**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.