

**BSC 4861L**  
**Urban Ecological Field Studies**  
**Spring 2018**  
[www.arboretum.ucf.edu](http://www.arboretum.ucf.edu)

<b>Office Hrs:</b>	Wednesday, 11:30am-12:30pm at the Arboretum, and by appointment
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**Syllabus subject to change**

## **Course Description**

The purpose of the course is to teach students how to conduct research by designing experiments that ask, and seek to provide insight into urban ecosystem questions. Additionally students will be guided in how to effectively communicate scientific information, and 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 publically communicate the results.

### Projects

Students will spend a minimum of 35 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, and presentations (poster and oral). Student projects will address the three components of sustainability: human interactions (people), economic impacts (profit), and ecology (planet). Students will develop project questions and research methods to answer these questions, implement projects, and communicate the results publically through judged poster presentations. All projects are conducted on the UCF main campus, provide a service to the UCF Arboretum and Natural Resource Programs, and focus on urban ecology.

Obstacles may arise throughout the semester and the student is 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 group placement, he or she must let the instructor know **BEFORE** proposals are written and projects begin.

### Service:

Projects will provide a service to the Department of Landscape & Natural Resources and the Arboretum by addressing questions that can change the environmental culture on campus. **Each group must do a community outreach activity to complete the service requirement.** These activities can include tabling to share project information, or hosting a volunteer event.

## **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 papers, presentations, and posters. Motivated students who are willing to learn new things, and complete projects within the proposed timeframe, are encouraged to enroll in this course. Professional, adult behavior is expected at all times.

### **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.
- 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 projects, and students will identify their prioritized choices. The instructor and project leaders will then create groups guided by the student's selections.
- Each group will formulate project goals/hypothesis and tentative testing methods, which will be presented to the class for feedback. The final goals/hypothesis and methods will be captured in a **formal proposal describing the project concept, the scientific methods to be used, and anticipated results.**
- Each group will conduct the proposed research, and write a final paper documenting the project concept (introduction), methods, results (data), and discussion (what does the data mean).
- A poster presentation will be created by each group communicating the research topic, methods, and final results. This will be judged by professional scientists and biologists as well as being presented at the Showcase of Undergraduate Research Excellence (SURE).

### **Required Reading Materials:**

- Knisely, K. 2013. A Student Handbook for Writing in Biology, Fourth Edition. Massachusetts: Sinauer Associates, Inc. 235p.
- Peer-reviewed journal articles will be assigned in class throughout the semester

## **Evaluation Procedures**

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### **Grade Category:** Project Proposal

**Description of Requirements:** Students will develop a project proposal that will focus on their assigned group project. Students will be expected to write a research proposal that will include an *introduction* (including how it pertains to the three pillars of sustainability), *methods* to be used to accomplish the project, and *anticipated results*. Properly cited literature using APA style (style used in peer-reviewed journals) must be used.

**Total:** 20 points

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### **Grade Category:** Proposal Presentations

**Description of Requirements:** Group presentation to share project goals/hypothesis and research design (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 will spend a minimum of five hours per week implementing their group project. Points will be earned by actively participating in class and group project activities.

**Total:** 20 points

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### **Grade Category:** Poster and Oral Presentations

**Description of Requirements:** Students will create a *poster presentation* (scientific presentation style) highlighting their question, project methods, results and discussion of project relevance and findings. The *oral presentation* will be a group powerpoint presentation, and class lead scientific paper discussion based on *one* of the research papers used in the group project.

**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, turn in assignments, or to notify instructor of your absence. 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. If 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 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 the lecture. A large percentage of the course grade comes from participation in class conversations/activities. If students must be absent, the absence must be communicated BEFORE the student's scheduled time to meet with groups or in class. In the event of a scheduled absence, it is best to communicate with the instructor, project leader, and project group as soon as possible to make necessary arrangements. 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>Late and make-up</b>	Unless excused, 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. In order 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.
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### Course Schedule, Critical Themes & Goals (subject to change):

