

THEORETICAL POPULATION GENETICS

Tentative Schedule – Fall 2002 **DRAFT 1**

Class: BSC 5932 Time: M 3:30-4:45, T 2:30-3:45 Room #: LSA 133 Text Book: Hartl & Clark, 3rd	Instructor: Dr. Stephen Karl Office: BSF 211 Phone: 974 - 1592 Office Hours: by appointment
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Date	Topic	Overheads	Chapter
<u>August</u>			
26	Introduction and Class Organization	—————	—
27	Basics and Background	Topic 1	1
<u>September</u>			
2	Labor Day – NO CLASS		—
3	Basics and Background, continued	"	1
9	Genetic and Phenotypic Variation	Topic 2	2
10	" " " "	"	"
16	" " " "	"	"
17	Organization of genetic variation	Topic 3	3
23	" " " "	Topic 4	"
24	Population substructure	Topic 5	4
30	" "	Topic 6	"
<u>October</u>			
1	" "	Topic 7	"
7	" "	Topic 8	"
8	Sources of Variation	Topic 8	5
14	" " " "	"	"
15	" " " "	"	"
21	Darwinian Selection	Topic 9	6
22	" "	"	"
28	" "	Movies	"
29	" "	Topic 10	"
<u>November</u>			
4	" "	Topic 11	"
5	Genetic Drift	Topic 12	7
11	Veteran's Day – NO CLASS		—
12	" "	"	"
18	Molecular Population Genetics	Topic 13	8
19	" " "	"	"
25	" " "	"	"
26	Quantative Genetics	Topic 14	9
<u>December</u>			
2	" "	"	"
3	" "	Topic 16	"

General Information

This course will cover central analytical tenets of population genetics. Although some practical applications and examples from the literature will be used, the main focus is to provide a clear understanding of the mathematical foundations of population genetics.

Most classes will be lecture. Homework assignments will be required for several of the topic areas. These assignments will be corrected and discussed during part of a class period. Homework will be graded as + (if you hand in a satisfactorily completed assignment) or - (if you don't). Your final course grade will be determined based upon class participation, homework, and my subjective evaluation of your performance during the course. A midterm and/or final examination will be included if necessary.

In general, I will be preparing my lectures using the resource material below. All are on reserve in the main library on the Tampa campus. If you are having a hard time understanding any of the concepts covered in class or Hartl & Clark, these should provide an alternative perspective. The third edition of Hartl and Clark also is available for purchase in the bookstore. Additional information will be provided as handouts in class.

Resource Material

Bell, G. 1997. Selection: The mechanism of Evolution. Chapman Hall, New York, NY.
QH375.B44 1997

Futuyma, D. J. 1986. Evolutionary Biology. Sinauer Associates, Inc., Sunderland, MA.
QH366.2.F87 1998

Hartl, D. L. and A. G. Clark. 1989. Principles of Population Genetics. Sinauer Associates, Inc., Sunderland, MA. QH455 .H37 1989

Hartl, D. L. and A. G. Clark. 1997. Principles of Population Genetics. Sinauer Associates, Inc., Sunderland, MA. QH455 .H36 1997

Hedrick, P. W. 2000. Genetics of populations. Jones and Bartlett Publishers. QH455.H43 2000

Weir, B. 1990. Genetic data analysis: Methods for Discrete Population Genetic Data. Sinauer Association Incorporated, Sunderland, MA. QH438.4.S73 W45 1990

Weir, B. 1996. Genetic data analysis II: Methods for Discrete Population Genetic Data. Sinauer Association Incorporated, Sunderland, MA. QH438.4.S73 W45 1996

University Required Additional Information

- I will NOT be using the +/- grading system.
- Let me know if you need to take off for religious holidays. “Students who anticipate the necessity of being absent from class due to the observation of a major religious observance must provide notice of the date(s) to the instructor, in writing, by the second class meeting.”
- Course Objectives: Pre-requisites — you must have a background in one or more of the following: Genetics, Ecology, Molecular Biology, Population Genetics, Mathematics or Evolution AND consent of instructor. You will learn the basic of population genetics.
- Classroom Policy: I expect you to act like adults. You will be dismissed from class for unruly behavior. You will be dismissed from the course if the abhorrent behavior is persistent or serious. If dismissed, you will be assigned a grade of F. “Disruption of academic process is an act or words of a student in a classroom or teaching environment which in the reasonable estimation of a faculty member (a) directs attention from the academic matter at hand (such as noisy distractions, persistent, disrespectful or abusive disruptions of lecture, exam or academic discussions) or (b) presents danger to the health, safety or well being of the faculty member or students.”
- Attendance is not required, but miss class at your own peril. Lectures will include material not available from other sources.
- Grading: grades will be A, B, C, or F and assigned based on my subjective evaluation of what you have learned and how many homework assignments you have satisfactorily turned in. One letter grade reduction for each missed assignment.
- If you have a grievance you should first discuss it with me. If we cannot resolve the situation, you should make an appointment to discuss the situation with the Associate Chairman (Dr. McCoy @ 4-3250). “Uncollected assignments and/or examination swill not be retained by the instructor longer than 90 days from the date of the final examination. Grades not disputed within 90 days from their assignment will be considered final and no grievance may be filed.”
- Academic dishonesty is defined and dealt with according to the 2002-2003 University of South Florida Undergraduate Catalog. Homework will be assigned during this course. Although it is permissible and even encouraged for you to coordinate your efforts with other students you may not simply copy, in whole or part, another students work. In every collaborate effort you must be an equal, active partner. Anything less will be considered plagiarism and the offending student will be subjected to the maximum allowable penalty that can include dismissal from the graduate program.
- I do not allow paid note-takers nor do I approve of you selling your notes during or after the course. I consider my lectures to be my academic property.
- Have fun and be careful out there.