

***Course requirements:***

Epigenetics is an upper division class designed for students who have completed Genetics (PCB 3063) or Molecular Biology I (PCB 3522) with a grade of B or better.

***Course modality, meeting days, times, and location:***

The modality for this class is face-to-face instruction. The class will meet Tuesday and Thursday 11:30am-12:50pm in Classroom Building 1 (CB1) room 212.

Cell phones must be on silent mode and laptop computers and tablets should only be used to access lecture material and/or to take notes. Audio/video recording of lectures is allowed.

***Instructor information and office hours:***

*Instructor:* Dr. Laurence von Kalm

*Email:* lvonkalm@ucf.edu

*Office:* Biological Sciences building room 433

*Phone:* (407) 823-6684

*Office hours:* In person: Tuesday 1-3pm and Thursday 1-3pm. Other times by appointment.

***Course description:***

This is an introductory course to the cutting-edge field of epigenetics. Course material will focus on the organization of the human genome, the concept of the epigenome, epigenetic control of gene regulation in normal and diseased cells, and the link between the environment and gene expression. Critical thinking skills will be emphasized.

***Learning outcomes:***

- Understand and integrate the concepts of epigenetics into the context of the broader fields of genetics and molecular biology.
- Develop critical thinking skills.
- Learn how to develop and experimentally test a hypothesis.
- Appreciate the potential impact of epigenetics on society.

***Communication with the class:***

All announcements will be posted 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 (grading). If a change to the syllabus is made, an announcement will be posted on Webcourses and in class. Students are required to check for Webcourse announcements and will be 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 and holidays.

### ***Course materials and resources:***

To reduce the cost of course materials I have created my own reading for each topic covered. All material will be posted on Webcourses.

### ***Grading and assessment:***

<b>Grade scale:</b>	<b>Grade Range</b>	<b>Grade</b>	<b>GPA</b>
	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 - 25% of grade
- iii. Take home hypothesis development and experimental design exercises - 15% of grade

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

#### **i. Tests (60% of grade) - Note: All test questions will be in short answer format.**

During the semester there will be three required tests (tests 1-3) each worth 20% of the final grade (see page 4 for test dates). All test questions will be based on material discussed in class.

There will also be an ***optional*** final held during finals week that will be divided into three sections containing material from tests 1, 2, and 3. You can use the optional final to replace the grade from one or more of your semester tests (i.e., you can take only the sections of the final that correspond to tests you would like to replace). To be eligible to replace a test grade you must take the corresponding test during the semester. If you opt to take any section of the optional final, and your grade is higher than your grade for the corresponding semester test, the grade from the optional final will replace your grade for that test. *Your grade will not be lowered if you take the optional final and score lower than the corresponding semester test.*

**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 you and me. Documentation showing that events beyond your control were responsible for missing the test must be provided. *I will not accept medical notes that say you were seen by a doctor without a statement that there was a medical condition.* All notes must be on letterhead with a contact 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 you meet *both* of the following requirements:

- two of the three required tests (tests 1-3) must be greater than or equal to the higher grade (grades adjusted from the optional final are eligible for rounding up)
- the final grade for the critical thinking exercises must be greater than or equal to the higher grade

For example, if your final grade is 89.2 and two required 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 (25% of grade)**

Thirteen critical thinking exercises will be offered throughout the semester. Each exercise is worth 2.5% of the final grade. At the end of the semester the three lowest grades will be dropped (i.e., your best 10 exercises will count). *If you fail to submit a response by the submission deadline you will receive a grade of 0 for the exercise.* Critical thinking exercises will be posted on Tuesday and will be due on the following Monday at midnight. A critical thinking exercise will not be posted during spring break.

Specific guidelines for the critical thinking exercises will be discussed in class and posted on Webcourses. There will be opportunity to discuss the exercises with other students in class, and you may work together outside of class to answer the questions. You may not seek advice or any form of assistance from individuals not enrolled in the class. Each student must submit a response to Webcourses by the submission deadline. Responses can be identical to responses from other students.

#### **iii. Take home hypothesis development and experimental design exercises (15% of grade)**

Three hypothesis development and experimental design exercises will be offered throughout the semester. Each exercise is worth 5% of the final grade. Responses will be submitted in two phases.

Phase 1: Based on the information provided you will have one week to submit a hypothesis that can account for the observations.

