PCB 4514 Genetics II Syllabus Fall Semester 2015

1. Course Objective: To expand on the basic concepts of Genetics developed in Introductory Genetics. This is an upper division class designed for students who have completed Genetics with a grade of B or better. One semester of Molecular Cell Biology and/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 (1-2pm) and by appointment.

3. Communication with the class:

All class materials are 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 the module 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 take notes.**

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://z.ucf.edu/.

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

Grading will be divided into two components.

i. Tests - 75% of grade
ii. Critical Thinking Exercises - 25% of grade

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

i.) Tests (75% of grade) - Note: All tests will be in written answer format.

There will be three required tests each worth 25% of the final grade. There will also be an optional comprehensive final. All test questions will be based on material discussed in class and the assigned problem set. Test dates are as follows:

Test 1:	Tuesday Oct 6th	(modules 1-5)
Test 2:	Tuesday Oct 27th	(modules 6-9)
Test 3:	Tuesday Dec 1st	(modules 10-14)
Test 4: (optional)	Thursday Dec 10th 10am-12:50pm	(modules 1-15)

Note: For those who complete tests 1-3, test 4 is an optional comprehensive final that can be used to replace the lowest grade in tests 1-3. Anyone who misses a test must take test 4 to replace the missing test (see below).

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

Missed test:

Tests 1-3: If you miss one test for any reason you must take test 4 to make up the missing grade. No documentation is required. If you miss a second or third test you must provide acceptable documented evidence that your reason for missing the test was beyond your control. A make up test(s) will be scheduled during finals week. If acceptable documented evidence is not provided, a grade of 0 will be assigned for the missed test(s). 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 the student and the instructor.

Test 4: For students who have completed tests 1-3, test 4 is an optional comprehensive final that can be used to replace the lowest grade in tests 1-3. If test 4 is the lowest grade it will not be used in calculating the final grade.

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 three 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 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 and 2 will be returned to the student. In addition, answer keys for these tests will be posted on the web site. Tests 3 and 4 can be reviewed with me by appointment. By registering for this class each student agrees that the 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 test are to be shared only with individuals registered in this class (fall 2015).

ii.) Critical Thinking Exercises (25% of grade)

Fifteen critical thinking exercises will be offered throughout the semester. Each exercise is worth 2% of the final grade. A maximum of 25% of the final grade may be accrued from these exercises. Specific guidelines and submission dates will be provided for each exercise. The guidelines will be discussed in class and posted on Webcourses. If you fail to submit an exercise by the submission deadline you will not receive credit for that exercise. For these exercises you may work with other students enrolled in the class. You may not seek advice or any form of assistance from individuals not registered in the class.

Important Academic Dates:

August 24	Classes begin
August 27	Drop deadline
August 28	Add deadline
September 4	Payment deadline
November 2	Grade Forgiveness and Withdrawal deadline
December 7	Last day of class
December 21	Grades available (may be posted earlier if available)
December 18-19	Commencement

Holidays:

September 7	Labor Day
November 11	Veterans day
November 26-27	Thanksgiving

Football Game Day: (no class)

September 3

ORDER OF MATERIAL TO BE COVERED
(Dates are approximate and actual order may vary)

Aug 25	Introduction and Syllabus	
Aug 27	Module 1:	Review of Bacterial and Eukaryotic Gene Organization and Structure
Sept 1	Module 2:	Organization of the Human Genome
Sept 3	**No Class: Football Game**	
Sept 8		Organization of the Human Genome
Sept 10		Organization of the Human Genome
Sept 15	Module 3:	Epigenetics and the Histone Code
Sept 17		Epigenetics and the Histone Code
Sept 22		Epigenetics and the Histone Code
Sept 24	Module 4:	Epigenetic Regulation of X-Chromosome Inactivation
Sept 29	**Test 1: modules 1-3**	
Oct 1	Module 4:	Epigenetic Regulation of X-Chromosome Inactivation
Oct 6		Epigenetic Regulation of X-Chromosome Inactivation
Oct 8	Module 5:	Regulation of Gene Expression in Eukaryotes
Oct 13		Regulation of Gene Expression in Eukaryotes
Oct 15		Regulation of Gene Expression in Eukaryotes
Oct 20		Regulation of Gene Expression in Eukaryotes
Oct 22	Module 6:	Chromosome Mutations - do problem set 1 with this module
Oct 27	**Test 2: modules 4 and 5**	
Oct 29	Module 6:	Chromosome Mutations
Nov 3		Chromosome Mutations
Nov 5	Module 7:	Developmental Genetics
Nov 10		Developmental Genetics
Nov 12		Developmental Genetics
Nov 17		Developmental Genetics
Nov 19	Module 8:	Genes and the Environment
Nov 24		Genes and the Environment
Dec 1		Genes and the Environment
Dec 3	**Test 3: modules 6-8 (material up to 11/24)**	
Dec 10	**Test 4: Comprehensive Final**	
	(Optional for students who meet specified requirements - see page 3.)	