

BIS101

Schedule

BIS101

TR 6:10 - 8:00 PM Giedt 1001

BIS101D

- Section 20 (Vann)
 - 5:10-6pm R
 - Wellman 229
- Section 21 (Vann)
 - 4:10-5pm R
 - Wellman 229
- Section 22 (Vann)
 - 9-9:50am F
 - Wellman 233
- Section 23 (Bilinski)
 - 10-10:50am F
 - Wellman 233
- Section 24 (Bilinski)
 - 11-11:50am F
 - Wellman 7
- Section 25 (Bilinski)
 - 12:10-1pm F
 - Wellman 233

Instructors

Dr. Jeffrey Ross-Ibarra

262A Robbins Hall
Email: rossibarra@ucdavis.edu
Twitter: @jrossibarra
Office hours: Monday and Friday 10am-11am

Teaching assistants:

Paul Bilinski

262B Robbins Hall
Email: pbilinski@ucdavis.edu
Office hours: Tuesday 1-2pm and Wednesday 9-10am

Laura Vann

262B Robbins Hall
Email: levann@ucdavis.edu
Office hours: Tuesday 5-6PM and Thursday 3-4PM

Text

Required: Griffiths A, Wessler SR, Carroll SB, and Doebley J. Introduction to Genetic Analysis. New York: W.H. Freeman, 2012. 10th Edition.

The 9th edition of this book is similar, but is missing important new chapters in population and quantitative genetics and the (mandatory) homework problems are from the 10th edition. Using the 9th edition is thus strongly discouraged. The 10th edition is on reserve at the library.

Lectures

Lectures will predominantly be on the chalkboard. Text copies of Dr. Ross-Ibarra's lecture notes can be found on [github](#). While you are welcome to use these notes, they are subject to change and correction and will not be posted on any regular schedule. They are not intended as a student aid.

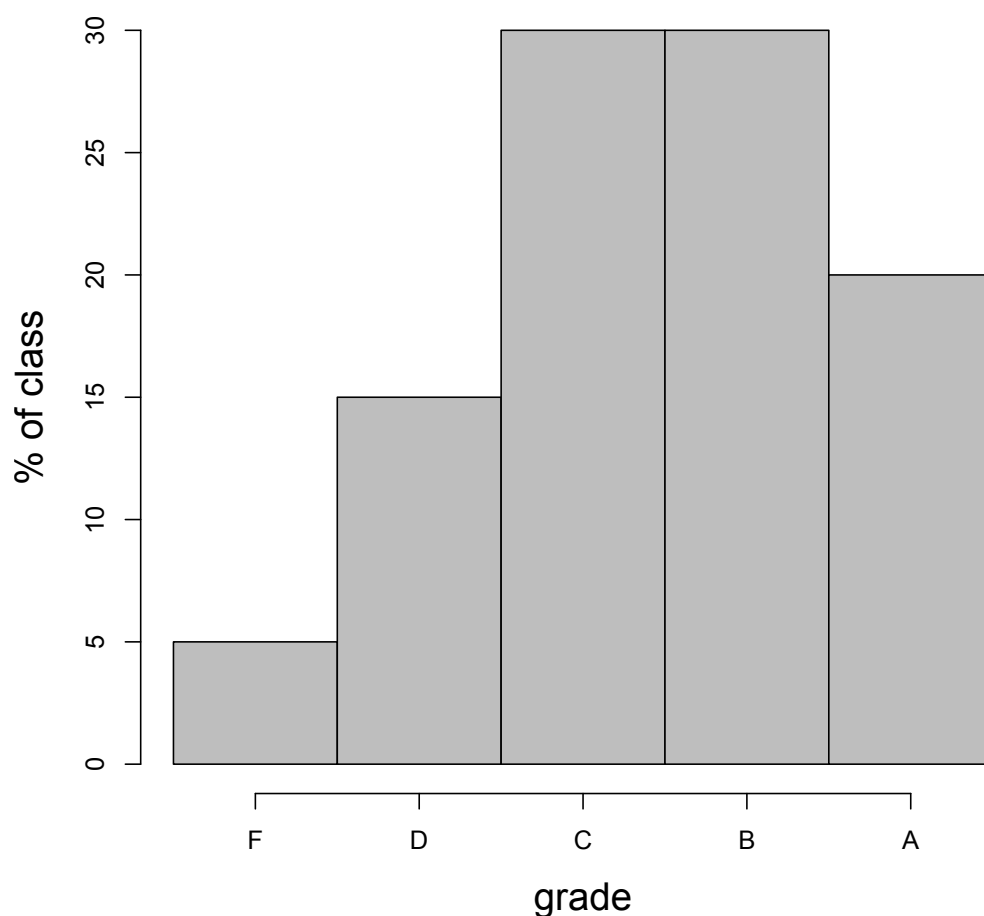
Lectures will consist of ~70 minutes of lecture, followed by a 5 minute break. Each class, after the break, we will discuss part of a paper on genetics from the primary scientific literature.

