

**BSC 4861L**  
**Urban Ecological Field Studies**  
**Spring 2022**  
[www.arboretum.ucf.edu](http://www.arboretum.ucf.edu)

<b>Office Hrs:</b>	Wednesday, 11:30am-12:30pm at the Arboretum, via Zoom, or by appointment
<b>Instructor Contact Information</b>	Jennifer Elliott <a href="mailto:Jennifer.Elliott@ucf.edu">Jennifer.Elliott@ucf.edu</a> Arboretum Office (Trailer 525)
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**Syllabus subject to change**

## **Course Description**

The purpose of this course is to introduce students to field biology and ecology by designing projects that ask and seek to provide insight into urban ecosystem questions and concerns. Additionally, students will be guided through opportunities to effectively communicate scientific information and understand the important role of science in the world. Once fundamental information is obtained on the project topic, students will be asked to design and implement a research-based project, and publicly communicate the results.

BSC4861L is designated as a Research-Intensive (RI) course. This designation will be noted on your transcripts. Your active engagement in the research and/or creative scholarship process will be the core of your learning experience in this course. A significant portion of your grade in Urban Ecological Field Studies will be derived from both your active participation in the research process and the tangible course-related materials that come as a result of your team project. If you have any questions about this designation, please ask the instructor.

### Projects

Students will spend a minimum of 80 hours throughout the semester, no less than 5 hours/week, on their assigned project (unless specified in course schedule below). Students will spend time reflecting on their learning experiences through class conversations, submitted assignments, and public presentations (poster and oral). Student projects will address the three components of sustainability: human interactions (people), economic impacts (profit), and ecological concerns (planet). Students will develop project objectives and research methods that address these objectives, implement projects, and communicate the results publicly through judged poster presentations. All projects are conducted on the UCF main campus or in local conservation areas, provide a service to the UCF Arboretum and Natural Resource Programs, and focus on urban ecology.

Obstacles may arise throughout the semester and students are expected to communicate issues to the instructor and project leaders immediately for resolution. If any student has a valid objection to a proposed project or team placement, they must let the instructor know **BEFORE** proposals are written and projects begin.

## **Course Pre-requisites:**

This course requires instructor consent for enrollment. The course is designed for junior and senior level students to begin applying the knowledge and skills they have acquired in the first two years of their academic program. This is a hands-on, field-based course that requires basic knowledge in scientific experimental design, ecology, and natural resource management. Students must demonstrate their writing ability through an essay submitted to the instructor documenting their willingness to work on a team research project, and their desire and ability to work independently and as part of a team. Preference will be given to students that express a desire to pursue careers in field biology, ecology, and natural resource management.

## **Course Requirements:**

This course requires both in-class and out-of-class research time. The research activities will address a local question, support our course objectives, involve a connection between the individual and the world, and challenge students to be engaged as citizens. The course will include written assignments, and oral and poster presentations. Motivated students who are willing to learn new things, and complete projects within the proposed timeframe are encouraged to enroll in this course. Professional, respectful, adult behavior is always expected!

## **Course Objectives:**

- Develop an understanding of urban ecology including ecological sustainability that involves human interactions (people), economic impacts (profit), and ecological health (planet).
- Explore how urban ecosystems are connected to natural ecosystems.
- Use research methods to answer real-world questions.
- Publicly communicate scientific information through poster and oral presentations.
- Enhance group communication skills, and personally reflect on strengths and areas of improvement.

## **Project Objectives and Requirements:**

- Instructor will present project topics, and students will be assigned to projects based on their interests and future goals. The instructor and project mentors will create teams guided by student provided information from application essays.
- Each team will formulate project objectives/hypothesis and tentative methods, which will be presented to the class for feedback. The final objectives/hypothesis and methods will be captured in a **formal proposal describing the project concept/objectives, project methods, and anticipated results.**
- Each team will conduct the proposed research and write a final paper documenting the project concept/objectives and background information (introduction), methods, results (data), and discussion (what do the data mean).
- A poster presentation will be created by each team communicating the research topic, methods, and results. Posters will be presented at the final exam class meeting, and other appropriate local meetings and/or conferences when possible.

## **Required Reading Materials:**

- Knisely, K. 2021. A Student Handbook for Writing in Biology, Sixth Edition. Massachusetts: Sinauer Associates, Inc. ISBN 9781319308322
- Peer-reviewed scientific journal articles will be used to develop and support projects

## **Evaluation Procedures**

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**Grade Category:** Academic Assignment & 5:3:1 Writing Assignments

**Description of Requirements:** The university requires an academic assignment to document student engagement in the course during the first week of classes to ensure that all eligible students receive their financial aid in a timely manner (1 point). There will be a minimum of eight 5:3:1 assignments (0.5 points each). These assignments require either viewing a video or reading a peer reviewed journal article and submitting a written document that includes: 5 statements, 3 questions, and 1 summary about the assigned material.