Phase 2: I will provide feedback and you will then have one week to design an experiment to test the hypothesis. Each component, hypothesis development and experimental design, will be graded separately and each is worth 2.5pts. *If you fail to submit a response for either submission deadline you will receive a grade of 0 for that part of the exercise.*

Specific guidelines for the hypothesis development and experimental design exercises will be discussed in class and posted on Webcourses. There will also be two practice exercises covered in class discussions. There will be opportunity to discuss the graded exercises with other students in class, and you may work together outside of class to answer the questions. You may not seek advice or any form of assistance from individuals not enrolled

in the class. Each student must submit a response to Webcourses by the submission deadline. Responses can be identical to responses from other students.

***Sequence of course activity (see Webcourses for assigned reading)***

- 1/9 Syllabus and Introduction
- 1/11 Module 1: Review of Bacterial and Eukaryotic Gene Organization and Expression
- 1/16 Critical Thinking Exercises  
Hypothesis Development and Experimental Design Exercises
- 1/18 Module 2: Organization of the Human Genome
- 1/23 Organization of the Human Genome continued
- 1/25 Organization of the Human Genome continued
- 1/30 Organization of the Human Genome continued
- 2/1 Organization of the Human Genome continued
- 2/6 Organization of the Human Genome continued
- 2/8 Organization of the Human Genome continued
- 2/13 Module 3: Epigenetics and the Epigenome
  
- 2/15 **Test 1**  
Module 1: Review of Bacterial and Eukaryotic Gene Organization and Expression  
Module 2: Organization of the Human Genome
  
- 2/20 Epigenetics and the Epigenome continued
- 2/22 Epigenetics and the Epigenome continued
- 2/27 Epigenetics and the Epigenome continued
- 2/29 Epigenetics and the Epigenome continued
- 3/5 Module 4: Epigenetic Regulation of X-Chromosome Inactivation
- 3/7 No class
- 3/12 Epigenetic Regulation of X-Chromosome Inactivation continued
- 3/14 Epigenetic Regulation of X-Chromosome Inactivation continued
- 3/19 Spring Break - no class
- 3/21 Spring Break - no class
- 3/26 Epigenetic Regulation of X-Chromosome Inactivation continued
- 3/28 Module 5: Epigenetic Control of Gene Expression
  
- 4/2 **Test 2**  
Module 1: Review of Bacterial and Eukaryotic Gene Organization and Expression  
Module 3: Epigenetics and the Epigenome  
Module 4: Epigenetic Regulation of X-Chromosome Inactivation
  
- 4/4 Epigenetic Control of Gene Expression continued
- 4/9 Epigenetic Control of Gene Expression continued
- 4/11 Module 6: Epigenetics, Genes, and the Environment
- 4/16 Epigenetics, Genes, and the Environment continued
  
- 4/18 **Test 3**  
Module 1: Review of Bacterial and Eukaryotic Gene Organization and Expression  
Module 5: Epigenetic Control of Gene Expression  
Module 6: Epigenetics, Genes, and the Environment
  
- 4/25 **Optional Final** (10am - 12:50pm in classroom) - see page 2 for information.

***Important academic dates and holidays:***

January 8	Classes Begin
January 12	Drop/Swap/Add Deadline
January 15	Martin Luther King Jr. Day
January 19	Payment Deadline
March 18-23	Spring Break
March 29	Withdrawal Deadline
April 22	Grade Forgiveness Deadline and Last Day of Classes
April 24-30	Final Examination Period
May 2-4	Commencement
May 5	Grades Available (may be posted earlier if available)

***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](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>>).

### ***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.

***Title IX:***

Title IX prohibits sex discrimination, including sexual misconduct, sexual violence, sexual harassment, and retaliation. If you or someone you know has been harassed or assaulted, you can find resources available to support the victim, including confidential resources and information concerning reporting options at <https://letsbeclear.ucf.edu> and <http://cares.sdes.ucf.edu/>

For more information on diversity and inclusion, Title IX, accessibility, or UCF's complaint processes contact:

- Title IX - OIE - <http://oie.ucf.edu/> & [askanadvocate@ucf.edu](mailto:askanadvocate@ucf.edu)
- UCF Compliance and Ethics Office - <https://compliance.ucf.edu/> & [complianceandethics@ucf.edu](mailto:complianceandethics@ucf.edu)
- Ombuds Office - <https://www.ombuds.ucf.edu/>