Grading

Grading in the course will consist of two exams, homework, and class participation as follows:

- Exam 1: 100 pts (39%)
- Exam 2: 100 pts (39%)
- Homework: 50 pts (20%)
- Class participation: 5 pts (2%)

Grading will be on a strict curve, such that the top 15% of students will get an A, the next 25% a B, the next 40% a C, and the remaining 20% D or F.



Exams

Both exams will be take-home exams. Your textbook, the internet, and your notes are all acceptable sources of information for the takehome exam, but discussion of the exam or collaboration with other students is not acceptable. Electronic copies of the exam must be turned in via SmartSite. The second exam is not cumulative. Exam dates are in the course outline below. While scans of handwritten exams are acceptable, illegible answers will not be graded.

Exams will consist primarily (~3/4) of material from the lecture and secondarily (~1/4) of material from discussion of the research papers.

If you feel that your exam grade is in error, you may ask for a regrade. At the TA's discretion your entire exam may be regraded, and experience shows students often lose points upon regrade; it is thus not advised to ask for a regrade unless you believe an actual error was made during grading. Due to constraints of turning in grades at the end of the quarter, there are no regrades on the second exam.

Homework

Each week's homework will be assigned the Thursday prior. Homework will only be collected at the beginning of Thursday's class the following week. Each homework assignment is worth 5 points; full credit will be given for each correct answer where your work is shown. No partial credit is given and there are no regrades on homework. Homework without clear student name and student ID number will not be graded.

Class Participation

At the beginning of each class the TAs will write on the board the names of 15 students. Those students will be asked to sit in the front row during the class period, and will be expected to answer questions during lecture. They will be handed 3x5 cards, and during the break those students will turn in the 3x5 card (with name and student ID) with a question relevant to the research paper being discussed that day. Those questions will then be discussed during the second part of the class. Given the size of the class and number of students, each student will be asked to sit in the front row once during the course of the quarter. Your 5 points of class participation will be based on the question submitted.

Academic honesty

Any form of cheating on examinations will not be tolerated. Consultation with other students on the exam is not allowed. If you use materials from published sources they must be cited (see the SJA's excellent [guide to avoiding plagiarism](#)). All assignments should be completed within the time stated and unfounded excuses to receive an extension are not acceptable. For a full understanding of the UC Code of Academic Conduct please go to the [Student Judicial Affairs website](#).

Email Policy

Formal and professional conduct is expected of you at all times. Email, as a form of professional communication (unlike text messaging), is no exception. Email must come from your UCD email (the one ending in ucdavis.edu). Emails must have a subject line that includes the subject of the message and the name of the class (BIS 101), and must be formally addressed. Emails that do not follow these guidelines run the risk of being ignored or deleted. We will make every effort to answer emails in a timely fashion.

Twitter

BIS101 is on twitter: @bis101. The TAs and Dr. Ross-Ibarra will be using this account to tweet interesting genetics stories in the news. You can use this account to ask us general genetics questions about the news ("How do GMOs work?") or biology ("How do armadillos produce identical quadruplets all the time?"), and we will try to answer questions. Particularly interesting questions may be brought up during discussion in class or in section. This is not an avenue for asking questions about the class, homework, exams, due dates, etc., and those questions will be ignored (Dr. Ross-Ibarra will also ignore such questions to his personal twitter account as well). Please use the #bis101 hashtag so other students can follow along.

