

Course Information and Syllabus

Instructor: Dr. Jon Scales

Lecture: TR 8-920 BO 248

Lab: T 2-5 BO 203

Email: jon.scales@msutexas.edu

Office: BO 224G

Office Hrs: M 10-12 & 1:30-5,

RF 10:30-12:00

or email for appointment

Prerequisites: Life I & Life II with grades \geq C. Gen Chem I & II with grades \geq C.

Organic-Chem co- or prerequisite STRONGLY Recommended.

Course Materials:

Text: Genetic Analysis: An Integrated Approach, Sanders & Bowman 3rd ed.

Mastering Genetics: Accessed through D2L

Lab Manual: Biol 3334 Genetics Lab Manual, .pdf available for download & printing from D2L.

Philosophy:

Genetic principles underlie every area of biology. The concepts and principles by which we understand the passage of heritable information is crucial to our understanding of everything else in biology and biology-related fields.

In this course, we will cover aspects of molecular and classical genetics. We will learn how genetic principles underpin our current approaches to studying biology.

The objectives of this course are to gain a factual knowledge base in genetic terminology and concepts, to hone your analytical problem solving skills, and to gain an appreciation for the practice of the biological sciences.

Attendance:

Attendance is crucial to successful performance in this course. I expect participation from students and you can't do that if you're not here. **Attendance to lab is mandatory. You can only miss 1 lab! Students will be dropped from lab on their 2nd absence. You will also be dropped from the lecture. There are no make-up tests, quizzes, assignments, etc... when you are absent.**

Examinations & Quizzes:

There will be weekly quizzes in both lecture and lab. Be prepared! Quizzes will be given at the beginning of lecture & lab periods. Quizzes will be approximately 5-10 minutes in duration. The lowest lecture quiz score and lowest lab quiz score are dropped. There are no make-up quizzes.

There will be three exams in lecture and a single, comprehensive final exam in lab.

There are online homework and quiz assignments which must be completed by the due dates. Take note of those dates and times. The dates may change, but any changes will be announced during lecture. There are no make-ups for these assignments. These assignments are through the Mastering in Genetics site.

Questions about graded responses on any assignment/quiz/exam must be submitted in writing (typed) within 1 week of the return of any graded assignment/quiz/exam. The written document must provide a well-researched and documented explanation of why any incorrectly marked answer given by the student should be accepted as a correct response on the assignment/quiz/exam. Acceptable documentation sources are limited to a current genetics textbook for an upper level or higher college course and, information presented by the instructor on a powerpoint slide. Your own course notes are not considered suitable documentation. The documentation must be attached (photocopy fine) to your well thought out, coherent, concisely written argument. Potential grading errors (i.e. point tally mistakes) should be addressed as soon as possible upon return of the graded materials.

Rules & Regulations:

Students should refer to the current MSU handbook and activities calendar for university policy on academic dishonesty, class attendance, student rights and activities.

Cheating of any kind will result in no credit for that assignment, quiz, or exam. Repeated offense will result in dismissal from the course with a grade of F.

Students displaying disruptive behaviors will be reported to the Office of Students Rights and Responsibilities. Disruptive behaviors are grounds for dismissal from the course as noted in the student handbook p27:

Instructor Drop

An instructor may drop a student any time during the semester for excessive absences, for consistently failing to meet class assignments, for an indifferent attitude, or for disruptive conduct. **The instructor must give the student a verbal or written warning prior to dropping the student from the class.**

A student dropped from a class by a faculty member for disruptive behavior has the right of appeal to the Student Conduct Committee through the Office of Student Rights and Responsibilities (CSC 108).

The above paragraphs serve as your one and only verbal and written warning.

Cellular device usage during lectures is prohibited unless specifically asked to use the device by the instructor. Laptops should not be used for note taking during lectures. Tablet type devices written on using a stylus are permitted. Audio recording of lectures is permitted with prior permission from the instructor. Lectures are being video recorded. No video recordings of lectures will necessarily be uploaded onto D2L. This course is strictly an IN PERSON course and no accommodations will be made for distance learning environments.

Students that have been certified through the office of Disability Services with disability accommodations must provide official documentation from that office. Students must abide by all published procedures for taking **exams** through the DSS office with accommodations.

Grading and Point Assignments:

Scale	Components	Weight
A ≥ 90	Lecture Quizzes -----	10%
B ≥ 80	Online Quizzes -----	10%
C ≥ 70	Online Homework -----	10%
D ≥ 60	3 Exams -----	15% each
F < 60	Lab -----	25% (55% WU, 10% Q, 20% FE)

Tentative Topic Schedule

Week	Lecture Topic	Chapters	Week	Lab Topic
1	Overview of Genetic Terms	1	1	Cell Division
2-3	Mendelian genetics & variations	2 & 4	2	<i>Z. mays</i>
4	Linkage & mapping	5	3	Statistics
5	Exam 1 Sep 23		4	<i>D. melanogaster</i> P crosses
6	Bacterial Genetics	6	5	<i>S. cerevisiae</i>
6-7	Chromosome & DNA structure	7 & 10	6	<i>Drosophila</i> F1 crosses
7-8	DNA replication	7	7	<i>S. cerevisiae</i>
8-9	Transcription	8	8	<i>Drosophila</i> F ₂ & Mapping
10	Exam 2 Oct 28		9	<i>S. cerevisiae</i>
11	Translation	9	10	<i>C. elegans</i>
11	Gene level mutation	12	11	<i>C. elegans</i> RNAi
12	Prokaryotic Gene Regulation	14	12	Human Genetics
13	Eukaryotic Gene Regulation	15	13	Human Genetics
14	Transgenics	14 & 15	14	Human Genetics & Review
15	CRISPR		Dec 2	Final Exam
Dec 11	Exam 3 8-10AM (Final)			