PCB 4514 Genetics II Syllabus spring 2018

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, developmental genetics, and the role of environment in gene expression and phenotypic plasticity. The role of epigenetic processes in gene expression, development, 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/Thursday after class (1-3pm) and by appointment.

3. Communication with the class:

All class materials will be available on Webcourses. All communications will be posted on Webcourses.

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 module 6 (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
	67 - 69	C-	1.75
	64 - 66	D+	1.25
	60 - 63	D	1.0
	Below 60	F	0

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

Academic Dishonesty:

Any form of cheating or academic dishonesty will result in an automatic F for the entire course and referral to The Office of Student Conduct for disciplinary action. In addition, a "Z Designation" may be placed on the student's official transcript indicating academic dishonesty, where the letter Z will precede the final grade for this course. For more information about the Z Designation see http://goldenrule.sdes.ucf.edu/zgrade

Unless specifically permitted, all electronic devices must be inaccessible during tests. Use or display of any unauthorized electronic device will result in a grade of 0 for the test and referral to the office of student conduct.

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:	modules 1 and 2
Test 2:	modules 3 and 4
Test 3:	modules 5 and 6
Test 4: (finals week)	modules 7 and 8 (Thursday April 26, 10 am – 12:50 pm)

Tests 1-3 will be held during the second lecture after material for the test has been covered. For example, if modules 1 and 2 are competed on a Tuesday, then test 1 will be the following Tuesday. Test 4 will be held during finals week. In addition to the required material for modules 7 and 8 on test 4, there will be option to retake material from tests 1-3. You may choose to take none, some, or all of the material related to tests 1-3. If your grade for any part of the course on test 4 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:

Tests 1-3: If you are unable to take one or more of tests 1-3 you must take the corresponding section of test 4 to make up the missing grade. 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: All students must take the material covering modules 7 and 8 on 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 for any missing test.

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 three of the four tests **and** the critical thinking exercises scored at the higher grade. For example, if your final grade is 89.2 and three 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 test 4 to replace a missed test or 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.

Honor system for distribution of tests and answer keys: To facilitate learning, tests 1-3 will be returned to the student. In addition, answer keys for these tests will be posted on the web site. Test 4 can be reviewed with me by appointment. By registering for this class each student agrees that all tests are the intellectual property of the instructor, Laurence von Kalm, and may not be sold, reproduced, shared, or used for any purpose that would provide assistance to students in future classes. The contents of the tests are to be shared only with individuals registered in this class (spring 2018).

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

Fifteen 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 8	Classes begin
January 11	Drop deadline
January 12	Add deadline
January 19	Payment deadline
March 21	Grade Forgiveness and Withdrawal deadline
April 23	Last day of class
May 3-5	Commencement
May 7	Grades available (may be posted earlier if available)

Holidays:

January 15	Martin Luther King Day
March 12-17	Spring Break

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

January 9 Introduction and Syllabus

January 11 - April 19

Module 1: Review of Bacterial and Eukaryotic Gene Organization and Structure
Module 2: Organization of the Human Genome
Module 3: Epigenetics and the Histone Code
Module 4: Epigenetic Regulation of X-Chromosome Inactivation
Module 5: Regulation of Gene Expression in Eukaryotes
Module 6: Chromosome Mutations - Do Problem Set 1 With This Module
Module 7: Developmental Genetics
Module 8: Genes and the Environment