



University Graduate School  
2007-2008  
Academic Bulletin

## Animal Behavior

Bloomington

### Director

Associate Professor Emilia P. Martins\*

### Departmental E-mail

[cisab@indiana.edu](mailto:cisab@indiana.edu)

### Departmental URL

[www.indiana.edu/~animal](http://www.indiana.edu/~animal)

## Graduate Faculty

(An asterisk [\*] denotes membership in the University Graduate School faculty with the endorsement to direct doctoral dissertations.)

### Professors

Jeffrey R. Alberts\* (Psychology), Colin Allen\* (History of Philosophy and Science), Edmund D. Brodie III\* (Biology), Preston E. Garraghty\* (Neuroscience, Psychology), Kevin D. Hunt\* (Anthropology), Ellen D. Ketterson\* (Biology), Curtis M. Lively\* (Biology), Val Nolan Jr.\* (Emeritus, Biology), Milos Novotny\* (Chemistry), George V. Rebec\* (Program in Neural Science, Psychology), Dale R. Sengelaub\* (Program in Neural Science, Psychology), Joseph E. Steinmetz\* (Program in Neural Science, Psychology), Roderick A. Suthers\* (Psychology), William D. Timberlake\* (Psychology), Michael J. Wade\* (Biology)

### Associate Professor

Emilia P. Martins\* (Biology)

### Assistant Professors

Gregory D. Demas\* (Biology), Laura Hurley (Biology)

### Academic Advisor

Associate Professor Emilia P. Martins\*, Jordan 136, (812) 856-5840

### Adjunct Professors

Peter Cherbas\* (Biology), Robert de Ruyter van Steveninck\* (Physics), Robert DeVoe\* (Emeritus, Optometry), Julia R. Heiman\* (Psychology), Elisabeth Lloyd\* (History and Philosophy of Science), Rudolph Raff\* (Biology), J. C. Randolph\* (Public and Environmental Affairs), Stephanie Sanders\* (Gender Studies), Kathy D. Schick\* (Anthropology), Nicholas Toth\* (Anthropology), Meredith J. West\* (Psychology)

### Adjunct Associate Professors

Henry D. Prange\* (Health Sciences), Whitney M. (Reilly) Schlegel (Biology), S. Holly Stocking\* (School of Journalism)

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### **Adjunct Assistant Professors**

Armin P. Moczek (Biology), Christine C. Quirk\* (Medicine), Laura L. Scheiber\* (Anthropology), Sima Setayeshgar\* (Physics)

## **Admission Requirements**

Students must be admitted to a Ph.D. program in the Department of Biology, the Department of Psychology, or the program in neural science or other related departments or programs (e.g., program in medical sciences, anthropology). They must also apply to the program in animal behavior.

Students should select an advisory committee made up of at least three members of the graduate faculty. For students whose home department or program is biology, at least one member of the advisory committee from the Department of Psychology or the program in neural science is expected. For students whose home department or program is the Department of Psychology or the program in neural science, at least one member of the advisory committee from biology is expected. At least two of the student's committee members must be members of the program in animal behavior.

## **Ph.D. Minor in Animal Behavior**

### **Course Requirements**

At least FOUR courses taken from at least two different departments/graduate programs, as specified below:

(1) ONE ABEH A501 Seminar in the Integrative Study of Animal Behavior

(2) ONE course from the following list, emphasizing mechanisms of behavior:

NEUS N500 Neural Science I  
NEUS N501 Neural Science II  
NEUS N550 Seminar in Sensorimotor Neuroplasticity  
BIOL L560 Physiological Ecology  
MED P548 Neuroethology

(3) ONE course from the following list, emphasizing evolutionary perspectives:

ANTH B568 Evolution of Primate Social Behavior  
ANTH B600 Evolutionary Theory of Anthropology  
BIOL L567 Evolution  
BIOL Z540 Population Genetics  
BIOL L573 Quantitative Genetics and Microevolution  
BIOL L581 Behavioral Ecology

(4) ONE additional course from above or from the list below:

BIOL Z460 Ethology  
BIOL Z466 Endocrinology  
BIOL L505 Evolution and Development  
COGS Q551 Brain and Cognition  
COGS Q700 Theoretical Issues in Animal Cognition  
MED P561 Comparative Animal Physiology  
PSY P417 Animal Behavior  
PSY P504 Learning and Motivation  
PSY P526 Neurobiology of Learning and Memory  
PSY P527 Developmental Psychobiology

PSY P717 Evolutionary Bases of Learning

### **Examination**

As required by home department or program.

## **Graduate Area Certificate in Animal Behavior**

### **Course Requirements**

The requirements for the Area Certificate in Animal Behavior include all of the requirements of the minor, plus the following:

- (1) One additional ABEH A501 Seminar in the Integrative Study of Animal Behavior
- (2) ABEH A502 Professional Ethics for the Bio-Behavioral Sciences or PSY P595 First-Year Research Seminar
- (3) One additional course from 1-4 above.

### **Examination**

As required by home department or program.

### **Statistics Requirement**

As required by home department or program.

### **Thesis**

Required.

## **Courses**

**A500 Introduction to Animal Behavior Research (1 cr.)** Introduces students to research opportunities in animal behavior. Local researchers will present their recent research efforts, emphasizing the integrative aspects of their work and its application to functional and mechanistic explanations of behavior.

**A501 Seminar in the Integrative Study of Animal Behavior (2-3 cr.)** Investigation of functional behavior of animals (e.g., migration, parental behavior, mate choice) using an interdisciplinary approach that attempts to integrate the perspectives of developmental psychology, ecology and evolutionary biology, neural science, and the science of learning and memory. Topic will vary. May be repeated for credit.

**A502 Research and Professional Ethics in Bio-Behavioral Sciences (1 cr.)** Readings and discussion dealing with general ethical issues in science, with a particular focus on animal behavior. Topics include treatment and protection of animals; the acquisition, analysis, and use of data; student-mentor and student-teacher relations; credit, authorship, and peer review.

## **Cross-Listed Courses**

### **Anthropology**

**B568 Evolution of Primate Social Behavior (3 cr.)**  
**B600 Evolutionary Theory of Anthropology (3 cr.)**

### **Biology**

**L560 Physiological Ecology (3 cr.)**  
**L567 Evolution (3 cr.)**  
**L573 Quantitative Genetics and Microevolution (3 cr.)**  
**L581 Behavioral Ecology (3 cr.)**  
**Z540 Genetics of Population (3 cr.)**

### **Medical Sciences**

**M555 Medical Neuroscience (5 cr.)**  
**P548 Neuroethology (2 cr.)**

### **Neural Science**

**N500 Neural Science I (4 cr.)**  
**N501 Neural Science II (3 cr.)**  
**N550 Seminar in Sensorimotor Neuroplasticity (3 cr.)**

### **Psychology**

**P504 Learning and Motivation (3 cr.)**  
**P526 Neurobiology of Learning and Memory (3 cr.)**  
**P527 Developmental Psychobiology (3 cr.)**  
**P667 Neuropsychopharmacology (3 cr.)**  
**P717 Evolutionary Bases of Learning (3 cr.)**