

1. Course Objective: To expand on the basic concepts of Genetics developed in Introductory 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.

Lectures will focus on the organization of the human genome, epigenetic, transcriptional, and post-transcriptional regulation of gene expression, chromosome mutation, 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. Instructor:

Dr. Laurence von Kalm

Office: BL 433

Phone: (407) 823-6684

Email: lvonkalm@ucf.edu

Office hours: Tuesday 1-3pm; Thursday 9-10:30am and by appointment.

3. 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 may be slower on weekends.

4. 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. A problem set will be assigned for the material on Chromosome Mutations.

5. 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 recording of lectures is allowed.

6. 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 two components.

- i. Tests - 80% of grade
- ii. Critical Thinking Exercises - 20% of grade

Test scores and grades from critical thinking exercises will be posted on Webcourses. **I strongly encourage all students to review their tests and responses to critical thinking exercises with me.**

i.) Tests (80% of grade) - Note: All tests will be in short written answer format.

There will be four required tests each worth 20% of the final grade. All test questions will be based on material discussed in class and the assigned problem set. 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 Histone Code
Paper: Systematic protein location mapping reveals five principal chromatin types in *Drosophila* cells.

Test 3: Module 1: Bacterial and Eukaryotic Gene Organization and Structure
Module 4: Epigenetic Regulation of X-Chromosome Inactivation
Module 5: Regulation of Gene Expression in Eukaryotes

Test 4: **Finals week: Thursday April 23, 10 am-12:50 pm**
Module 6: Chromosome Mutations and the problem set.
Module 7: Genes and the Environment
Paper: Epigenetic programming by maternal behavior.

Tests 1-3 will be held in the second lecture after material for the test has been covered. For example, if modules 1 and 2 are completed on a Tuesday, then test 1 will be the following Tuesday. Test 4 will be held during finals week.

There will be option to retake material from tests 1-3 with test 4. You may choose to retake none, some, or all of the material related to tests 1-3. If your retake grade for any part of the course is higher than the grade received for the corresponding test 1-3 taken during the semester, your grade will be changed to the higher grade.

Missed test:

If you are unable to take one or more of tests 1-3 you must take the make-up test with test 4. No documentation is required. If the missed test was due to official University business at which your presence was required (documentation must be provided), a makeup test will be scheduled as soon as possible at a time convenient for both the student and the instructor.

Test 4: If you are unable to take test 4 at the scheduled time, documentation showing that events beyond your control were responsible must be provided. In the absence of acceptable documentation, a grade of 0 will be assigned.

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 scored at 90 or above, your grade will be rounded up from an A- to an A. You will be eligible for rounding up if you use a makeup test to replace a lower grade. **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.

Theft of intellectual property:

By registering for this class each student agrees that the critical thinking exercises and test questions are the intellectual property of the instructor, Laurence von Kalm, and may not be stolen, sold, reproduced, shared, or used for any purpose that would aid students in future classes. Any individual who sells, shares, or reproduces for profit or not for profit, intellectual property belonging to the instructor without his permission will be subject to legal and disciplinary action. The individual also agrees to pay all costs incurred by the instructor and the University of Central Florida related to legal action.

ii.) 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.

Important Academic Dates:

January 6	Classes begin
January 9	Drop deadline
January 10	Add deadline
January 17	Payment deadline
March 20	Withdrawal deadline
April 20	Grade Forgiveness Deadline and last day of classes
April 21-27	Final Examination Period
April 30-May 2	Commencement
May 4	Grades available (may be posted earlier if available)

Holidays:

January 20	Martin Luther King Day
March 9-14	Spring Break

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

Test 1

Module 3: Epigenetics and the Histone Code

Paper: Systematic protein location mapping reveals five principal chromatin types in *Drosophila* cells.

Test 2

Module 4: Epigenetic Regulation of X-Chromosome Inactivation

Module 5: Regulation of Gene Expression in Eukaryotes

Test 3

Module 6: Chromosome Mutations - do the problem set 1 with this module

Module 7: Genes and the Environment

Paper: Epigenetic programming by maternal behavior.

Test 4 (during finals week)

Academic Integrity:

Academic dishonesty in any form will not be tolerated. At the discretion of the instructor penalties will range from complete 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](#). According to Section 1, "Academic Misconduct," students are prohibited from engaging in

1. 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.
2. 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.
3. Commercial Use of Academic Material: Selling of course material to another person, student, 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 PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
4. Falsifying or misrepresenting the student's own academic work.
5. Plagiarism: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
6. Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
7. Helping another violate academic behavior standards.

For more information about Academic Integrity, students may consult [The Center for Academic Integrity](#).

For more information about plagiarism and misuse of sources, see "[Defining and Avoiding Plagiarism: The WPA Statement on Best Practices](#)."

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](#). 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. For more information about the Z Designation, click [here](#).

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 <http://www.ehs.ucf.edu/workplacesafety.html> (click on Offices and Services then Workplace Safety from the menu).
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to 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](#).