

FOR 501 Research Methods
TTh 1:10-2:30

Spring 2009

Instructor: Diana L. Six

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Course objectives: To assist graduate students in developing a solid understanding of scientific approaches, to enhance the students ability to design a scientific study, critique scientific studies/research, and to facilitate the preparation of a thesis/dissertation study plan.

Course Outline:

1. Jan 27 Introduction to the course and its objectives. What is science?
2. Jan 29 Writing the proposal
3. Feb 3 Picking a question. Developing and testing hypotheses.
4. Feb 5 The literature search – **MEET AT LIBRARY!** Tutorial for literature searches from Barry Brown, Science Librarian --- meet at 1:30 pm (***please do not be late***) at the Student Learning Center (ML 283 which is one floor down from the entrance floor and on the right hand side)
5. Feb 10 Hypotheses cont'd. Hypothesis assignment assigned. Elements of scientific data.
6. Feb 12 Discussion of hypothesis assignment. Data records and management (paper critique I assigned)
7. Feb 17 Using experiments to test hypotheses I
8. Feb 19 Using experiments to test hypotheses II. Discussion of paper critique I (paper critique I due)
9. Feb 24 Using experiments to test hypotheses III
10. Feb 26 Patterns, trends, and data analysis. Adaptation. Negative results
11. Mar 3 Midterm I
12. Mar 5 Communicating what you find: The basics. Oral presentations. (paper critique II assigned)
13. Mar 10 Communicating what you find: Poster presentations. Networking
14. Mar 12 Communicating what you find: Writing the scientific paper
15. Mar 17 The life history of a paper. Submission/peer review/authorship/ who owns the data? Discussion of paper critique II (Paper critique II due)
16. Mar 19 Research ethics. What is full disclosure? The imperfections of science (ethics readings assigned)
17. Mar 24/26 NO CLASS- work on proposals!!!
18. Mar 31/Apr 2 SPRING BREAK
19. Apr 7 Fraud and dishonesty in science discussion (discuss ethics reading assignment) (Proposals due, assigned for peer review by email)
20. Apr 9 Midterm II
21. Apr 14 Proposal review discussions, reviews/proposals turned back for

	revision
22. Apr 16	Presentations
23. April 21	Presentations
24. April 23	Presentations
25. April 28	Presentations (Final proposals due)
26. April 30	Presentations

Grading:

Midterms (2): 15% each

Proposal: 30%

Paper critiques (2): 5% each

Hypothesis assignment: 5%

Proposal reviews (2): 5% each

Presentation: 15%