INTRODUCTORY GENETICS (BIO 2344) FALL 2014

Rm: Klaus 1456
Time: 9:35-10:55

Instructor: Professor John McDonald
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Class Attendance/grading policy: You are expected to attend all lectures. If you miss a lecture, you are responsible for obtaining all notes, announcements, and assignments. Final grades are determined on the basis of 4 exams (90%) and unannounced quizzes/class participation (10%). Written confirmation of a legitimate excuse, such as severe illness, will be required if any exam/quiz is missed otherwise you will receive a grade of “0” on the missed exam/quiz. No exceptions. There are no make-up exams/quizzes. Therefore, if you legitimately miss an exam/quiz, your exam/quiz grade will be calculated based on the remaining graded exams/quizzes. If you miss two or more of the four exams (with a legitimate excuse), you will be assigned an “I” for the course.


Assignments: Problem assignments for each Chapter will be listed on T-square. “In book” assignments will be selected problems found at the end of each Chapter. “Online assignments” can be accessed at the following web site by selecting the relevant Chapter from the drop-down menu (www.mhhe.com/brookergenetics4e).

Lecture ppts: Slides used in each lecture will be posted on T-square prior to each lecture.

Hints for doing well in this class: Come to class and pay attention to the lecture. If you don’t understand something, ask questions. Review the slides from each lecture before the following class period. Unannounced quizzes will be “obvious” (i.e., not complicated) questions taken from lecture slides. Exam questions will be taken from the “in book” and “on line” assignments. The Exam questions will be word-for-word from the assigned questions or directly derived from the assigned questions. Thus, if you understand the assigned questions well, you will do very well on the Exams. If you don’t understand how to answer any of the assigned questions, be sure to attend one of the weekly review sessions and resolve your question(s). Don’t go into an exam without understanding all of the assigned questions if you want to do well on the exams. Be sure that you understand what is being asked in each exam.
question. If you are unsure, raise your hand and ask for clarification. Don't feel as though you need to memorize everything in the text. You are not necessarily responsible for knowing all of the material in every chapter. We do not have enough time to cover all of the material in the book. Use the lectures and the assigned questions as guides as to what material you are responsible for knowing on the exams.

**Honor policy:** Your conduct in the course should conform to the Student Honor Code ([http://www.honor.gatech.edu/](http://www.honor.gatech.edu/)). Students caught cheating will be reported to the College for disciplinary action.

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**Tentative Lecture Schedule**

1. **What is the hereditary material and how does it work?**

   **Lec 1 Aug 19** Introduction/ The Science of Genetics

   **Lec 2 Aug 21** DNA is the hereditary material Ch 9

   **Lec 3 Aug 26** DNA structure and replication Ch 11

   **Lec 4 Aug 28** Transcription and processing Ch 12

   **Lec 5 Sept 2** Transcription and processing Ch 12

   **Lec 6 Sept 4** The genetic code/translation Ch 13

   **Lec 7 Sept 9** The genetic code/translation Ch 13

   **REVIEW Sept 11**

   **EXAM I Sept 16** (Chap 9, 11, 12, 13)

   **Lec 8 Sept 18** Gene regulation in prokaryotes Ch 14

   **Lec 9 Sept 23** Gene regulation in eukaryotes Ch 15

   **Lec 10 Sept 25** Gene regulation in eukaryotes I. Ch 15

   **Lecture 11 Sept 30** Gene regulation in eukaryotes II Ch 16

   **Lec 11 Sept 30** Developmental genetics Ch 25

   **Lec 12 Oct 2** Developmental genetics/ Ch 25
II. How is the hereditary material (genes) organized and transmitted through generations?

Lec 17 Oct 30  Mitosis & Meiosis/ Chromosomal reproduction and transmission  Ch 3

REVIEW Nov 4

EXAM III Nov 6 (Chap 20, 21, 22, 23, 3)

Lec 18 Nov 11  Simple Mendelian genetics  Ch 2
Lec 19 Nov 13  Extensions of Mendelian genetics  Ch 4
Lecture 20  Nov 18  Non-Mendelian genetics  Ch 5

III. How does the hereditary material change and evolve over time?

Lec 21 Nov 20  Gene mutation and repair I  Ch 18
Lec 22 Nov 25  Gene mutation and repair II  Ch 18

HOLIDAY Nov 27

Lec 23 Dec 2  Recombination and transposable elements  Ch 19
EXAM IV (FINAL EXAM) Dec 9 (Chap 2, 4, 5, 18, 19, 26)