Organismal Function, BIOB 507
Spring 2017

Class Time and Location

TR 2-3:40; LA 103B

Instructors

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Course Goals:

Explore Mechanisms

To gain a deeper understanding of physiology and morphology that is relevant to any biologist, we will explore the physical and chemical mechanisms that underlie the relationship between form and function. We shall take an integrative view, beginning discussions of morphology and physiology from an evolutionary perspective, moving into the details of size and scaling, chemical signaling, and organismal complexity, and finish with a broader ecological approach to these topics.

Understand Complex Ideas and Hypotheses

Our approach is twofold: 1) We shall compare and contrast classic themes in physiology with novel and interesting new insight that has emerged from modern research and, (2) we shall examine the ways that modern insight in physiology can be extended in a comparative, ecological and evolutionary context. We will read, analyze and discuss classic and modern papers.

Grading

Participation in Discussion	50 pts
Assignments	50 pts
Integrative Exam I	100 pts
Integrative Exam II	100 pts
Research Presentation (20 minutes)	100 pts
Total	400 pts

Additional Details on Grading

Participation and assignments will be graded according to category: - = 70%, ✓ = 85% and + = 100%, whereas exams and research presentation will be graded on a linear scale.

Assignments will consist of A) brief (~1 paragraph) summaries of papers with thoughtful questions or B) brief problem-solving exercises that will require analysis, graphing and interpretation.

Exams will be structured to help you prepare for your graduate comprehensive exams. They will be open-book, take-home, and occur over a ~3-day interval. We will provide six questions and request that you answer three of the six.

The research presentation will be a 20-minute exploration of a mechanism/form/function question relevant to taxa of your choice. We encourage you to investigate the species which you are focusing upon with your thesis or dissertation.

Learning Outcomes

1. Students will be able to discuss, summarize and critique classic and current scientific papers that explore topics in functional morphology and physiology.
2. Students will be able to write essays similar to the written portion of comprehensive exams given by the graduate program in Organismal Biology, Ecology and Evolution.
3. Students will be able to present a lecture introducing a topic in Organismal Function and lead discussion on this topic.
4. Students will be able to synthesize major themes in functional morphology and physiology with the ecology and evolution of organisms.

Course and University Policy:

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and /or a disciplinary sanction by the University

All students need to be familiar with the Student Conduct Code.

The University of Montana provides upon request appropriate academic adjustments for qualified students with disabilities. For more information, contact the Disability Services for Students at 243-2243. This document has been fixed with heading structure and self-describing links for use with screen readers.