BIS 101D:

If you have enrolled in BIS 101D, you must attend the session in which you registered. Please make sure that you registered for sections accompanying BIS 101-002. These are sections BIS 101D-020 to 025. If you have registered for any other section, please reregister for one of these sections. Grading for these sections will be P/NP and determined by the instructor of your section.

Lectures

Thursday Sept. 26

- **Mendelian Inheritance**
- Reading: Griffiths Ch. 2
- Homework Questions:
 - Ch. 2: 23,38,48,49,54
 - Ch. 3: 13,20,28,32,46

Tuesday Oct. 1

- **Independent Assortment**
- Reading: Griffiths Ch. 3
- Reading: [Liu et al. 2012](#)

Thursday Oct. 3

- **Gene Interaction**
- Reading: Griffiths Ch. 6
- Reading: [Liu et al. 2012](#)
- Homework Questions:
 - Ch. 4: 25, 45, 63
 - Ch. 6: 36, 62

Tuesday Oct. 8

- **Genetic Mapping**
- Reading: Griffiths Ch. 4
- Reading: [Schemske and Bradshaw 1999](#)

Thursday Oct. 10

- **Quantitative Genetics**
- Reading: Griffiths Ch. 19
- Reading: [Schemske and Bradshaw 1999](#)
- Homework Questions:
 - Ch. 18: 10,18
 - Ch. 19: 8,12,13

Tuesday Oct. 15

- **Population Genetics**
- Reading: Griffiths Ch. 18
- Reading: [Johnston et al. 2013](#)

Thursday Oct. 17

- **Phylogenetics**
- Reading: Griffiths Ch. 14, 20
- Reading: [Johnston et al. 2013](#)
- Homework Questions: TBA

Tuesday Oct. 22

- **Chromosomal Evolution**
- Reading: Griffiths Ch. 17
- Reading: [Ibarra-Laclette et al. 2013](#)

Thursday Oct. 24

- **Case Study: *tb1***
- Exam #1 assigned, due on Smartsite by 5pm on Oct. 31
- Reading: [Ibarra-Laclette et al. 2013](#)

- Homework Questions: TBA

Tuesday Oct. 29

- **DNA**
- Reading: Griffiths Ch. 7
- Reading: [Baudat et al. 2009](#)

Thursday Oct. 31

- **Mutation and Recombination**
- Exam #1 due on Smartsite by 5pm
- Reading: Griffiths Ch. 16
- Homework Questions: TBA
- Reading: [Baudat et al. 2009](#)

Tuesday Nov. 5

- **RNA**
- Reading: Griffiths Ch. 8
- Reading: [TBA](#)

Thursday Nov. 7

- **Regulation of Gene Expression**
- Reading: Griffiths Ch. 11,12
- Homework Questions: TBA
- Reading: [TBA](#)

Tuesday Nov. 12

- **Proteins**
- Reading: Griffiths Ch. 9
- Reading: [TBA](#)

Thursday Nov. 14

- **Transposable Elements**
- Reading: Griffiths Ch. 15

- Homework Questions: TBA
- Reading: [TBA](#)

Tuesday Nov. 19

- **Gene Isolation and Manipulation**
- Reading: Griffiths Ch. 10
- Reading: [TBA](#)

Thursday Nov. 21

- **Development**
- Reading: Griffiths Ch. 13
- Homework Questions: TBA
- Reading: [TBA](#)

Tuesday Nov. 26

- **Forward and Reverse Genetics**
- Reading: Griffiths Ch. 2
- Homework Questions: TBA
- Reading: [TBA](#)

Thursday Nov. 28

- **No Class, University Holiday**

Tuesday Dec. 3

- **Genomics**
- Reading: Griffiths Ch. 2
- Reading: [Studer et al. 2011](#)

Thursday Dec. 5

- **Case Study: *tb1***
- Exam #2 assigned, due on Smartsite by 10:30pm on Dec. 11
- Reading: Griffiths Ch. 2
- Reading: [Studer et al. 2011](#)

Wednesday Dec. 11

- Exam #2 due on Smartsite by 10:30pm