<b>Class Introduction</b>	
<b>Monday (Jan 8)</b>	<ul style="list-style-type: none"> <li>Review Syllabus; Introduce Class Concepts and Review Group Projects</li> </ul>
<b>Wed (Jan 10)</b>	<ul style="list-style-type: none"> <li>Lecture: Guest Speaker – UCF Sustainability and Energy Management; Yara Colon - <u>Benefits of Solar Energy at UCF</u></li> </ul>
<i>Thursday (Jan 11)</i>	<i>Drop/Swap Deadline</i>
<i>Friday (Jan 12)</i>	<i>Add Deadline</i>
<b>Friday (Jan 12)</b>	<ul style="list-style-type: none"> <li>Field Trip to Solar Array Site</li> <li>Submit Group Project Requests</li> <li>Academic Assignment via Webcourses (due at midnight)</li> </ul>
<b>Monday (Jan 15)</b>	<ul style="list-style-type: none"> <li><b>No Class - Martin Luther King Holiday</b></li> </ul>
<b>Wed (Jan 17)</b>	<ul style="list-style-type: none"> <li>Lecture: UCF Arboretum and Natural Resource Programs; Education, Urban Agriculture, Land Management, and Urban Forestry</li> <li>Assign Project Groups</li> </ul>
<b>Friday (Jan 19)</b>	<ul style="list-style-type: none"> <li>Lecture: Guest Speaker – UCF Science Librarian; Sandra Avila <u>How to Find Peer Reviewed Papers, How to Properly Cite</u></li> <li>Exercise: Find one paper on “Urban Ecology or Urban Agriculture” and produce an example of a proper literature citation (due in Webcourses Monday, Jan 22 by 10 AM)</li> </ul>
<b>Monday (Jan 22)</b>	<ul style="list-style-type: none"> <li>In class exercise: Work in groups to find 5 peer reviewed papers relevant to your research project (1 per person); write up the main ideas that could be used in your project, or support a method that could be used; outline of project proposal (due in Webcourses Wednesday, Jan 24 by 10 AM)</li> </ul>
<b>Wed (Jan 24)</b>	<ul style="list-style-type: none"> <li>Lecture: Guest Speaker – UCF Biology Graduate Student; Chris Long - <u>Statistics and Experimental Design</u></li> </ul>
<b>Friday (Jan 26)</b>	<ul style="list-style-type: none"> <li>In Class Exercise: Work in groups on abstract, and proposal presentations</li> </ul>
<b>Monday (Jan 29)</b>	<ul style="list-style-type: none"> <li>Proposal Presentations – Groups 1 &amp; 2 share project goals/hypothesis and scientific design/methods. Two – three powerpoint slides and 10 minute presentation with 10 minutes for discussion</li> </ul>
<b>Wed (Jan 31)</b>	<ul style="list-style-type: none"> <li>Proposal Presentations – Groups 3 &amp; 4 share project goals/hypothesis and scientific design/methods. Two – three powerpoint slides and 10 minute presentation with 10 minutes for discussion</li> </ul>
<b>Friday (Feb 2)</b>	<ul style="list-style-type: none"> <li>Project Abstract Drafts Due (via email and Webcourses)</li> <li>In class exercise: Work on proposals</li> </ul>
<b>Monday (Feb 5)</b>	<ul style="list-style-type: none"> <li>Feedback on Abstracts (via email)</li> <li>Proposal Drafts Due (via email and Webcourses)</li> <li>In class exercise: Work on abstracts</li> </ul>
<b>Wed (Feb 7)</b>	<ul style="list-style-type: none"> <li>Feedback on Proposals (via email)</li> <li>In class exercise: Work on abstracts/papers</li> </ul>
<b>Friday (Feb 9)</b>	<ul style="list-style-type: none"> <li>SURE Applications Due (1 PM)</li> <li>1. Meet in class – Discussion on Project Problems and Solutions</li> </ul>
<b>Monday (Feb 12)</b>	<ul style="list-style-type: none"> <li>Work on project</li> </ul>
<b>Wed (Feb 14)</b>	<ul style="list-style-type: none"> <li>Work on project</li> </ul>
<b>Friday (Feb 16)</b>	<ul style="list-style-type: none"> <li>2. Meet in class – Discussion on Project Problems and Solutions</li> </ul>
<b>Monday (Feb 19)</b>	<ul style="list-style-type: none"> <li>Work on Project</li> </ul>
<b>Wed (Feb 21)</b>	<ul style="list-style-type: none"> <li>Work on Project</li> </ul>
<b>Friday (Feb 23)</b>	<ul style="list-style-type: none"> <li>3. Meet in class – Discussion on Project Problems and Solutions</li> </ul>
<b>Monday (Feb 26)</b>	<ul style="list-style-type: none"> <li>Work on Project</li> </ul>

