the solicitation did not yield actual assistance (for example, if there was no response to the solicitation).

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, The Golden Rule (<https://goldenrule.sdes.ucf.edu/>). UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary, respond to academic misconduct. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z.

Course Accessibility Statement:

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) <<http://sas.sdes.ucf.edu/>> (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student.

Campus Safety Statement:

Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and review the online version at <http://emergency.ucf.edu/emergency_guide.html>.
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a first-aid kit or AED (Automated External Defibrillator). To learn where those are located, see <<https://ehs.ucf.edu/automated-external-defibrillator-aed-locations>>.
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <<https://my.ucf.edu>> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing this video (<<https://youtu.be/NIKYajEx4pk>>).

Deployed Active-Duty Military Students:

Students who are deployed active-duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.