Lecture: TH, 10:45 AM - 12:05 PM, ASB 220

Instructor:
Dr. John S. (Sandy) Parkinson  parkinson@biology.utah.edu  ASB 322A
Office hours by appointment; drop-ins welcome, circumstances permitting.

Course administrator:
Karen Zundel  ASB 308
Office hours: Monday-Friday: 8:00-10:30 AM; 1:00-4:00 PM

Teaching assistants:
Xuesheng Han  xuesheng.han@utah.edu
Chen Yang  chen.yang@utah.edu
David McClellan  david.mcclellan@hci.utah.edu
The TAs will run discussion sections and respond to e-mail queries. The TAs can also arrange to meet with students individually or in small groups for personalized help sessions.

Prerequisites:
Bi2020 (Principles of Cell Biology) or equivalent. In particular, the following knowledge is vital to, but not explicitly covered in, the present course:
- Structures of amino acids, nucleotides, proteins, and nucleic acids
- Structures and workings of prokaryotic and eukaryotic cells
- Structures of chromosomes and the processes of DNA replication and mitosis
- Enzymes and biochemical pathways for energy production and synthesis of biomolecules
- Transcription and translation and the proteins and other factors involved

Course objectives:
- to provide a basic introduction to hereditary mechanisms in microbes and higher organisms
- to develop skills in analyzing genetic experiments and data
- to illustrate ways in which genetic logic and approaches can resolve biological questions

Course organization:
The course material will be covered in five units. Each unit has a corresponding study guide (available on the course web site) that lists new terms and concepts to be covered and the explicit learning goals for that unit. In addition, there are numerous practice problems and practice exam questions for each unit (in the course booklet and on the course web site) for honing analytical skills and assessing comprehension of the material.

Text:
There is NO required text for this course. The knowledge and analytical skills needed to pass this course will be based entirely on the material presented in lectures, lecture notes, and problem sets. Students who want supplementary background coverage of course topics should consult an introductory genetics text. Two recommended ones are: “An Introduction to Genetic Analysis”, Griffiths et al., W.H. Freeman & Co.; and “Genetics from Genes to Genomes”, Hartwell et al., McGraw Hill. Copies are available on 2-hour reserve in the Marriott Library.
Course booklet:

A booklet of annotated lecture notes with high-resolution figures and accompanying problem sets is available for purchase ($20, cash only) in the Biology Advising Office, while supplies last.

Course web site:

All course materials can be downloaded as PDF files from the Biology Courses Web Server: http://courses.biology.utah.edu.

UserID for Bi2030 is “2030.student” and the password is “barbaraM” (both are case-sensitive).

Discussion sections:

Discussion sessions, staffed by the TAs, will illustrate problem-solving techniques, review difficult concepts, practice for exams, and answer questions about problem sets, lectures, etc. Students may attend any or all of the discussion sessions; they are not mandatory.

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Grades:

The course will be graded on an absolute (i.e., non-curved) 400 point scale:

- $\geq 360$ points: A, A-
- 320-359 points: B+, B, B-
- 280-319 points: C+, C, C-
- 240-279 points: D
- <240 points: E

Students can accumulate course points as summarized below:

- “hourly” exams: four @ 100 points = 400 points total
- final exam: either 100 or 200 points total (see below)

Each student’s point total will be determined by the maximum value of three scoring options:

- option #1: four “hourly” exams, no final;
- option #2: three highest “hourly” exams plus the final;
- option #3: two highest “hourly” exams plus the final counted double.

These grading options have two important implications:

- **There will be no make-up exams.** If you are ill or otherwise unable to take an exam at the designated time, the missed exam will be scored as zero. With prior approval of the instructor, you may arrange to take an exam in advance of the scheduled exam time to accommodate extenuating circumstances, e.g., away games for athletes.
- You can miss up to two of the “hourly” exams without jeopardizing your final grade. Alternatively, you need not take the final exam, if you’ve taken all four “hourly” exams.
“Hourly” exams:

There will be four (4) exams during the semester, each worth a total of 100 points. Each exam will focus on material covered since the previous exam, but will also include concepts, facts, and analytical skills from previous course units. Practice exams, similar in content and difficulty to the real ones, will be posted on the course web site. Analytical approaches and answers to some practice exam questions will be discussed in the course lectures and help/review sessions. Answer keys to the practice exams will be posted on the course web site about one week before the exam.

All exams will occur on Thursdays and cover material through the preceding Tuesday lecture, which will be mainly a review and practice session. Graded exams will be returned to students at the end of lecture on the following Tuesday. Students who do not pick up their exam at that time can pick them up at Karen Zundel's office (308 ASB). Answer keys will be posted on the course web site. Grading mistakes should be brought to the instructor's attention before the next scheduled exam. Submit your appeal, with all relevant info, to Sandy by e-mail.

Final exam:

The final exam will be comprehensive, but with some emphasis on course material covered since the last “hourly” exam. Students who have performed well on the “hourly” exams may elect not to take the final exam, in which case their final grade will be determined by the “hourly” exams (see grading option "a" above). Otherwise, the final exam will be worth 100 or 200 points, depending on which option is most beneficial for each student.

Exam content and format:

The exams will test student ability to analyze and solve genetics problems. Students will need to know genetics concepts and terminology in order to solve the problems, and can also expect some direct terminology questions on the exams. Calculators, phones, etc. may not be used in the exams. All numerical answers can be given in the form of simple expressions or calculated as fractions, percentages, etc. No arithmetic operations as complicated as long division will be needed.

Exams are closed-book, closed-notes format. Scratch paper will be provided, but should not be attached to or returned with the exam. Calculations and final answers should be printed legibly on the exam sheets. Graded copies of the exams will be returned to students within one week.

Withdrawals and audits:

This course will adhere to the University policy on withdrawals and incompletes, i.e., the instructor will not approve any course withdrawals. Students who have completed and passed at least 80% of the course material are eligible for an incomplete grade, if extenuating circumstances prevent them from completing the course.

Academic Conduct

In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty. Acts of academic misconduct include cheating, plagiarizing, research misconduct, misrepresenting one’s work, and inappropriately collaborating. Suspected cases of academic misconduct are dealt with according to the rules found in the Student Code, University Policy 6-400(V): http://www.regulations.utah.edu/academics/6-400.html. All instances of academic misconduct are recorded in a University database, which is shared by all academic units on campus.
Equal access provisions:

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

Accommodations policy:

The instructor does not grant content accommodation requests because the course content fulfills legitimate pedagogical goals.