

# BIOSC 0350 GENETICS

SPRING TERM 03-2

## SYLLABUS

### Faculty

**Dr. Susan Godfrey**

Office: A359 Langley Hall

phone: 624-4254

email: [ssg1@pitt.edu](mailto:ssg1@pitt.edu)

Office Hours: M 5:00-6:00PM, H 4:30-6:00PM

Other times by appointment

**Dr. Richard Sherwin**

Office: Clapp Hall L-3

Phone: 624-4269

e-mail: [dsherwin@pitt.edu](mailto:dsherwin@pitt.edu)

Office Hours: M 3:00-5:00PM & F 10:00AM-12:00PM

Other times by appointment

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### Teaching Assistants

**Mr. Tony Baumert**

Phone: 624-5497

e-mail: [abaumert@pitt.edu](mailto:abaumert@pitt.edu)

Office Hours: to be announced

Location: 154 Crawford Hall

**Ms Janette Steets**

Phone: 624-0985

e-mail: [jsteets@pitt.edu](mailto:jsteets@pitt.edu)

Office Hours: to be announced

Location: 222 Clapp Hall

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### Course Objectives

The goal of this course is to provide students with an overview of genetics from the work of Mendel to the current understanding of the gene at the molecular level. Lectures will introduce basic concepts & terminology as well as emphasize the importance of the experimental approach to problem solving. The instructors & TAs will use problems to illustrate concepts. Additional use of suggested textbook problems & graded problem sets will help students develop critical thinking and problem solving skills.

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## Lectures, Exams and Recitations

### Lecture Schedule

CRN# 03901 T & H 9:30-10:50AM 169 Crawford Hall

### Recitation Schedule

CRN# 07225 T 11:00-11:50AM A220 Langley Hall– Ms Janette Steets

CRN# 07233 T 12:00-12:50PM A220 Langley Hall–Ms Janette Steets

CRN# 15799 W 09:00-09:50AM A220 Langley Hall–Mr. Tony Baumert

CRN# 19701 W 10:00-10:50AM A220 Langley Hall–Mr. Tony Baumert

CRN# 19706 W 2:00-2:50PM A220 Langley Hall–Ms Janette Steets

CRN# 15800 W 03:00-03:50PM A220 Langley Hall–Mr. Tony Baumert

EACH STUDENT MUST BE REGISTERED FOR **both LECTURE and one RECITATION SESSION.**

The schedule for the 14 weeks of this course can be found below.

### Exam Schedule

There will be four (4) Mid-Term Exams. Please note the dates of the mid-term exams to avoid any future scheduling conflicts. Three of the Mid-Term Exams will be given during the regular class meetings. **The Fourth Mid-Term Exam will be given during the Final Exam period, in 169 Crawford Hall, on Friday April 25, 2003 from 4:00 to 5:50PM.**

### Recitation

The recitation for BIOSC 0350 is an important component of this course. The Teaching Assistants will review lecture topics & answer questions. You will also have the opportunity to work on problems in a collaborative environment. Some of the sample problems will be representative of questions that will be on the exams. Points may be earned in recitation by completing the **Problem Sets 1-6** & will be equivalent to one mid-term examination (100pts) & will be calculated from the best five (5) scores on six (6) 20-point problem sets. Since the points earned in recitation are a significant percentage of your total points, you should attend every recitation section. Late problem sets will be graded according to the following scale: two points off if turned in after the beginning of class until 5:00 PM that night and five points off after 5:00 PM through the following day. Late problem sets should be handed in at Dr. Godfrey's office, A359 Langley Hall.

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## Textbook, Reserve Material and CourseInfo

**Required:** An Introduction to Genetics Analysis 7<sup>TH</sup>. Ed. (2000); by Griffiths, Miller, Suzuki, Lewontin & Gelbart, published by W. H. Freeman & Company,

New York. Several problems are given at the back of each chapter we cover. It is good practice for you to work all these problems.

**Recommended:** the Solutions Manual for An Introduction to Genetic Analysis 7<sup>th</sup> Ed. (2000) by Fixsen and Lavett. & Freeman Genetics CD-ROM

New copies of the textbook in the Book Center include the Solutions Manual and CD-ROM at no extra charge.

