

2011-2012 Academic Year syllabi

ABG 200A  
2:10-3:30 Tuesday and Thursday  
1338 Meyer Hall  
Berger and DePeters

Schedule

September 22	Berger	Introduction	<u>Discussion Responsibility</u>
September 27	Berger	Reproduction	
September 29	Berger	Reproduction	
October 4	Adams	Endocrinology	
October 6	Adams	Endocrinology	
October 11	DePeters	Nutrition	
October 13	DePeters	Nutrition	
October 18	Student presentations		-----
October 20	Student presentations		-----
October 25	Radke	Immunology	
October 27	Radke	Immunology	
November 1	Millam	Environment	
November 3	Millam	Environment	
November 8	Kebreab	Modeling Biological Systems	
November 10	Fadel	Modeling Biological Systems	
November 15	Murray/Maga	Genetics /Policy on Transgenetic Animals	
November 17	Murray/Maga	Genetics /Policy on Transgenetic Animals	
November 22	Tucker	Animal Behavior	
November 29	student presentations		
December 1	student presentations		

December 7 6-8 PM Wednesday final exam time

Grading will be based on student presentations (15% for first and 25% for second), participation in class discussions (20%), and a final exam (40%).

The first series of student presentations will be **10** minute presentations on **proposed Ph.D.** research. **This is not about your M.S. research.** A written description of the project (3-5 pages) will be due on October 18. This description should include background and hypothesis as well as species used to test the hypothesis. Your approach to testing the hypothesis is very important; this is described as the experimental design. (This should answer what your manipulations are (such as being moved up and down alleys at a walking pace for an hour at midnight while a sound system plays waltz music at 20 decibels), your controls, and what you are going to measure--such as growth rate by body weight or changes in body length, estimating crude protein in the diet by Kjeldahl analysis of nitrogen [not how one does the analysis], measuring testosterone by ELISA,[ not how long one incubates with primary antibody, etc.] We realize that you are just beginning to think about your research project. You should get to your hypothesis by the 6 minute mark in your talk.

The second series of student presentations will again be **10** minutes long and be based your decision of the most important next step to undertake, your hypothesis of the mechanism, and experimental design to test your hypothesis following currently published information on a recent paper chosen for the class. A three to five page paper about your idea of the next research step, hypothesis, and experimental design will be due on November 29. The specific paper will be provided after the first assignment.

ABG 200B  
Integrated Animal Biology II

Syllabus and schedule are developed each year depending on the students (number and their topical interests).

This course is designed to promote student study and communication about the “biology of their organism” and the disciplines they will need to become knowledgeable in order to conduct their research and also to develop a research proposal. It is about self-education by the student and improving both their oral communication skills (weekly talks) and writing skills (writing and editing).

The main topics covered (by the students and faculty discussion) in oral and written form:

1. Animal care regulations/issues for animals used in research (this year it was Dan Sehnert and Joy Mench)
2. Biology of the organism (life history and natural history)
3. Animal husbandry, care and management (for their species for research)
4. Discipline – Primary (definition, history, seminal discoveries, and as relates to their interests/research questions)
5. Discipline – Secondary (definition, history, seminal discoveries, and as relates to their interests/research questions)
6. Research proposals

Related topics covered by Dr. Delany in advance to student talks and handbook chapters.

2012 ABG200B

Species interests of the students: chicken, rhesus macaque, beef cattle, mice, dairy cattle, elephants, pigs

Disciplinary/topical interests of the students: nutritional biochemistry, reproduction, behavior, early embryonic gene expression, mathematical modeling, ruminant nutrition, mammary gland biology, livestock ecology

**SYLLABUS**  
**ABG 401 - Ethics and Professionalism in Animal Biology**  
Spring 2012  
Meyer 1135

**INSTRUCTOR:** Joy Mench  
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752-7125  
Office hours by appointment (2154 Meyer)

**TEXTBOOKS**

National Academy of Sciences (NAS) 2009. On Being a Scientist: A Guide to Responsible Conduct in Research, Third Edition.

Stenek, N.H. 2007. Introduction to the Responsible Conduct of Research. Revised edition. NIH Office of Research Integrity.

**COURSE OUTLINE**

Week 1 (April 2)                    **Introduction** to course  
*Reading:* Stenek chapter 1  
Using case studies – an example (handouts and discussion)

Week 2 (April 9)                    **Animal Subjects**  
*Reading:* Stenek chapter 4; NAS 24-28  
Case study 1: animal care and use

Week 3 (April 16)                    **Conducting research: Minimizing bias**  
*Reading:* Stenek chapters 2, 5 & 6; NAS pg. 8-18, 43-47  
Case study 2: conflict of interest  
Case study 3: selecting data for publication

**APRIL 23                                NO CLASS**

Week 4 (April 30)                    **Disseminating research**  
*Reading:* Stenek chapter 9; NAS 19-42;  
Case study 4: data ownership  
Case study 5: authorship

Week 5 (May 7)                    **Confidentiality and conflicts**  
*Reading:* Stenek chapter 10  
Case study 6: peer review  
Case study 7: confidentiality

Week 6 (May 14)

***People Issues***

*Reading:* Stenek chapters 7 & 8

Case study 8: collaborative relationships

Case study 9: conflicts of commitment

Week 7 (May 21)

***Mentoring***

*Reading:* NAS 4-7; handouts

General discussion

**May 28**

**NO CLASS (Memorial Day)**

Week 8 (June 4)

***Science and Society – Dealing with the Public***

*Reading:* NAS 48-50; handouts

Case studies (for fun only!)

***GRADING***

60%

Participation

40%

Case study reports