BIO13: GENE EXPRESSION AND INHERITANCE

Lecture #/Date	Topic	Readings	Laboratory
[1] June 26 Fri	Course overview DNA Structure	pp9-21	
[2] June 29 Mon	DNA Replication	Chapter 3; pp 183-189	**Lab Section Assignment Forms are due in class. Labs start this week**
[3] July 1 Wed	DNA Packaging	pp21-30	**Lab #1: Genomic DNA prep/PCR**
[4] July 2 Thur	Transcription I	Chapter 5	
July 3 Fri	No Class, Independence Day		
[5] July 6 Mon	Transcription II		
[6] July 8 Wed	The Genetic Code	pp102-109	**Lab #2: Fly Crosses**
[7] July 10 Fri	Protein Synthesis	pp110-123	
[8] July 13 Mon	Mutations	pp130-146	
[9] July 15 Wed	Genes and Gene Products	Chapter 4	**Lab #3: DNA cleanup/Gel electrophoresis/DNA sequencing**
July 16 Thur	PS Discussion		
[10] July 17 Fri	Genomics	pp199-206; Chapter 9	
July 20 Mon	PS Discussion / Exam Review		**First Exam (Lectures 1-10) 7:00 PM - 10:00 PM Kellogg Auditorium**
[11] July 22 Wed	Meiosis and Mitosis Patterns of Inheritance I	pp326-339 Chapter 11	**Lab #4: Score fly crosses**
[12] July 23 Thur	Patterns of Inheritance II	pp339-353	
[13] July 24 Fri	Patterns of Inheritance III	Chapter 13	
[14] July 27 Mon	Linkage and Mapping I	Chapter 14	
[15] July 29 Wed	Linkage and Mapping II		**Lab #5: Analyze sequence data**
July 30 Thur	PS Discussion		
[16] July 31 Fri	Inheritance of Molecular Markers	pp170-184	**Lab Summary I due at start of class**
[17] Aug 3 Mon	Inheritance of Molecular Markers	pp192-199	
Aug 5 Wed	PS Discussion		**Lab #6: yeast matings**
[18] Aug 6 Thur	Transgenics		
[19] Aug 7 Fri	Bacterial Gene Regulation I	Chapter 17	
Aug 10 Mon	PS Discussion / Exam Review		**Second Exam (Lectures 11-18) 7:00 PM - 10:00 PM Kellogg Auditorium**
[20] Aug 12 Wed	Bacterial Gene Regulation II		**Lab #7: Score yeast matings/ transcriptional assays in fly larvae**
[21] Aug 13 Thur	Eukaryotic Gene Regulation I	Chapter 18	
[22] Aug 14 Fri	Eukaryotic Gene Regulation II		
[23] Aug 17 Mon	Eukaryotic Gene Regulation III		
[24] Aug 19 Wed	Drosophila Development	pp564-571	
Aug 20 Thur	PS Discussion		
[25] Aug 21 Fri	Sex Determination	pp559-564	**Lab Summary II due at start of class.**
[26] Aug 24 Mon	Prion Disease		
[27] Aug 26 Wed	Huntington's Disease		
Aug 31 Mon	**THIRD/FINAL EXAM**		**Third Exam (lectures 19-27) 8:00AM-11:00AM Location To Be Announced**

Faculty:

Professor Patrick Dolph
Room 106 Gilman Hall
Telephone: 6-1092
Office Hours: Monday: 1:30-3:00
Tuesday: 10:00-11:30
If these times are inconvenient, email and we can arrange another time.

Meeting times:

MWF 10:00-11:05 AM, plus Thurs X-hour from 12:00 -12:50 PM

Textbook:

iGenetics: A Molecular Approach by Peter Russell, 3rd edition
ISBN 0-321-56976-8

Graduate Teaching Assistants:

Jason Gilmore
Angelyca Jackson
Paul Spear
Yohei Shibuya
TAs are best contacted via Blitzmail

Laboratory Instructor:

Dr. Corinne Pierce
Room 213 Gilman Hall
Telephone: 6-2379

Grading:

First Exam	25%.	
Second Exam	25%	
Final Exam	25%	
Laboratory	25%	Two lab summary assignments, and weekly pre-lab exercises
	100%	

Exams:

The lecture schedule shows the time of each of the first two exams. The size of the class precludes the offering of multiple sessions of the exams. **Barring documented illness, failure to take the exam at the scheduled time will result in a grade of zero.** For the purposes of Biology 13, documentation of illness requires that you check into Dick's House and arrange for Dick's House to inform your Class Dean that you have been admitted to Dick's House. The class dean will then contact Prof. Dolph. Dick's House will not divulge any detail of your illness--in fact, they are legally obligated to respect your privacy in this regard.