**Total:** 5 points

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**Grade Category:** Project Abstract and Proposal

**Description of Requirements:** Students will develop a project abstract, and proposal focused on their assigned group project. Students will be expected to write a project abstract **AND** a project research proposal that will include an *introduction* (background information and project objectives/hypothesis), *methods* to be used to accomplish the project objective, and *anticipated results*. Properly cited literature using APA style (style used in peer-reviewed journals) must be used.

**Total:** 20 points (10 points each)

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**Grade Category:** Proposal Presentations

**Description of Requirements:** Team presentation to share project objectives/hypothesis and research methods. Presentation will consist of two – three powerpoint slides and a 10-minute presentation with 5 minutes for discussion.

**Total:** 10 points

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**Grade Category:** Implementation of Projects

**Description of Requirements:** Students are expected to spend time each week outside of class developing, implementing, analyzing, and presenting their team project. Points will be earned by actively participating in class, completing Webcourses assignments, and participating in all team project activities.

**Total:** 15 points

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**Grade Category:** Poster and Oral Presentations

**Description of Requirements:** Students will create: (1) a group *poster presentation* (scientific presentation style) highlighting their project objective/question, methods, results, and discussion of the project relevance and findings; and (2) an individual *oral presentation* of the students “elevator pitch”.

**Total:** 30 points (15 points each)

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**Grade Category:** Final Paper

**Description of Requirements:** Students will be expected to turn in a final research paper that includes how their project supports urban ecological research on campus, the main goals of the project, methods used to complete the project, results, and a discussion of the project relevance.

**Total:** 20 points

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**Grading Scale:** A (100-90), B+ (89-85), B (84-80), C+ (79-75), C (74-70), D (69-60), F (59-0)

### ***Technology Requirements:***

<b>Technology</b>	<b>Expectations for Use</b>
<b>E-mail:</b>	Use of email is permitted to schedule appointments with the instructor, to ask questions, or to notify instructor of absences. Grades will not be provided over email. Communication with classmates via email will be done at the student's discretion.
<b>WebCT:</b>	WebCourses will be used for this class.
<b>Computer Software</b>	Students must use Microsoft Word, Excel, and Power Point

### ***Additional Policies***

<b>Grading and evaluation</b>	Grades will be calculated according to the above evaluation procedures. <b>If</b> grades are distributed in class, and the student is absent on that day(s), an appointment must be made to get the grade from the instructor. Grades will not be given over the phone, or via email.
<b>Attendance and participation</b>	Attendance will not be kept. If students can not attend class, it is their responsibility to get the notes/resources to understand the key components of what was missed in class. <b>A large percentage of the course grade comes from participation in class conversations/activities.</b> If students must be absent, the absence must be communicated BEFORE the student's scheduled time to meet with teams or in class. In the event of a scheduled absence, it is best to communicate with the instructor, project mentor and leader, and project team as soon as possible to make necessary arrangements. <b>Nonparticipation in class activities or coming to class unprepared will result in a loss of points in the “project implementation” category. Arriving late and leaving early will carry the same penalty.</b>
<b>Late and make-up</b>	Work turned in late will lose 25% of the grade per day.
<b>Academic integrity</b>	Integrity, scholarship, community, creativity, and excellence are the core values that guide our conduct, performance, and decisions as members of the UCF Community as reflected in the UCF Creed. Plagiarism and cheating contradict

	these values and are very serious academic offenses. Penalties can include a failing grade on an assignment or in the course, or suspension or expulsion from the university. Students are expected to familiarize themselves with and follow the University's Rules of Conduct.
<b>Accommodations for the differently-abled (alternate testing opportunities, support for signers, etc.)</b>	The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the instructor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the instructor to request the necessary accommodations. Students who need accommodations should register with Student Accessibility Services before requesting accommodations from the professors. <i>Student Accessibility Services</i> , Ferrell Commons 7F, Room 185, phone (407) 823-2371. TTY/TDD please phone (407) 823-2116
<b>Obligatory note from the UCF Administration</b>	Faculty are required to document students' enrollment at the beginning of each semester. To document that you began this course, please complete the academic assignment in WebCourses by the end of the first week of classes. Failure to do so may result in a delay in the disbursement of or decline in your financial aid.

