

## **Spiders of the Southern Appalachians**

**July 20–31, 2026 – Highlands Biological Station**  
**4 Credit Hours**

### **Instructors**

**Dr. Sarah Stellwagen**, UNC Charlotte – stellwagen@charlotte.edu

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### **Course Description**

This course provides a comprehensive introduction to the systematics, morphology, behavior, physiology, and ecology of spiders. Instruction includes daily morning and/or evening lectures, discussions, and hands-on field and laboratory work. Students will collect, curate, and identify a diverse array of local spider taxa; typical years yield 28–30 spider families.

Afternoons are devoted to field excursions focusing on ecological observations, specimen collection, and study of behavior. Evenings are reserved for identification and lab work, with opportunities for film sessions and informal discussions about spider biology, evolution, and systematics.

Lecture and discussion topics include:

- Introduction to Spiders: major families, collecting tips
- External Morphology and Identification
- Spider Systematics: phylogeny, paleontology, taxonomy history
- Behavior, Ecology, and Biodiversity
- Internal Morphology and Physiology: digestion, toxins, pheromones, silk chemistry/production

Students are expected to remain in Highlands or on station due to variable schedules, limited cell service, and the intensive nature of the course.

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### **Methods & Course Structure**

#### **Daily Schedule (Typical)**

- **Morning:** Lecture & group discussion (~9:00 AM)
- **Afternoon:** Field collecting and ecological study
- **Evening:** Identification labs, specimen curation, supplemental discussion sessions

### Skills & Techniques Covered

- Field collection methods: beat sheet sampling, aspiration, night collecting, hand collecting
  - Dissection microscopy
  - Preservation and labeling techniques
  - Use of dichotomous keys for spider identification
  - Field safety protocols
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### Attendance Policy

Students are responsible for all lectures, field activities, lab sessions, and assigned readings. Due to the condensed schedule, participation is critical. If an unavoidable conflict arises, speak directly with the instructors.

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### Grading (for Credit Students)

- **60% — Spider Collection:** properly preserved, labeled, and identified
- **20% — Final Written Exam**
- **20% — Participation:** engagement in the field, lab work, and learning identification techniques

Students taking the course for credit should expect significant evening lab time.

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### Credit Transfer

At UNC Charlotte, this course transfers as **BIOL 4000 – Special Topics in Biology** via substitution/waiver.

Students from other institutions should consult their home departments for transfer policies.

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## Prerequisites

General Biology, Ecology, or permission of instructor.

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## Required Materials

### Required Text

- *Spiders of North America: An Identification Manual*, 2nd ed. (Ubick et al., 2017)  
*Paper copy strongly recommended due to difficulty using digital keys.*  
**Order early—availability has been limited in past years.**

### Required Equipment

- Fine-tipped forceps (e.g., Excelta Ultra-Fine 5-SA-SE)
  - Hand lens (10–15×; Coddington or Hastings recommended)
  - Headlamp (essential for night collecting)
  - Flashlight
  - Field notebook (Rite in the Rain suggested)
  - Comfortable small daypack
  - Strongly recommended: fanny pack for easy access to field supplies
  - Durable boots/shoes, rain gear, and water bottles
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## Recommended / Supplemental Texts

(At least one copy available in lab.)

- Bradley & Buchanan, *Common Spiders of North America*
- Foelix, *Biology of Spiders*
- Pinto-da-Rocha et al., *Harvestmen: The Biology of Opiliones*
- Gaddy, *Spiders of the Carolinas*
- Kaston, *How to Know the Spiders; Spiders of Connecticut*
- Rose, *Spiders of North America* (Princeton Field Guide)
- Weber, *Spiders of the North Woods*

- Wise, *Spiders in Ecological Webs*

### Useful Websites

- BugGuide
- World Spider Catalog
- American Arachnological Society

### Tentative Course Schedule

Day	Morning	Afternoon	Evening
<b>Mon 7/20</b>	Introductions; overview of spider groups	Local field collecting	Identification lab
<b>Tue 7/21</b>	Lecture & discussion	Fieldwork (varied habitats)	Videos & informal discussion
<b>Wed 7/22</b>	External morphology	Field collecting	Identification work
<b>Thu 7/23</b>	Spider systematics	Field collecting	Optional evening field session
<b>Fri 7/24</b>	Physiology & silk biology	Fieldwork	Lab work
<b>Sat 7/25</b>	Lecture/discussion	Field collecting	Open lab
<b>Sun 7/26</b>	—	<b>Day off</b>	—
<b>Mon 7/27</b>	Behavior & ecology	Field collecting	ID session
<b>Tue 7/28</b>	Biodiversity & evolution	Field collecting	Lab time
<b>Wed 7/29</b>	Open questions; preparation for exam	Field collecting	Lab time
<b>Thu 7/30</b>	Final review session	Collection wrap-up	Study time
<b>Fri 7/31</b>	<b>Final exam (credit students)</b>	Submit collections	Course closing circle

*(Exact daily schedule subject to change based on weather and course priorities.)*

### Additional Notes

If the course is full, students are encouraged to join the **waitlist**; spots frequently open.



Please email the instructors with any questions.

We look forward to working with you this summer at magical Highlands!