Problem Sets:

Problem sets will be distributed electronically via the course Blackboard site. Although problem sets will not be collected and graded, students are strongly advised to work through the problems prior to the review session. Answer keys will be posted on the course Blackboard site.

Problem Set Review Sessions:

Detailed discussion of the solutions to problem sets will take place during class period on the dates indicated on the schedule (page 1). Material from the problem sets and review sessions may be included on examinations.

Laboratory

The laboratory will focus on the molecular and genetic dissection of a Developmental pathway in *Drosophila melanogaster*. The material covered in lab will closely follow the lecture portion of the course. In order to pass Bio13, you must attend all 7 laboratory sessions and submit both laboratory summary assignments.

Study Groups

The Academic Skills Center (301 Collis Hall) is arranging Study Groups for Biology 13. The following information (provided by the Academic Skills Center) describes Study Groups and their purpose. **Information about when and how to sign up will be distributed in class or by Blitzmail, and posted on the course Blackboard site.**

A study group is a small group of students who meet together regularly once a week with the aid of a trained tutor to discuss concepts, points of confusion and insights into course material. There can be a stigma that study groups are only for students having trouble in the course. This is not the case -- these groups are not remedial. Students of all abilities can benefit from them. Each group is unique, contains students with different backgrounds and abilities, and determines its own pace and the material that will be covered. This allows each group to address the needs of the individuals in the group.

ACADEMIC HONOR PRINCIPLE:

The Dartmouth College Student Handbook (page iii) states "Fundamental to the principle of independent learning are the requirements of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Dartmouth operates on the principle of academic honor, without proctoring of examinations. Students who submit work which is not their own or who commit other acts of academic dishonesty forfeit the opportunity to continue at Dartmouth." The complete text of the Dartmouth Academic Honor Principle is given in the Dartmouth College Student Handbook.

There are a number of situations in which a student in Biology 13 might be tempted to violate the Academic Honor Principle. These situations include (but are not limited to) the following:

a) Examinations must be completed without reference to written materials other than those provided with the exam paper and must be completed without communication with anyone else (the only permissible exception is that students may request clarification of any exam question from the course faculty and staff who are present expressly for that purpose). The answers that you provide must be entirely your own work.

b) Our policy permits the re-submission of exams for potential re-grading by the professors. Any alteration of the answers between the time when the graded papers were returned to the student and the time when the paper was submitted for re-grading constitutes a breach of the Academic Honor Principle. To deter this practice, we routinely photocopy exams after grading them.

c) Some laboratory exercises are performed in small groups, and we encourage collaborative analysis of the data. However, any work submitted for grading must represent the **original** words of the student submitting that report. Do not share computer files of work (including text, graphs, tables, etc.) to be submitted for grading! The student misrepresenting the work of another as his or her own is in violation of the Academic Honor Principle and it is quite possible that the Committee on Standards might find the student providing the original file also to be in violation.

Honesty is the foundation of the academic pursuit of knowledge. In recognition of this, the faculty of Biology 13 will not overlook any violations of the Academic Honor Principle. Indeed, the Faculty Handbook of Dartmouth College states explicitly that College Faculty members are obligated to report potential violations of the Academic Honor Principle to the Dartmouth College Committee on Standards. Should the Committee on Standards find the student to be in violation of the Academic Honor Principle, punishments usually involve suspension for multiple terms or separation of the student from the College.

Note to Students with Physical or Learning Disabilities:

Any student with a documented disability, including “invisible” disabilities such as chronic diseases and learning disabilities, needing academic adjustments or accommodations is requested to speak with Prof. Dolph by the end of the second week of the term. At the meeting, the student should be prepared to present a copy of the accommodations form. All discussions will remain confidential, although the Director of Student Disabilities may be consulted if questions arise.

Religious Holidays:

Some students may wish to take part in religious observances that occur during the academic term. If you have a religious observance that conflicts with your participation in the course, please speak with Prof. Dolph as soon as possible to discuss appropriate accommodations.