### Course Schedule, Critical Themes & Goals (subject to change):

<b>Class Schedule</b>	
<b>Monday (Jan 10)</b>	<ul style="list-style-type: none"> <li><b>In Class:</b> Review course expectations, class introductions, and team project assignments (in Webcourses Tuesday); discuss Research Week, FLTWS, FNPS</li> <li><b>5:3:1</b> Assignment due <b>Wednesday, Jan 12 by 10 AM in Webcourses</b>; Tales of Sunshine: Florida EcoStories; Episode 1 – The Biologist (link in Webcourses assignments)</li> </ul>
<b>Wed (Jan 12)</b>	<ul style="list-style-type: none"> <li><b>Lecture via Zoom:</b> Guest Speaker – UCF Science Librarian; Sandra (Sandy) Avila Library Resources: How to Find Peer Reviewed Papers, How to Properly Cite</li> <li><b>5:3:1</b> Assignment due <b>Friday, Jan 14 by 10 AM in Webcourses</b>; Tales of Sunshine: Florida EcoStories; Episode 2 – The Mermaid (link in Webcourses assignments)</li> </ul>
<i>Friday (Jan 14)</i>	<i>Add/ Drop/Swap Deadline</i>
<b>Friday (Jan 14)</b>	<ul style="list-style-type: none"> <li><b>In Class Lecture:</b> Guest Speaker – UCF Biology Graduate Student; Ian Biazzo – <u>Basic Statistics and Experimental Design</u></li> <li><b>5:3:1</b> Assignment due <b>Monday, Jan 17 by 10 AM in Webcourses</b>; Tales of Sunshine: Florida EcoStories; Episode 3 – The Fisherman (link in Webcourses assignments)</li> <li><b>Submit Academic Assignment via Webcourses:</b> (1) DND character assignment (2) headshot in Webcourses, (3) professional email account</li> </ul>
<b>Monday (Jan 17)</b>	<ul style="list-style-type: none"> <li><b>No Classes – Martin Luther King Holiday</b></li> </ul>
<b>Wed (Jan 19)</b>	<ul style="list-style-type: none"> <li><b>In class research day:</b> Work in teams to find a <b>minimum of five</b> (one per student) peer reviewed scientific journal articles that pertain to your team project. You will submit a <b>5:3:1</b> paper review of <u>your</u> paper along with a PDF (not a link) of the article; due <b>in Webcourses Friday, Jan 21 by 10 AM</b></li> </ul>
<b>Friday (Jan 21)</b>	<ul style="list-style-type: none"> <li><b>In class research day:</b> Work in teams to find a <b>minimum of five</b> (one per student) peer reviewed scientific journal articles that pertain to your team project. You will submit a <b>5:3:1</b> paper review of <u>your</u> paper along with a PDF (not a link) of the article; due <b>in Webcourses Monday, Jan 24 by 10 AM</b></li> <li><b>5:3:1</b> Assignment due <b>Monday, Jan 24 by 10 AM in Webcourses</b>; Tales of Sunshine: Florida EcoStories; Episode 4 – The Farmworker (link in Webcourses assignments)</li> </ul>

