

Size DOES Matter

ECFS 190 – Section B

T/T 2:30-3:45 PM, Emerson Room 401

Instructors:

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Coordinators:

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Course Description:

This course examines the rationale behind studying scientific questions *of interest to you*. **Where** do your interests lie? **Why** is this important? **What** questions do you have? **How** do you ask these questions? In this seminar, each of the five instructors will cover active areas of research here at Emory, from BIG (organism) to small (molecular).

Prerequisites: None!

Course Goals:

1. Become familiar with the rationale behind the development of a novel, scientific idea
2. Become familiar with the methods used to investigate a question on multiple levels
3. Enhance skills in critical analysis

Assignments and Grading:

Each student will be graded according to the following assignments:

- Reading/writing assignments from each module/instructor (10% each)	50% (10 pts/module)
- Research proposal	20% (20 points)
- Research presentation	15% (15 points)
- Participation	15% (3 points/module)

Assignments should be handed in at the START of class, unless otherwise specified by your instructor. Each assignment that is handed in after that time will be dropped one letter grade for each 24h period that it is late. This seminar is geared toward participation and interaction, therefore, state your opinions and ask questions!

As instructors, we have the following responsibilities:

1. Come prepared to every class.
2. Plan our classes so that you can accomplish the goals of the course.
3. Consider that it is not always your fault if you do not understand the material.
4. Create a mutually respectful classroom environment.

As students you have the following responsibilities:

1. Come prepared to every class.
2. Complete all work on time with the proper thought.
3. Consider that it is not always our fault if you do not understand the material.
4. Treat everyone in the classroom with respect.

Course Schedule:

<u>Date</u>	<u>Who</u>	<u>What</u>
01/15/04	ALL	Introduction & The Scientific Method & Assign mentors (The Eleusis game) ◇ reading re: Scientific reading
01/20/04	Neiwert	Chemical warfare and decon.: What is it really all about?
01/22/04	Neiwert	Questions: So where are the answers?
01/27/04	Neiwert	Polyoxometalates: Say What?
01/29/04	Neiwert	Crystallography: Do you have a steady hand?
02/03/04	Neiwert (Bough)	The Big Picture: Where do we go now?
02/05/04	Bough	“Breaking it down” & basic neuroscience
02/10/04	Bough	Studying behavior – Animal models
02/12/04	Bough	Studying circuits – electrophysiology
02/17/04		POST PROPOSAL QUESTION TO LEARNLINK BY 2PM, *(THEN MAKE APPOINTMENTS TO MEET WITH YOUR MENTOR THROUGHOUT THE NEXT TWO WEEKS TO HELP YOU FORM A PLAN FOR YOUR PROPOSAL)*
02/17/04	Bough	Studying genes – microarrays
02/19/04	Bough (Rattiner)	“Building it all back up”
02/24/04	Rattiner	Where, why, what, and how: My personal scientific journey!
02/26/04	Rattiner	Introduction to Learning and Memory and How we study it
03/02/04	Rattiner	Classical Conditioning /Fear Conditioning:Be afraid, be very afraid
03/04/04	Rattiner	Cellular/Molecular approaches to asking behavioral questions
03/08-12/04		SPRING BREAK
03/16/04	Rattiner (Flaherty)	Combining Techniques in Science
03/18/04	Flaherty	Using model genetic organisms in research
03/19/04		POST DRAFT OF PROPOSAL TO LEARNLINK BY MIDNIGHT, NO EXCEPTIONS
03/23/04		ALL CLASS MEETING TO DISCUSS PROPOSALS
03/25/04	Flaherty	Genome Projects
03/30/04	Flaherty	Genes to proteins to muscles
04/01/04	Flaherty	Lab Day (meet in Benian Lab-Whitehead 165): “Titin-ic” Findings
04/06/04	Flaherty (Walsh)	”What do you think? Are worms a big stretch?
04/08/04	Walsh	What is life ? Origins of life theories
04/13/04	Walsh	Do molecules self-assemble ? How and why ?
04/15/04	Walsh	What is a chemical reaction/ polymer ?
04/16/04		POST FINAL PAPER TO LEARNLINK BY MIDNIGHT, NO EXCEPTIONS
04/20/04	Walsh	Self-replication (instructors will also post comments to you on your proposals by the end of this day)
04/22/04	Walsh	DNA-Templated polymerization
04/23-28/04		WE’LL HAVE A STUDY BREAK SOMETIME THIS WEEK TO RELAX, HAVE FUN FOOD, AND ANSWER QUESTIONS ABOUT THE PRESENTATIONS IF YOU’D LIKE
04/30/04	ALL	12:30-3:00pm FINAL: Student Presentations

Please be sure to keep this FINAL date in mind when making your end of year travel plans. We will NOT be making changes to this final exam date, OR other arrangements for people who chose to leave early. If you choose to miss this final exam presentation it will result in a ZERO for 15% of your final course grade.