**BIO 344 GENETICS – SPRING 2017**

**Change how the lab items are handled.**

 I. PURPOSE: This course is an introduction to the basic concepts

 of genetics and inheritance. Includes a 150 minute laboratory per

 week

 II. TEXTBOOK: *The Science of Genetics, 6th Edition*, Burns & Bottino will be provided.

III. ATTENDANCE‑LECTURES: Regular and punctual attendance is expected;

 there are no "excused" absences. **The University Undergraduate**

 **attendance Policy will** **be followed in this course.**

 IV. ATTENDANCE‑EXAMS: There is no excuse for missing a scheduled exam

 without contacting the instructor ahead of time, preferably at least

 a day in advance. With prior notification, arrangements can be

 made to take the scheduled exam. There will be NO MAKEUP EXAMS.

 If you do not take a scheduled exam, the value of the final is

 increased proportionately.

 V. REQUIREMENTS: The requirements will include three hour exams, one

 comprehensive final exam, three homework assignments and ten short

 written assignments on the following topics: CRISPR, PCR,

 Ashkeknazi Jews, Human Genome Project, GM Foods, endonuclease

 enzymes, recombinant DNA, bacteria making human insulin, Sickle Cell

 Anemia, and sex reversal in some fish. Each short report is to be

 approximately 1 page in length with one or two references.

 100 points --------------------- First Exam: Intro. + DNA

 100 points --------------------- Second Exam: Basic genetic concepts

 100 points --------------------- Third Exam: Advanced concepts

 150 points --------------------- Final: Comprehensive

 50 points --------------------- Laboratory 5 points per report

 100 POINTS --------------------- Laboratory reports 10 @ 10 eacg

 30 points --------------------- Homework – 3 sets @10 each

 630 TOTAL

VI. GRADING SCALE: The grading scale will be a 10‑point scale based on

 a total of 500 points in the course.

 90‑100% = A, 80‑89% = B, 70‑79% = C, 60‑69% = D, below 60% = F

VII. RESPONSIBILITY: It is the student's responsibility to come to

 class prepared! Students are responsible for all material covered in

 class, including classes missed. It is the student's responsi‑

 bility to borrow notes and to make up missed classes. Recording

 devices are not permitted in class. Also, the student is responsible

 for all relevant information covered in class and laboratory, all

 assigned problems, all handouts, and all videos.

VIII. LABORATORY: The laboratory component of genetics will consist of a

 variety of activities including videos/DVDs, various books such as

 DNA: The Secret of Life by James Watson, Random House, 2004

 and, the video series that accompanies the book (Pandora’s box,

 Curing Cancer, The Human Race, Playing God and The Secret of Life),

 microscopic study of mitosis and meiosis, breeding experiments using

 corn, fruit flies and/or other appropriate specimen.

 The following items will likely be covered in the laboratory, and lab

 reports will be written on ten

 DNA extraction

 James Watson, Frances Crick, Rosalind Franklin and Maurice

 Wilkins, 1953

 Transcription and translation

 Probability /Chi square/standard deviation problems

 Genetic corn: 3:1, 1:1, 9:3:3:1, 1:1:1:1, Chi Square

 corn ears showing various ratios of seed color & shape

 Mitosis and Meiosis

 Fruit fly crosses

 Hardy-Weinberg/population genetics

IX. Disability Statement

 Campbellsville University is committed to reasonable accommodations

 for students who have documented learning and physical disabilities

 as well as medical or emotional conditions. If you have a documented

 disability or condition of this nature, you may be eligible for

 disability services. Documentation must be from a licensed

 professional and current in terms of assessment. Please contact the

 Coordinator of Disability Services at 270-789-5192 to inquire about

 their services.

X. Emergency Numbers – Campus Security

 **270-403-3611 (cell)**

 **270-789-5555**

XI. Miscellaneous: Electronic devices

 All electronic devices such as cell phones are to be turned off

 during class and lab.

XII. Sexual Harassment Statement

 Campbellsville University and its faculty are committed to assuring a

 safe and productive educational environment for all students. In order

 to meet this commitment and to comply with Title IX of the Education

 Amendments of 1972 and guidance from the Office for Civil Rights, the

 University requires all responsible employees, which includes faculty

 members, to report incidents of sexual misconduct shared by students

 to the University’s Title IX Coordinator, Terry VanMeter, 1 University

 Drive Box 994, Administration Building 8A. Phone – 270-789-5016

 Email-twvanmeter@campbellsville.edu

 Information regarding the reporting of sexual violence and the

 resources that are available to victims of sexual violence is set

 forth at: [www.campbellsville.edu/titleIX](http://www.campbellsville.edu/titleIX)

XIII. Lab Reports

 DVD Secret of Life, DVD Curing Cancer, DVD Pandora’s Box,

 transcription/translation lab, extracting DNA, mitosis/meiosis,

 fruit fly data, genetic corn data, Chi square, and standard

 deviation.