

General Information

Course Bulletin Listing/Subject Area	Evol, Ecology & Organismal Bio
Fiscal Unit/Academic Org	Evolution, Ecology & Org Bio - D0390
College/Academic Group	Arts And Sciences
Level/Career	Graduate, Undergraduate
Course Number/Catalog	5210
Course Title	Spider Biology - Stone Lab
Transcript Abbreviation	Spider Biology-SL
Course Description	Study of the biology of spiders including functional anatomy, behavior, webs and web-building, field and lab methods, identification, and ecology. 1-wk course available summer term at Stone Lab. Special fees assessed.
Semester Credit Hours/Units	Fixed: 2

Offering Information

Length Of Course	7 Week, 4 Week (May Session), 12 Week (May + Summer)
Flexibly Scheduled Course	Always
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Field Experience, Laboratory, Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	Completion of 12 semester hours of biological sciences, at least junior standing by summer of enrollment, and GPA minimum of 2.5 or permission of instructor
Exclusions	

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	26.0799
Subsidy Level	Doctoral Course
Intended Rank	Junior, Senior, Masters, Doctoral

Quarters to Semesters

Quarters to Semesters	New course
Give a rationale statement explaining the purpose of the new course	Offered as part of summer program at Stone Lab. The course is an elective (for this or other units) or is a service course for other units.

Sought concurrence from the following Fiscal Units or College

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

Content Topic List

- Relationships of spiders to other arachnids; diversity of spiders
- Spider taxonomy; Ohio spiders
- Functional spider anatomy: Circulatory and respiratory systems, digestive system, muscular and hydrostatic system, nervous system; tissue sampling and specimen preparation
- Spider behavior: Movement, daily activity cycles, webs and silk, courtship and mating
- Spider ecology: Predatory behavior, detection methods, prey capture, ingestion, functional guilds
- Spiders and humans: Venoms, agriculture
- Field techniques in Araneology

Attachments

- EEOB 5210-Spider Biology-Syllabus.doc: Syllabus

(Syllabus. Owner: Lanno, Roman P.)

Comments

- Need to submit a syllabus for this new course. *(by Hadad, Christopher Martin on 01/31/2012 04:16 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Lanno, Roman P.	01/31/2012 12:09 PM	Submitted for Approval
Approved	Lanno, Roman P.	01/31/2012 12:10 PM	Unit Approval
Revision Requested	Hadad, Christopher Martin	01/31/2012 04:16 PM	College Approval
Submitted	Lanno, Roman P.	01/31/2012 07:20 PM	Submitted for Approval
Approved	Lanno, Roman P.	01/31/2012 07:21 PM	Unit Approval
Approved	Hadad, Christopher Martin	01/31/2012 08:16 PM	College Approval
Pending Approval	Nolen, Dawn Jenkins, Mary Ellen Bigler Meyers, Catherine Anne Vankeerbergen, Bernadette Chantal Hogle, Danielle Nicole Hanlin, Deborah Kay	01/31/2012 08:16 PM	ASCCAO Approval

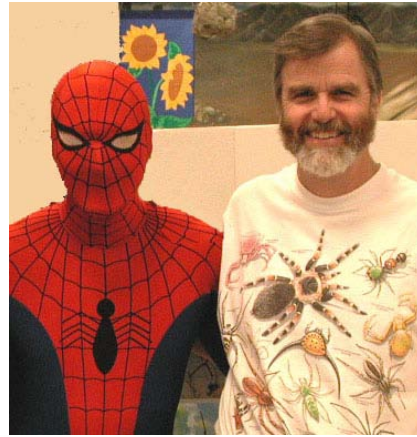
Spider Biology

Instructor:

Dr. Richard A. Bradley
384b Morrill Hall
Phone: (740) 725-6266
E-mail: bradley.10@osu.edu

Course Title and Number:

EEOB 5210: Spider Biology U/G 2 CR
Call Number: XXXXX-X



class instructors

Course Description:

A comprehensive course in the biology of spiders (Order Araneae) including; functional anatomy, senses and perception, behavior, webs and web-building, identification, classification and relationships, field techniques, and ecology.

Course Objectives: To provide advanced undergraduates or graduate students with a detailed introduction to the study of spiders. After successful completion of the course you will have:

- learned to appreciate the diversity and relationships among spiders
- learned the functional anatomy of spiders
- become proficient in advanced spider identification
- learned to conduct field study of spiders using standard techniques
- learned to recognize and understand common spider behaviors
- experienced the micro and macro habitat preferences of spiders
- designed and conducted a small research project

This is an intensive residential course to be held at F. T. Stone Laboratory, Gibraltar Island. Students will attend morning lectures and afternoon laboratory and field sessions. There will be outdoor (field) exercises on Gibraltar Island as well as a field excursion to South Bass Island.