### **Reserve Materials**

The textbook & Solutions Manual will be on reserve in Langley Library. Also, other genetics textbooks & workbooks will be available. You are encouraged to use these as resources for additional practice problems. The CD-ROM will be available in the Howard Hughes Computer Laboratory in 120 Clapp Hall.

### **CourseInfo**

We will be using Blackboard 5 on Courseweb to post a portion of the course materials. The syllabus, lecture notes, announcements, chapter reading assignments, suggested chapter problems, and answer keys to problem sets and exams will be available at <http://courseweb.pitt.edu>. Login onto the main page. You will then have access to your "My Courseweb" page, which has links to all of the classes for which you have registered that are using Courseweb. If you do not have access to 03-2 BIOSC 0350: Genetics-03901, contact the computer help desk at 624- HELP.

### **E-mail**

Although e-mail will not be used routinely in this class for communication, occasionally the instructors may send out an e-mail notice. The e-mail addresses that are used are the addresses available to instructors through Courseweb. Such notices are also posted as an Announcement on Courseweb. Please note that if you do not normally access your pitt.edu account, you can set up your pitt.edu account to forward your e-mail to the account that you do access regularly. Visit <http://accounts.pitt.edu> to set up forwarding.

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### **Final Grade**

Your final grade will be determined on the basis of your total points earned for the semester. A total of 500 points are possible using the following criteria:

Criteria	Total Possible
Mid-Term Exam 1	100 pts. 20%
Mid-Term Exam 2	100 pts. 20%
Mid-Term Exam 3	100 pts. 20%

Mid-Term Exam 4	100 pts. 20%
Problem Sets (best 5 out of 6)	100 pts. 20%
TOTAL POINTS	500 pts. 100%

The four mid-term exams scheduled are worth 100 pts each. There are six recitation problem sets, each problem set is worth 20 points, only the top five will be counted toward your final grade. In this course, your final grade is based on your total numerical points for the semester & not on averaged letter grades for any single exam. Therefore, you should make every effort to earn as many points as possible on each exam, regardless of the class mean.

### **Missed Examinations**

#### **There Will Be No Make-Up Mid-Term Exams Or Extra Credit Opportunities In This Course!**

If you miss an exam for a valid reason such as serious illness or family bereavement, **evidence/documentation must be presented to the instructors in writing within one week of the missed exam**, then you will be awarded a score for this missed exam equal to the average of the three others. If you miss more than one of the mid-term examinations, you should discuss options available to you with your advisor or the CAS Dean's Office. Please note that you are expected to show up to the final exam on time. Late arrivals will be given the exam during the time that remains for the designated examination period. Students who miss the final exam due to an emergency should pursue the G grade option as detailed below.

### **Exam Re-grades**

A student may request that the instructors re-grade any portion of their graded exams but only if the exam was written in inerasable ink. Any exams written in pencil are not eligible for a re-grade. The student must write out an explanation detailing the reasons for requesting a re-grade. This request must be submitted to Dr. Godfrey or Dr. Sherwin within one week after the date that the graded exam was returned to the class. You are advised to consult the answer key & your textbook prior to submitting your request. Unless the re-grade request is simply due to an addition error of your points, please be aware that your entire exam may be evaluated & any question that was graded incorrectly (in your favor) may also be re-graded resulting in points deducted from your total.

### **G Grades**

Students who wish to petition for a G grade must submit to Dr. Sherwin or Dr. Godfrey, in writing, a specific request for this grade change and you must document your reason(s). You will be required to make arrangements in person, with the instructors, for the specific tasks you must complete to remove the G grade. Remember that G grades, according to CAS guidelines, are to be given only when students who have been attending a course and

have been making regular progress are prevented by circumstances beyond their control from completing the course after it is too late to withdraw.

### **Academic Integrity**

Students in this course will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity: Student Obligations. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Specific limitations we emphasize for this course include (1) no student may use any unauthorized materials during an examination, including notes, dictionaries, pagers, telephones, PDAs, and programmable calculators, and (2) students must submit for grading only materials exclusively their own work and written by themselves, including all examinations and problem sets. Problem sets or examinations that are demonstrably copied from work of another student or plagiarized from any other source will, at a minimum, earn the grade of 0 for each student involved for the first offense. More stringent sanctions will be employed for repeat offenses.