Monday (Jan 24)	<ul style="list-style-type: none"> <li>• <b>In class:</b> Work in teams on project outline, refine research objective/question as necessary</li> <li>• Find one peer reviewed scientific journal article that pertains to your team project and submit in Webcourses a <b>5:3:1</b> paper review along with a PDF (not a link) of the article; <b>due in Webcourses Wednesday, Jan 26 by 10 AM</b></li> </ul>
Wed (Jan 26)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Work in teams on abstract, proposal outline, and proposal presentations (methods)</li> <li>• Find one peer reviewed scientific journal article that pertains to your team project and submit in Webcourses a <b>5:3:1</b> paper review along with a PDF (not a link) of the article; <b>due in Webcourses Friday, Jan 28 by 10 AM</b></li> </ul>
Friday (Jan 28)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Work in teams on abstract, proposal outline, and proposal presentations (methods)</li> </ul>
Monday (Jan 31)	<ul style="list-style-type: none"> <li>• <b>Abstract DRAFTS Due via email AND in Webcourses by 10 AM (1 per team)</b></li> <li>• <b>In Class:</b> Work in teams on proposal, and proposal presentations (methods)</li> </ul>
Wed (Feb 2)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Proposal Presentations – Teams 1 &amp; 2 share project objectives/hypothesis and scientific design/methods. Two – three powerpoint slides and 10-minute presentation with 10 minutes for discussion; <b>presentation due in Webcourses Wednesday, Feb 3 by 10 AM (1 per group)</b></li> </ul>
Friday (Feb 4)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Proposal Presentations – Teams 3 &amp; 4 share project objectives/hypothesis and scientific design/methods. Two – three powerpoint slides and 10-minute presentation with 10 minutes for discussion; <b>presentation due in Webcourses Friday, Feb 4 by 10 AM (1 per group)</b></li> </ul>
Monday (Feb 7)	<ul style="list-style-type: none"> <li>• <b>FINAL Abstract Due via email AND in Webcourses by 10 AM (1 per team)</b></li> <li>• <b>In Class:</b> Work in teams on proposal</li> </ul>
Wed (Feb 9)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Work in teams on proposal</li> </ul>
Friday (Feb 11)	<ul style="list-style-type: none"> <li>• <b>Project Proposal Due via email AND in Webcourses (1 per team) by 11:59 PM</b></li> <li>• <b>In Class:</b> Project/Proposal Discussion, project preparation (guest speaker)</li> </ul>
Monday (Feb 14)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Wed (Feb 16)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Friday (Feb 18)	<ul style="list-style-type: none"> <li>• <b>In class</b> – Discussion on Project Problems and Solutions (guest speaker)</li> </ul>
Monday (Feb 21)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Wed (Feb 23)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Friday (Feb 25)	<ul style="list-style-type: none"> <li>• <b>In class</b> – Discussion on Project Problems and Solutions (guest speaker)</li> </ul>
Monday (Feb 28)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Wed (Mar 2)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Friday (Mar 4)	<ul style="list-style-type: none"> <li>• <b>In class</b> – Discussion on Project Problems and Solutions (guest speaker)</li> </ul>
Monday (Mar 7)	<ul style="list-style-type: none"> <li>• <b>No Class; Spring Break</b></li> </ul>
Wed (Mar 9)	<ul style="list-style-type: none"> <li>• <b>No Class; Spring Break</b></li> </ul>
Friday (Mar 11)	<ul style="list-style-type: none"> <li>• <b>No Class; Spring Break</b></li> </ul>
Monday (Mar 14)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Wed (Mar 16)	<ul style="list-style-type: none"> <li>• <i>Work on project</i></li> </ul>
Friday (Mar 18)	<ul style="list-style-type: none"> <li>• <b>In class</b> – Discussion on Project Problems and Solutions (guest speaker)</li> </ul>
Monday (Mar 21)	<ul style="list-style-type: none"> <li>• <i>Work on project – final week wrap up</i></li> </ul>
Wed (Mar 23)	<ul style="list-style-type: none"> <li>• <i>Work on project – final week wrap up</i></li> </ul>
Friday (Mar 25)	<ul style="list-style-type: none"> <li>• <b>In class</b> – Discussion on Project Problems and Solutions (guest speaker)</li> </ul>
Monday (Mar 28)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Work on Posters</li> </ul>
Wed (Mar 30)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Review poster drafts (All Teams)</li> </ul>
Friday (Apr 1)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Review poster edits in class (Teams 1 and 2)</li> </ul>
Monday (Apr 4)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Review poster edits in class (Teams 3 and 4)</li> </ul>
Wed (Apr 6)	<ul style="list-style-type: none"> <li>• <b>Final Poster Due – bring digital copy to class for public evaluation (All Teams), and submit in Webcourses (1 per team)</b></li> </ul>
Friday (Apr 8)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Practice Poster Presentation (Teams 1 and 2)</li> </ul>
Monday (Apr 11)	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Practice Poster Presentation (Teams 3 and 4)</li> </ul>
Wed (Apr 13)	<ul style="list-style-type: none"> <li>• <b>Arbor Day Celebration</b></li> </ul>

<b>Friday (Apr 15)</b>	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Elevator Pitch Presentations (Team 1); each team member has 5 minutes to present their personal elevator pitch to the class – due in Webcourses (1 per individual) by 10 AM</li> </ul>
<b>Monday (Apr 18)</b>	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Elevator Pitch Presentations (Team 2); each team member has 5 minutes to present their personal elevator pitch to the class – due in Webcourses (1 per individual) by 10 AM</li> </ul>
<b>Wed (Apr 20)</b>	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Elevator Pitch Presentations (Team 3); each team member has 5 minutes to present their personal elevator pitch to the class – due in Webcourses (1 per individual) by 10 AM</li> </ul>
<b>Friday (Apr 22)</b>	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Elevator Pitch Presentations (Team 4); each team member has 5 minutes to present their personal elevator pitch to the class – due in Webcourses (1 per individual) by 10 AM</li> </ul>
<b>Monday (Apr 25)</b>	<ul style="list-style-type: none"> <li>• <b>In Class:</b> Work on Final Paper</li> <li>• <b>Final Paper Draft Due in Webcourses (1 per team) and emailed to lead instructor (Jen) and team mentor (1 per team) by 11:59 PM</b></li> </ul>
<b>Wednesday Apr 27 – Tues May 3</b>	<ul style="list-style-type: none"> <li>• Final Exam Period</li> </ul>
<b>Final Exam</b>	<ul style="list-style-type: none"> <li>• Monday, May 2, 2022; 10 AM – 12:50 PM</li> <li>• <b>In Class: Final Poster Presentations</b></li> <li>• <b>Final Paper Due in Webcourses (1 per team) and emailed to lead instructor (Jen) by 11:59 PM</b></li> </ul>