

# BIOL 305: Comparative Animal Physiology

*This detailed course description provides information about course topics & content. It is not a course syllabus. Summer 2013 course syllabi are updated in the spring, and may not be available until summer classes begin.*

## Instructor Information

Instructor	Email	Course Format	Number of Credits
Sarah Leupen	leupen@umbc.edu	Lecture, Discussion	3

## General Information

### Course Format Other

The class is a mixture of lecture (about 25%), discussion among teams and professor (about 50%), and group work in teams (about 25%).

### Delivery Format

In-Person

### Prerequisite /Co-requisite:

Bio 303 (Prerequisite); Physics 112 (Co-requisite)

## Course Materials

### Currently Used Materials

- Hill, Wyse, and Anderson, Animal Physiology, 3rd edition

## Course Objectives/Learning Outcomes:

Course Objectives: The purpose of this course is to help you:

- Understand the basic concepts and processes of physiological regulation, from cellular to organ to organismal
- Get a feel for how different groups of animals have different physiological adaptations appropriate to their environments
- Improve your level of confidence, skill and comfort with primary scientific literature
- Appreciate the gorgeous diversity of animal life and physiological possibilities that animals have developed through natural selection
- There are also learning objectives for each topic in the class that we discuss.

## Potential Topics Covered:

- The Magic of Diffusion/Active Transport

- Feeding & Assimilating Energy
- Energy and Metabolism
- Making & Breaking Energy: ATP
- Thermoregulation
- How Neurons Work
- How Neurons Talk to Each Other
- The Senses
- Brains and Clocks
- Endocrine Control Systems
- Gas exchange
- Breathing

## **Additional Information and Resources**

Students can feel free to email me, [leupen@umbc.edu](mailto:leupen@umbc.edu), with any questions they have.