Lectures

1. What are spiders? (Arachnology, Araneology)

Relationships of spiders to other arachnids
Diversity of spiders

2. Spider Taxonomy

What is a phylogenetic hypothesis?
Suborders of Spiders

Families of Spiders
 Overview of world families
 Local (Ohio) families
The Ohio Spider fauna

3. Functional Spider Anatomy I

Internal anatomy
 Circulatory and respiratory systems
 Digestive system
 Muscular and hydrostatic system
 Nervous system

4. Spider behavior

Thinking like a spider
Movement
Daily activity cycles
Webs & Silk
 Functional types (retreat, egg sac, capture web)
 Classification of webs
Courtship and mating

5. Spider Ecology

Predatory behavior
 Detection methods
 Prey capture
 Ingestion
Spiders' importance to ecosystem function
Functional guilds

6. Spiders and humans

Spider venom and dangerous spiders
Spiders' importance to agriculture
Spider-related organizations
 American Arachnological Society (AAS)
 The International Society of Arachnology (ISA)

Laboratories

1. Functional Spider Anatomy II

External anatomy

Exoskeleton

Body regions

Appendages

Mouthparts

Palps

Legs

Spinnerets

Sensory structures

Eyes

Setae (spines and hairs)

Trichobothria

Pit organs

Slit organs

Reproductive structures

Epigynum

Male palp

2. Spider identification

Part I

Review of anatomy used for identification

Main features for quick identification to families

Recognition of Ohio spider families

Part II

Advanced spider identification

Keying spiders to Genus

Species-level identification

3. Field techniques in Araneology

Observing and recording spider behavior

Sweep sampling

Focal visual sampling

Litter sifting

Litter funnel extraction

Pitfall trapping

Pan traps

Sticky traps

Refuges as baits

Photography

Individual Project

Each student will design and conduct a small research project. This project will provide you with an opportunity to explore some aspect of spider biology in more depth. Your project will be accomplished either in the laboratory or outdoors on Gibraltar Island. You will propose and test a hypothesis and then present your results to the class.

Course Schedule

Sunday evening (Arrival)

- Orientation to Franz Theodore Stone Laboratory
- Introduction to course, personnel, texts etc.
- Nocturnal observations of spiders

Monday

- AM – Lecture topics 1&2
- PM – Laboratory topic 1
- EVE spider hunt
- Phylogeny homework assignment

Tuesday

- AM – Lecture topics 3&4
- PM – (Basic Anatomy Quiz) Laboratory topic 2 (part I)
- EVE – Individual topic discovery

Wednesday

- AM – Lecture topic 4 & Laboratory topic 3
- PM – Laboratory topic 2 (part II)
- EVE – Slide show

Thursday (weather dependent switch with Wednesday)

- AM field trip to South Bass Island
- PM/EVE – Individual projects data collection

Friday

- AM – Lecture topics 5&6
- PM – (ID quiz) Individual projects
- EVE – Video presentation

Saturday

- AM – Final exam & Individual project reports
- PM – Departure

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Instructor:

Dr. Richard Bradley

Department of EEO Biology
Ohio State University at Marion
Phone: 740.725.6266
E-mail: bradley.10@osu.edu

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Texts:

Ubick, D., P. Paquin, P.E. Cushing, and V. Roth (eds). 2005. Spiders of North America: an identification manual. American Arachnological Society. 377 pages.

Bradley, R.A. 2004. In Ohio's Backyard: Spiders. Ohio Biological Survey, Columbus, Ohio. 185 pages.

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Evaluation:

Points

Phylogeny Homework	25
Basic Anatomy Quiz	25
Identification Quiz	50
Field Notebook	50
Individual Project Presentation	100
(Project Paper for Grad Stu.)	(100)
Final Exam	100
Total	350
Total (Grad. Stu.)	(450)

GRADING OPTIONS: A,A-,B+,B,B-,C+,C,C-,D+,D, OR E

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with assignments or examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (http://studentaffairs.osu.edu/info_for_students/csc.asp).

IMPORTANT NOTICE

You should be aware that in biology classes at the Ohio State University we provide a variety of experiences. Some of these will require particular skills and abilities for full appreciation, or for optimal performance on evaluations. The course content may include one or more of the following activities, for example:

- Viewing or handling live animals, plants or other organisms.
- Use of microscope to view organisms and sometimes to manipulate them.
- Viewing video presentations and listening to audio-taped animal sounds.
- Viewing preserved organisms or illustrations of organisms and their parts.
- Field trips as well as impromptu "field" excursions outdoors, sometimes off of paved paths or walks sometimes on uneven terrain.
- Use of chemicals and glassware.
- Use of measurement equipment, such as scales and rules.

Anyone who feels that they may need an accommodation based on the impact of a disability should contact me to arrange an appointment as soon as possible. At the appointment we can discuss the course format, anticipate your needs and explore potential accommodations. I rely on the Office for Disability Services for assistance in verifying the need for accommodations and developing accommodation strategies. If you have not previously contacted the Office for Disability Services, I encourage you to do so.

The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.