SAMPLE SYLLABUS
This is a sample syllabus only. The instructor may make changes to the syllabus in future courses.

BY 210 Genetics

INSTRUCTOR: Dr. Karolina Mukhtar
Office: 371 Campbell Hall, tel. 934-8340 kmukhtar@uab.edu
Office Hours: Wednesday 10:00-11:00 am and by appointment

TEXTBOOK: Genetics: A Conceptual Approach (5th edition) by B.A. Pierce (MacMillan)
TEXTBOOK WEBSITE: http://bcs.whfreeman.com/pierce5e/
ADDITIONAL MATERIALS: i>clicker 2

COURSE DESCRIPTION:
Goals of this course include:
- To provide an introduction to the principles and mechanisms of inheritance.
- To provide an introduction to the structure, action and regulation of genes.
- To provide an introduction to molecular genetic technology.
- To discuss the applications of modern molecular genetic technology to human health and agriculture.
- To provide the necessary background for upper-level courses in molecular genetics, cell biology and evolution.

FIRST EXAM: Thursday, Sept. 18, 2:00-3:00pm
SECOND EXAM: Tuesday, Oct. 21, 2:00-3:00pm
THIRD EXAM: Tuesday, Nov. 11, 2:00-3:00pm
FOURTH (FINAL) EXAM - Tuesday, Dec. 9, 1:30 PM – 2:30 PM

GRADING POLICY:

Evaluation for Final Grades:
Exam I – 100 pts
Exam II – 100 pts
Exam III – 100 pts
Final Exam (not comprehensive) – 100 pts
Extra bonus from i>clicker – up to 20 “big” pts on top of your 4-test cumulative score (see Example below)
Maximum achievable points: 420 pts

Final grades will be assessed based on a 40 pts (10%) increment scale-
360-and above A
320-359 B
280-319 C
240-279 D
239 and below F

EXAMPLE: You made an 86 on Test 1, 80 on Test 2, 90 on Test 3 and 88 on Test 4. Your 4-test cumulative score is 86+80+90+88 = 344. Normally, you would be getting a “B”. However, you can get up to 20 more points from the i>clicker bonus. Suppose you got 80% of all clicker points possible during the whole semester. You will be getting 16 bonus points (0.8 x 20=16) on top of your 4-test score of 344. Your new score is 344+16=360, and you will get an “A” as your final grade in BY210.
***NO OTHER EXTRA CREDIT OPPORTUNITIES WILL BE AVAILABLE.***

Make-up Exam Policy- Make-up exams for the first three exams will be administered in the last week of class (December 01-05; no exceptions). Only individuals with written medical (Doctor) or legal excuses will be allowed to take the test. The excuse must be submitted to me no later than seven (7) days after the missed exam; otherwise, the grade will be assigned as a 0. Individuals must contact my office within 24 hours of an exam (either before or after) to be considered for a make-up exam; otherwise, the grade will be assigned as a 0. No more than 1 make-up exam for each Student is permitted unless
extreme, extenuating circumstances prevail. Although covering the same material, the format of make-up exams may differ from that of the original exam and may include oral examination.

**Lectures will primarily follow the textbook.** However, there will be material presented in class that is not in the textbook, therefore, regular class attendance is recommended. PowerPoint slides will be made available to Students via Canvas. The Student will be responsible for any missed lecture material by reviewing the slides and referencing the text. Office hours will not be used as catch-up sessions for missed lectures. Four in-class exams are scheduled for this course. Students will have only 1h to complete the in-class exam unless the Student has official UAB documentation through the office of Disability Support Services. All Students with such documentation are responsible to inform the instructor of arrangements prior to EACH exam. In order to register with the office of Disability Support Services you may go to 9th Ave. Office Building (1701 9th Ave. South) or call 934-4205.

**Conduct:** The use of cellular phones and other mobile devices during class is disruptive and disrespectful to your fellow classmates and instructor. Therefore, all electronic devices must be either turned off or on vibrate during class. You will be asked to leave if your ringtone sounds in class or you are observed talking on the phone or texting during class. If you have an emergency and must take a call - be polite and go outside.

**BY 210 Genetics – Topics**

Introduction to Genetics – CH1
Chromosomes and Chromatin – CH2,11
Cell Cycle, Mitosis, Meiosis – CH2
Principals of Mendelian Genetics – CH3
Extensions of Mendelian Genetics– CH5,6
Sex Determination & Sex-Related Inheritance – CH4

**Exam 1**
DNA and RNA Structure – CH10
DNA Replication – CH12
Molecular Mechanisms of Gene Transcription – CH13,14
Genetic Code and Translation – CH15
Regulation of Gene Expression in Prokaryotes and Eukaryotes – CH16,17
Chromosome and DNA Mutations – CH9, 18

**Exam 2**
Introduction to Molecular Genetics Technology – CH19
PCR and Gene Cloning – CH19, lecture materials
Genomics, Transcriptomics and Proteomics – CH20
DNA and Whole Genome Sequencing – CH20 and lecture materials

**Exam 3**
Genetics of Cancer – CH23
Guest lecture – Dr. Marek Napierala, UAB Dept. of Biochemistry & Molecular Genetics (November 18)
Genetics of Viruses and Bacteria – CH8
Organelle Genetics and Evolution – CH21
Population Genetics – CH25

**FINAL (4th) EXAM**

*The above schedule is tentative.* You are expected to read the syllabus and know its contents.

**Supplemental Instruction:** I am pleased to announce that this course has supplemental study sessions led by a student who has successfully completed the course and has had extensive training and experience as the SI leader for this class (Jessica Lopez: jalopez@uab.edu). These sessions will be invaluable to you in this course as well as providing study skills that will help you in other courses. Please make every effort to attend. Jessica will hold her sessions on **Mondays from 10:10-11am and Wednesdays from 2:30-3:20pm in Heritage Hall room 124** and have office hours available upon request via email. All BY210 SI materials, worksheets and mock exams will be available online at [www.uab.edu/supplemental-instruction-sessions/by-210-2e](http://www.uab.edu/supplemental-instruction-sessions/by-210-2e)

**i>clicker info:** We will start using i>clicker 2 on September 09. Please register your remote on Canvas before class. To do so, you will need to log on to Canvas, select BY210 course and click on the link on the left side menu. You will need to punch in the code (found on the remote under the bar code, a combination of letters and numbers). Remember to have your remote in class every time to earn bonus points for a better final grade! If you forget your remote, I can provide emergency loaners but let’s not make it a habit. You can earn up to 20 “big” points from the i>clicker that will count towards your final grade. The “small” points earned during each class will be converted into “big” points at the end of the semester using a simple proportion formula, with maximum of 20 “big” points. Please feel free to ask me about the details if you need clarifications!