Conservation Biology Field Lab, BIOL 3485
Spring Semester 2019
1 Credit
Life Sciences (LS) room 102
TUESDAYS 2:00 – 5:00pm

Instructor – Joshua Horns
Email – joshua.horns@utah.edu;
Phone – 801-587-5661
Office Location – South Biology Room 244
Office Hours – By appointment.

COURSE OVERVIEW
This class will provide students enrolled in the Conservation Biology lecture course (Biol 3470) with a weekly opportunity to participate in ongoing conservation and restoration actions. Students will visit field sites, ex-situ conservation labs, and habitat of the state’s sensitive and federally listed species. Students will engage with professional conservation biologists conducting conservation research, including monitoring and restoration projects such as the Save our Canyons, Red Butte Gardens, Kennecott and others. Students will also participate in community-based conservation programs, both collecting data for long-term studies, as well as analyzing data gathered by community science programs.

EXPECTED LEARNING OUTCOMES FOR THE LAB
1. Deepen understanding of the lecture material through hands-on application of conservation and restoration techniques
2. Increase marketable and professional conservation skills through working with professional conservation biologists on ongoing conservation projects
3. Gain first-hand knowledge of Utah’s rare plant and wildlife species, their habitat, and the factors contributing to their rarity through site visits throughout the semester

INSTRUCTOR-STUDENT INTERFACE
CANVAS will be the expected method of communicating outside of class field trips. All relevant logistical information will all be posted on Canvas. You are expected to check the site regularly and stay up to date.

COURSE TEXTS and EQUIPMENT
Field Guides: These are our favorite field guides for students interested in identifying plant/wildlife species in Utah. These are completely optional.

Equipment
- Binoculars, purchased or borrowed. We can assist you in choosing an appropriate pair if you choose to purchase.
- Field notebook, sturdy and waterproof, and a waterproof pen (We will provide a waterproof notebook)
- Camera, anything from your phone to a digital SLR will work
- Sturdy hiking shoes
- Appropriate cold-weather clothing and a 1-quart water bottle
INSTRUCTION METHODS
This course is supplemental to the Conservation Biology lecture (Biol 3470) and will augment lecture material through hands-on learning. Instruction methods will include short lectures and demonstrations of techniques in the lab and field, but will primarily be focused on student application of field observations, data collection, seed collection & banking, insect collecting, bird monitoring, and community science. Short lectures and demonstrations will be given both by the lab instructor as well as guest speakers, all of whom are professional conservation biologists. We will explore ideas and techniques from multiple points of view, including your point of view. As such, you are expected to participate in group discussions, answer inquiries, and ask questions.

COURSE GRADES:
Total points possible: 550

Attendance & Participation (275 points)
This course focuses on experiential learning, and as such, if you do not attend the field trips, you will not learn the material. As such, attendance is expected, and required, though we have built in some flexibility due to the complicated nature of site visits. You will be expected to attend 11 of the 12 scheduled field site visits, out of the 15-week course. Attendance for each of the field visits is worth 25 points, up to 275 points.

Quizzes (50 points)
Quizzes: There will be 2 non-cumulative mid-semester quizzes based on field experiences and lectures. Worth 25 points each. These will serve as a measure of comprehension of material presented in previous labs.

Field Notebook (100 points)
Biologists need to know how to keep high-quality field notes. What information is relevant? What recording methods are best? What level of detail is needed? These questions will be answered and your techniques perfected by weekly field entries. We will be continuously making observations during our field visits and you are expected to record what you see and hear during the site visits and discussions. There will also be specific questions, prompts, or data you will be required to collect each week. Required information will be posted to Canvas. Your field notebook will be an ongoing log with weekly entries. At the end of class during Week 7, Week 12, and Week 15, you will be required to submit your field notebook for evaluation.

Citizen Science (125 points)
Throughout the semester you will be engaged in the gathering, and analysis of, citizen science. Over the course of the semester you will be required to submit 25 different species (of any group of organisms, plants, animals, fungi, etc.) to iNaturalist. Make sure your submissions go to the, “University of Utah Conservation Biology” project or you will not get credit. You will also work in groups of 5 to analyze eBird data in order to answer specific questions. You will have several class periods to work on your analysis which will then be presented to the conservation biology lecture class on April 11th. iNaturalist submissions will be worth 25 points, your analysis and presentation will be worth 100.

CALENDAR
Plan to meet in the lab classroom each day. We will leave immediately for the indicated field site unless otherwise noted in the calendar. NOTE: Due to weather and other unpredictable circumstances associated with field work, this schedule may be subject to last minute changes. Any changes to the schedule will be posted to Canvas.

