

Citizen Science

BSC 5936-04

Spring 2015

Time: Wed. 4–5pm; there will be an optional field trip on Saturday, Feb. 21.

Place: King Life Science Building, Room 4009

Instructors

Austin Mast
amast@bio.fsu.edu
850-645-1500
Office: King 4065
Office Hours: Monday 9–11, and by appointment.

Libby Ellwood
ellwood@bio.fsu.edu
631-428-8118
Office: King 4006
Office Hours: Wednesday 10–12, and by appointment.

Bruce J. MacFadden
bmacfadd@flmnh.ufl.edu
352-273-1937
Office: 218 Dickinson
Class to be taught in iDigBio Building 105, 3rd floor

Websites

We will use a course Blackboard site at <https://campus.fsu.edu> for grades. Other materials will be posted on the course wiki page at https://www.idigbio.org/wiki/index.php/Citizen_Science/class. We will use the Adobe Connect room at <http://idigbio.adobeconnect.com/citizenscience-fsu/> for interactions between FSU and UF and for webinars.

Description

Citizen science involves the public in the generation of scientific knowledge. With a new professional society (<http://citizenscienceassociation.org/>) and an emerging journal, citizen science has reached a stage of explosive growth with new opportunities for citizen scientists appearing weekly. This course is open to graduate students from any discipline but might be of greatest interest to those in the sciences and education. Topics will include, but are not limited to, project typologies, best practices, project evaluation, user motivations, broadening participant diversity, and data quality. Both onsite and online engagement will be discussed.

Objectives

This course will introduce participants to the field of citizen science. Citizen science covers many aspects of public participation in scientific research and these will be explored through class discussion of shared readings, guest lectures by (and conversations with) experts in the field, explorations and assessments of existing projects, development of a 1-page methods section for engaging citizen scientists in a student's research, and a field trip. Practical considerations of citizen science will be discussed within the broader context of developed and emerging practices in the field. Upon completion of this course, participants will be able to (1) evaluate and develop citizen science projects, (2) integrate the work of citizen scientists into their own research, and (3) be conversant in the latest citizen science literature and topics.

Coursework and grading

There is no textbook for the course. All materials for this course will be provided in class or online.

Regular attendance and active engagement are expected of all participants. This includes reading materials prior to class meetings, productive participation in discussions, and respectful dialogue with classmates. Missing class will result in a deduction from the "active participation" portion of your grade.

Letter grades will be based on the following:

- 40% Active participation in class discussions.
- 20% Preparation and performance as a discussion leader.
- 20% Doing Citizen Science exercise.
- 20% 1-page citizen science methods section.

Calendar

January 7: First class meeting

- Introductions, including backgrounds and experience with, and questions about, citizen science.
- Review syllabus.
- Discuss logistics of interactions between FSU/UF sister courses.
- Sign up for a date to lead discussion.
- Brainstorm topics for guest lecturers.

January 14: History of Citizen Science—Where have we been and where are we now?

Miller-Rushing, A., R. Primack, and R. Bonney. 2012. The history of public participation in ecological research *Frontiers in Ecology and the Environment* 10: 285–290.
<http://www.esajournals.org/doi/full/10.1890/110278>

Dickinson, J.L., J. Shirk, D. Bonter, R. Bonney, R.L. Crain, J. Martin, T. Phillips, and K. Purcell. 2012. The current state of citizen science as a tool for ecological research and public engagement. *Frontiers in Ecology and the Environment* 10: 291–295
<http://www.esajournals.org/doi/full/10.1890/110236>

January 21: A Framework for Thinking About Citizen Science.

Browse projects at <http://www.birds.cornell.edu/citscitoolkit/projects>, <https://www.zooniverse.org/>, and/or <http://scistarter.com/index.html>

Shirk, J. L., et al. 2012. Public participation in scientific research: a framework for deliberate design. *Ecology and Society* 17: 29.
<http://dx.doi.org/10.5751/ES-04705-170229>

January 28: Best Practices for Citizen Science—Some recommendations.

Cornell Lab of Ornithology's Citizen Science Toolkit (<http://www.birds.cornell.edu/citscitoolkit/toolkit>)

Wiggins, A., et al. 2013. Data Management Guide for Public Participation in Scientific Research. DataONE Public Participation in Scientific Research Working Group.
<https://www.dataone.org/sites/all/documents/DataONE-PPSR-DataManagementGuide.pdf>

February 4: Citizen Science in Practice—Personal Experience (Libby Ellwood).

Introduce *Doing Citizen Science* exercise.
Reading TBA.

February 11: Citizen Science in Practice—Scientific discoveries and data quality.

Dickinson, J. L., B. Zuckerberg, and D. N. Bonter. 2010. Citizen science as an ecological research tool: challenges and benefits. *Annual Review of Ecology, Evolution, and Systematics* 41: 149–72.
<http://www.annualreviews.org/doi/abs/10.1146/annurev-ecolsys-102209-144636>

February 18: The Future of Citizen Science

Newman G., A. Wiggins, A. Crall, E. Graham, S. Newman, and K. Crowston. 2012. The future of citizen science: emerging technologies and shifting paradigms. *Frontiers in Ecology and the Environment* 2012 10:6, 298–304
<http://www.esajournals.org/doi/full/10.1890/110294>

Bonney, R., et al. 2014. Next steps for citizen science. *Science* 343: 1436–7.
<http://www.sciencemag.org/content/343/6178/1436.short>

February 21 (Saturday, optional)

Joint FSU and UF Field Trip with Rebecca Means (Munson Hills Ephemeral Pool Amphibian Monitoring) and Sky Feller (Longview Farms Education Coordinator).

February 25: Doing Citizen Science Presentations I

10-minute presentations with time for discussion.

March 4 (FSU only, UF has Spring Break): Doing Citizen Science Presentations II

10-minute presentations with time for discussion.

March 11 (UF only, FSU has Spring Break): Doing Citizen Science Presentations II

10-minute presentations with time for discussion.

March 18: Guest Speaker 1

Reading TBA.

March 25: Guest Speaker 2

Reading TBA.

April 1: Guest Speaker 3

Reading TBA.

April 8: Guest Speaker 4

Submit first draft of Methods Exercise to instructors.
Reading TBA.

April 15: Presentations on Methods Exercise

Five-minute presentations with time for feedback.

April 22

Final drafts of Methods exercise due to instructors.
Discussion topic TBA.

Academic Honor Policy

The following is the official university statement regarding the academic honor policy:

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "... be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>.)

ADA Statement

Students with disabilities needing academic accommodation should (1) register with and provide documentation to the Student Disability Resource Center and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>

Syllabus Change Policy

This syllabus is a guide for the course and is subject to change with advance notice.