### **Calculators**

No calculators will be permitted in any exam. We will provide a calculator for use during the exam, which you will return at the conclusion of the exam.

### **Student with Disabilities**

If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and the Office of Disability Resources and Services. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call 648-7890 (Voice or TDD) to schedule an appointment. The office is located in 216 William Pitt Union.

Class	Date	Topic	Chapter	Lecturer
Lecture 1	T 1/7/03	Course Overview: Business Course Overview: Genetics	1	Godfrey Sherwin
Lecture 2	H 1/9/03	Patterns of Inheritance <b>Problem Set 1 assigned</b>	2	Sherwin
Lecture 3	T 1/14/03	Patterns of Inheritance	2	Sherwin
Lecture 4	H 1/16/03	Patterns of Inheritance <b>Problem Set 1 due</b>	2	Sherwin
	F 1/17/03	<b>Fall Term Add/Drop Ends</b>		
Lecture 5	T 1/21/03	Chromosome Basis of Inheritance	3	Godfrey
Lecture 6	H 1/23/03	Chromosome Basis of Inheritance <b>Problem Set 2 assigned</b>	3	Godfrey
<b>Exam 1</b>	<b>T 1/28/03</b>	<b>Exam 1 covering lectures 1-6</b>		
Lecture 7	H 1/30/03	Gene Interaction <b>Problem Set 2 due</b>	4	Godfrey
Lecture 8	T 2/4/03	Gene Interactions	4	Godfrey
Lecture 9	H 2/6/03	Mapping in eukaryotes <b>Problem Set 3 assigned</b>	5	Sherwin
Lecture 10	T 2/11/03	Mapping in eukaryotes	5, part of 6	Sherwin
Lecture 11	H 2/13/03	Gene Transfer & mapping in Bacteria <b>Problem Set 3 due</b>	7	Godfrey
Lecture 12	T 2/18/03	Structure & Replication of DNA	8	Godfrey
Lecture 13	H 2/20/03	Gene Mutation <b>Problem Set 4 assigned</b>	15, part of 16	Godfrey
<b>Exam 2</b>	<b>T 2/25/03</b>	<b>Exam 2 covering lectures 7-13</b>		
Lecture 14	H 2/27/03	Genetics of DNA function <b>Problem Set 4 due</b>	9	Sherwin
	3/2-9/03	<b>Spring Break (No Classes)</b>		
Lecture 15	T 3/11/03	Genetics of DNA function	9, part of 10	Sherwin
	W 3/12/03	<b>Last Day to withdraw from a course</b>		
Lecture 16	H 3/13/03	Molecular biology of gene function <b>Problem Set 5 assigned</b>	10	Sherwin
Lecture 17	T 3/18/03	Gene Regulation in prokaryotes	11	Godfrey
Lecture 18	H 3/20/03	Gene regulation in eukaryotes <b>Problem Set 5 due</b>	11	Godfrey
Lecture 19	T 3/25/03	Developmental Genetics	23	Sherwin
Lecture 20	H 3/27/03	Chromosomal Mutation	17	Godfrey
<b>Exam 3</b>	<b>T 4/1/03</b>	<b>Exam 3: covering lectures 14-19</b>		
Lecture 21	H 4/3/03	Gene Identification	13, part of 14	Sherwin
Lecture 22	T 4/8/03	Genomics <b>Problem Set 6 assigned</b>	14	Godfrey
Lecture 23	H 4/10/03	Population Genetics	24	Sherwin
Lecture 24	T 4/15/03	Evolution	26	Sherwin
Lecture 25	H 4/17/03	Summary Lecture <b>Problem Set 6 due</b>		Godfrey

<b>Final Exam</b>	<b>F 4/25/03</b>	<b>Fourth Mid-Term Exam 4:00 PM- 5:50 PM CD 169 covering lectures 20-25 &amp; all lectures</b>		
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