<table>
<thead>
<tr>
<th>Week</th>
<th>Content</th>
<th>Quiz/Field Notebook</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Lab Topic: Introduction to field lab, logistics, materials &amp; equipment overview (1 hour in lab classroom) Field visit: Tracy Aviary, ex-situ conservation and public outreach (1 hour at zoo)</td>
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<tr>
<td>Week</td>
<td>Lab Topic: Field collections and long-term studies</td>
<td>Field visit: Natural History Museum of Utah collections</td>
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<td>Week 3</td>
<td>Lab Topic: Community Science; iNaturalist and eBird</td>
<td>Field visit: No field visit. Begin group work project in lab</td>
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<td>Week 4</td>
<td>Lab Topic: Camera trapping and mammal monitoring.</td>
<td>Field visit: Red Butte Canyon</td>
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<td>Week 5</td>
<td>Lab Topic: Bird species richness/abundance surveys</td>
<td>Field visit: Research Park</td>
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<td>Week 6</td>
<td>Lab Topic: Politics of land conservation with Save Our Canyons</td>
<td>Field Visit: Wasatch foothills</td>
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<td>Week 7</td>
<td>Lab Topic: Semester-project work day</td>
<td>Field visit: No field visit. Work in class</td>
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<td>Week 8</td>
<td>Lab Topic: Hunting and conservation</td>
<td>Field visit: Ducks Unlimited wetlands</td>
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<td>Week 9</td>
<td>Lab Topic: Plant conservation, restoration</td>
<td>Field visit: Red Butte Gardens seed bank</td>
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<td>Week 10</td>
<td>Lab Topic: Water quality and riparian restoration</td>
<td>Field Visit: Jordan River Parkway</td>
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<td>Week 11</td>
<td>Lab Topic: Restoration and mitigation of disturbed sites</td>
<td>Field visit: Inland Sea Shorebird Reserve, Rio Tinto</td>
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<td>Week 12</td>
<td>Lab Topic: Group work for community science project</td>
<td>Field visit: No field visit.</td>
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<td>Week 13</td>
<td>Lab Topic: Invertebrate conservation/sampling, diversity indices</td>
<td>Field visit: On campus</td>
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<td>Week 14</td>
<td>Lab Topic: Vegetation sampling/identification</td>
<td>Field visit: Red Butte Canyon</td>
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<td>Week 15</td>
<td>Lab Topic: Fungi sampling/conservation</td>
<td>Field visit: Wasatch Foothills</td>
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**Standards of Conduct**

Students need to be aware of and follow university policy on academic conduct. This is a class with periodic quizzes, written assignments, group projects. Academic dishonesty in any form cannot be tolerated. This includes aiding others (directly or indirectly) in committing dishonest acts. On in-class quizzes and exams, protect your work. Instances of academic dishonesty will be reported to the University Student Behavior committee for appropriate action. See University Regulations, Chapter X, Student code, Article XI proscribed conduct. Possible results of proven academic dishonesty range from no credit/points awarded for the disputed exercise to expulsion from the university.

**Cheating, Plagiarism, And Other Forms of Academic Dishonesty**

All work that you submit as your own work must, in fact, be your own work. For example, if your paper presents the ideas of others, you must clearly indicate this by citing the source. Word-for-word language taken from other sources – books, papers, web sites, people, etc. – must be placed in quotation marks and the source identified. Likewise, work on quizzes and exams must be your own work, not copied or taken from other students’ work, and you must comply with instructions regarding use of books, notes, and other materials. In accordance with the University of Utah policy on academic dishonesty, students in this course who submit the work of others as their own (plagiarize), cheat on examinations, help other students cheat or plagiarize, or commit other acts of academic dishonesty will receive appropriate academic penalties, up to and including failing the course and expulsion. Plagiarism or cheating on exams will result in an “F” on that exam, very likely resulting in a lower or possibly a failing final grade in the course overall. In cases where I have reason to believe the cheating or plagiarism was premeditated or planned, students may receive an “F” for the course.
Please consult with me on when and how to document sources if you have any possible questions about what might constitute an act of plagiarism or cheating.

**Learning Assumptions & Expectations**

- Success is your choice! If you choose to be successful, I will be happy to help you. **Each of you has the potential to succeed in this class.**
- Respect is one of the foundations of an environment conducive to learning. This class will have a positive and respectful learning environment. In class discussions, everyone should be courteous and respectful of others: disrespectful comments or behavior will not be tolerated. **This includes silencing your cell phones, no texting, no web surfing, etc.**
- One of the most important aspects of learning is being able to be an active listener. As you listen to your classmates, be attentive and supportive. Everyone has something valuable to contribute to our class and your success.
- Times are tough and we talk about a lot of potentially depressing subjects in this course. Despite this, we all need to stay positive. Humor and a wry take on things help your overall comprehension, enjoyment, ability to focus, and comprehension.
- I am always open to feedback as to how I can best meet your needs as a student. Feel free to make suggestions on how this course can be improved or adjusted.
- You will attend all class sessions, arriving before the start of class.

**Doing Well In This Course**

Focus on learning, not on your grade. Make sure you **complete all of our assignments on time** and do a thorough job. If you interact with the material and complete the course assignments, you should easily be able to pass this class. If you focus on cramming for quizzes, you will miss out on most of what you are here for. This course should be fun and rewarding. Although it needs to be taken seriously and responsibly, this course should not create undo stress and anxiety. If you are having trouble with the assignments, not doing well on the exams, or having any other problems, please talk to me.

**Important Dates**

- Last day to add a class without permission code: January 11
- Last day to add, drop (delete), elect CR/NC, or audit term length and first session classes: January 18
- Last day to withdraw: March 8
- Classes end: April 23

Withdrawal is to decide not to complete the course and still avoid receiving a failing grade. Instead a W appears on your transcript. To withdraw, go to the registrar’s office and fill out the necessary form. Continuing the course past March 8 is to make the decision to complete the course.
Joshua Horns’ Conservation Biology Field Lab  
BIOL 3485

I have read our syllabus and now know what to expect from this class, both in terms of the general layout of our course and desired learning outcomes. In particular, I am aware of the workload this class requires each and every week. I am aware that it is my responsibility to keep up with all assigned reading and submit all my assignments by their deadlines. Missing deadlines, poor writing, or not keeping up with our readings will harm both my assignment grades and my overall performance in our course. I also understand that studying in groups, frequently reviewing past material, reviewing my lecture notes is a great way to improve my grade and (more importantly) boost my comprehension of the concepts and facts of conservation.

Name (please print neatly): _________________________________________

Today’s Date: ____________________________________________________

Signature: _______________________________________________________

Please fill in, sign, and hand in on January 15