<b>Wed (Feb 28)</b>	<ul style="list-style-type: none"> <li>• <i>Work on Project</i></li> </ul>
<b>Friday (Mar 2)</b>	<ul style="list-style-type: none"> <li>• 4. Meet in class – Discussion on Project Problems and Solutions</li> </ul>
<b>Monday (Mar 5)</b>	<ul style="list-style-type: none"> <li>• <i>Work on Project</i></li> </ul>
<b>Wed (Mar 7)</b>	<ul style="list-style-type: none"> <li>• <i>Work on Project</i></li> </ul>
<b>Friday (Mar 9)</b>	<ul style="list-style-type: none"> <li>• 5. Meet in class – Discussion on Project Problems and Solutions</li> </ul>
<b>Monday (Mar 12)</b>	<ul style="list-style-type: none"> <li>• <b>No Class; Spring Break</b></li> </ul>
<b>Wed (Mar 14)</b>	<ul style="list-style-type: none"> <li>• <b>No Class; Spring Break</b></li> </ul>
<b>Friday (Mar 16)</b>	<ul style="list-style-type: none"> <li>• <b>No Class; Spring Break</b></li> </ul>
<b>Monday (Mar 19)</b>	<ul style="list-style-type: none"> <li>• <i>Work on Project</i></li> </ul>
<b>Wed (Mar 21)</b>	<ul style="list-style-type: none"> <li>• <i>Withdrawal Deadline</i></li> <li>• <i>Work on Project</i></li> </ul>
<b>Friday (Mar 23)</b>	<ul style="list-style-type: none"> <li>• 6. Meet in class – Discussion on Project Problems and Solutions</li> </ul>
<b>Monday (Mar 26)</b>	<ul style="list-style-type: none"> <li>• Review completed poster drafts in class (Groups 1 &amp; 2)</li> </ul>
<b>Wed (Mar 28)</b>	<ul style="list-style-type: none"> <li>• Review completed poster drafts in class (Groups 3 &amp; 4)</li> </ul>
<b>Friday (Mar 30)</b>	<ul style="list-style-type: none"> <li>• Final Poster Due – bring digital copy to class for group evaluation</li> <li>• Submit Group Paper and Discussion Outline for Guided Paper Discussion (via Webcourses)</li> </ul>
<b>Monday (Apr 2)</b>	<ul style="list-style-type: none"> <li>• <i>Practice Poster Presentation (Groups 1 and 2)</i></li> </ul>
<b>Wed (Apr 4)</b>	<ul style="list-style-type: none"> <li>• <i>Practice Poster Presentation (Groups 3 and 4)</i></li> </ul>
<b>Thursday (Apr 5)</b>	<ul style="list-style-type: none"> <li>• SURE Conference</li> </ul>
<b>Friday (Apr 6)</b>	<ul style="list-style-type: none"> <li>• Day Off to Celebrate SURE Success – Work on Final Paper</li> </ul>
<b>Monday (Apr 9)</b>	<ul style="list-style-type: none"> <li>• <i>In class activity: Group Paper Discussion (Group1)</i></li> </ul>
<b>Wed (Apr 11)</b>	<ul style="list-style-type: none"> <li>• <i>In class activity: Group Paper Discussion (Group 2)</i></li> </ul>
<b>Friday (Apr 13)</b>	<ul style="list-style-type: none"> <li>• <i>In class activity: Group Paper Discussion (Group 3)</i></li> </ul>
<b>Monday (Apr 16)</b>	<ul style="list-style-type: none"> <li>• <i>In class activity: Group Paper Discussion (Group 4)</i></li> </ul>
<b>Wed (Apr 18)</b>	<ul style="list-style-type: none"> <li>• Arbor Day Tree Planting Event</li> </ul>
<b>Friday (Apr 20)</b>	<ul style="list-style-type: none"> <li>• <i>In class activity: Work on Final Paper</i></li> </ul>
<b>Monday (Apr 23)</b>	<ul style="list-style-type: none"> <li>• Final Paper Draft Due - Last day of class</li> </ul>
<b>Tuesday (Apr 24)</b>	<ul style="list-style-type: none"> <li>• Study Day</li> </ul>
<b>Final Exam</b>	<ul style="list-style-type: none"> <li>• Monday, April 30, 2018; 10 AM – 12:50 PM</li> <li>• Poster Presentations (judged by professionals)</li> <li>• Final Paper Due</li> </ul>