

# POPULATION GENETICS

BIO 4143/6143, Fall 2017

T/TH 9:30-10:45

Harned Hall 105

## **INSTRUCTOR**

Dr. Brian Counterman

Email (preferred form of contact): [bcouterman@biology.msstate.edu](mailto:bcouterman@biology.msstate.edu)

Office: 311 Harned Hall

Office hours: Tues. 11 – Noon

Meetings outside normal office hours may be arranged by appointment.

## **PREREQUISITE**

BIO 1134 and BIO 1144 or BIO 2113 or consent of instructor

## **COURSE DESCRIPTION**

This course addresses the patterns and processes of organic evolutionary change at the population level, with a particular emphasis on the human lineage. Students will also learn how to interpret results from population genetic studies and the importance of understanding the genetic structure that underlies human populations.

## **LEARNING OBJECTIVES**

Students will learn how population genetics is used to study the demographic history of human populations. Students will read and interpret articles from primary scientific literature and develop research projects that use population genetic tools. Students will be trained how to identify regions of the genome associated with phenotypic variation, including traits that influence human health and fitness. Collectively, students will be prepared to interpret populations genetic results and us population genetic stools in their future careers.

## **COURSE MATERIALS**

There is no textbook required for this course. A list of required and recommended readings in the primary scientific literature will accompany lectures. Syllabus, Lectures, handouts, and supplemental materials will be available on MyCourses.

## **COURSE GRADES**

- **Assignments:** The assignments will involve informal and formal writings based on primary scientific articles and other materials covered during lectures or assigned by the instructor. Informal, in-class assignments given and completed during class time will account for 50% of the assignment grade. The formal writing assignment will constitute the other %50 of the assignment grade.
- **Exams:** There will be three in-class exams and one **non-cumulative** final exam on June 29, 2017 from 6:00 pm to 9:00 pm in Harned 105. All exams will be based on material presented in lecture and in the required readings.

Writing Assignments	25%	A 90% —100%
EXAM I	25%	B 80% — 89%
EXAM II	25%	C 70% — 79%
<u>EXAM III</u>	<u>25%</u>	D 60% — 69%
	100%	F below 60%

## **GRADUATE STUDENT GRADING**

The grading scheme and scale for graduate students will be the same as above. Graduate students will be given different exams and assignments from undergraduate students that will have questions requiring a more in-depth understanding of the material.

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## **LATE ASSIGNMENTS/EXAMS**

Late assignments will be deducted 10% of the total possible points per day late. Requests for additional time for an assignment must be given to Dr. Counterman BEFORE the assignment is due. Exams will begin promptly at 9:30 on exam dates. Exams will only be handed out until the first student turns in their exam. At that point, students will not be able to take that assignment/exam without providing Dr. Counterman with documentation for an excused absence (see **MISSED LECTURES, EXAMS AND ASSIGNMENTS** below).

## **MISSED LECTURES, ASSIGNMENTS AND EXAMS**

All students are expected to attend every lecture and exam. Informal writing assignments will be given sporadically throughout semester. Any student with an excused absence for a lecture or exam should provide proper documentation for excuse of absence as soon as possible to Dr. Counterman. If a student misses an **exam** or **assignment**, an excuse of absence (e.g. doctor's note) **MUST BE GIVEN TO DR. COUNTERMAN**. Failure to provide proper excuse of absence in time will result in a zero on the exam/assignment. Upon receipt of documentation for an excused absence, a date and time for a make-up exam/assignment will be scheduled.

## **STUDENT HONOR CODE**

Mississippi State has an approved Honor Code that applies to all students. The code is as follows: "As a Mississippi State University student, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do." Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Student will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information, please visit: <http://honorcode.msstate.edu/policy>.

## **TITLE IX**

MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX/EEO Programs at 325-8124 or by e-mail to [titleix@msstate.edu](mailto:titleix@msstate.edu). Additional resources are available at <http://www.msstate.edu/web/security/title9-12.pdf>, or at <http://students.msstate.edu/sexualmisconduct/>

## **SUPPORT SERVICES**

Students who need academic accommodations based on a disability should visit the Office of Student Support Services, 01 Montgomery Hall, call 662-325-3335, or visit the website at [www.sss.msstate.edu](http://www.sss.msstate.edu). Please be sure to make arrangements with Student Support Services at least 48 hours before a scheduled exam, to provide adequate preparation time.