

BSC3911 – Entering Research in Biology (Principles of Undergraduate Research)

Syllabus – Fall 2020

Class Meetings: Thursday period 7 (1:55-2:45 pm), Synchronous 100% Online

Credit Hours: 1

Instructors: Dr. Teresa Mutahi

Office: Bartram Hall 214B/ Virtual Meetings via zoom and email

Office Hours: by appointment and immediately after class (via zoom)

Email: tmutahi@ufl.edu

Course Description:

This course is designed to enhance the undergraduate research experience by focusing on critical communication skills for success in research, and broadly transferable professional skills. Students will become part of a community of scholars in the Department of biology. The course is suitable for students interested in undergraduate research, as well as students completing their second or later semesters of research.

Course objectives - professional development and communicating about research:

Students without a research project/lab will use skills gained in class to successfully apply, interview, secure a research position/lab, and write a one-page research proposal for their project. Students will develop roles in a community of undergraduate student, graduate student, and faculty scholars.

Students will recognize and be able to describe ethical conduct in research.

Students will build an annotated bibliography of sources related to their research.

Students will write and improve a research proposal and summary of results and findings. (one-page research proposal and the end of semester report currently required of all students registered for research credit).

Students will be able to verbally describe their research in both formal and informal settings.

Students will discuss expectations of this course and collaborate with the mentor on course assignments.

Students will discuss and reflect upon their research experiences, and discuss conflict management and be able to work in a group / teamwork.

Additional professional development opportunities for students enrolled in this course:

Through optional seminars, workshops, and events,

Students will create a list of resources regarding resume and CV writing, complete a career plan, applying to professional and graduate schools, and interviewing.

Students will outline the major ways in which scientific research is funded in the US, and will explore the funding opportunities available to them on campus.

Students will write a funding proposal for an on-campus resource for research or travel.

Students will present their results at a formal venue.

Required assignments

1. Initial presentation

In collaboration with your mentor, you wrote a one-page proposal for the research you would complete this semester in order to enroll for research credit. In this talk, you will present your proposed work, including the hypotheses you will test, your experimental design and predictions, what data you will gather, and any preliminary results you may have early in the semester. Those looking for a research project/lab, can give a talk on their research interests and projects of interest. This talk is informal and should be about 5-8 minutes long.

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2. *Annotated bibliography*

The annotated bibliography is a list of published papers that you have read and have used to inform your research project. An annotated bibliography includes short paragraphs with each citation, outlining how the paper is relevant and why.

- a. ≥ 10 sources
- b. one paragraph summary of each source
- c. alphabetical order

3. *Final presentation*

In this talk, you will summarize your research for the semester, including hypotheses tested, experimental design, data gathered, results, and a discussion of your findings. If still looking for a research project, choose an interesting topic or article in your area of interest and make a presentation. This talk is formal, and should be about 6-10 minutes long.

4. *End of semester report*

This is the end of semester report already required at the end of each semester of enrolled research. The report should be similar to the final presentation, in formal written style, with references from your annotated bibliography cited properly.

5. Submit a career plan and a CV

Required events

1. *Virtual Board/Know your classmates virtually.* This event will help you get to know the community of scholars you have just joined, and will give you an opportunity to share your experiences with potential new undergraduate researchers.

2. *Seminars*

The following seminars, which meet during the regularly scheduled class period, are required:

- a. Expectations from you and your mentor. If still looking, use this time to narrow down and send emails to labs you are interested in.
- b. Using the library (presented by a science Librarian, Marston Science Library faculty)
- c. Ethics in research
- d. Biology Careers
- e. Initial presentations (all)
- f. Final presentations (all)
- g. Expert Guest Lectures

3. *Additional opportunities for professional development*

You must participate in the following events, seminars, or workshops:

- a. Workshop - Writing a resume or CV and interviewing skills (Takes place at the Career Connections formerly Career Resource Center)
- b. Workshop – Applying to Professional school Medical School (Guest)
- c. Workshop - Applying to graduate school/funding (Guest)
- d. Attend an exit seminar, talk, poster presentation or conference

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Grading

| Assignment | Points | Percentage |
|--|------------|-------------|
| Initial presentation | 50 | 10% |
| Annotated bibliography | 50 | 10% |
| Final presentation | 100 | 20% |
| End of semester report | 50 | 10% |
| Career plan | 50 | 10% |
| Attendance and participation - required seminars | 100 | 20% |
| Attendance –symposium/seminar/conference | 50 | 10% |
| Participation in additional opportunities | 50 | 10% |
| Total | 500 | 100% |

Grading scale:
90 – 100% = A
80 – 89.9% = B
70 – 79.9% = C
60 – 69.9% = D
below 60% = F

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Course Schedule:

| Week | Topic | Assignment |
|--------|---|--|
| Sep 3 | I will meet individual students looking for research spots via zoom for a tailored advisory session. Email interested labs this week if still looking for a research lab/project (even for the future). More to follow via email. Online class meeting not required if you have a research project. Meet with your mentor and plan research for the semester or if you have questions, join us online via zoom. | |
| Sep 10 | Expectations from you, and from your mentor. Literature review in lieu of research project | |
| Sep 17 | Ethics in Research | |
| Sep 24 | Using the library (Presented by Marston Science Library faculty- more details to be shared in class) | |
| Oct 1 | Initial Presentations | Homecoming Break |
| Oct 8 | Initial Presentations | Start working on research report: Introduction, literature review, methods |
| Oct 15 | Biology Careers | |
| Oct 22 | Careers Guest Speakers- Beyond UF by Career Connections Advisors | Submit a career plan beyond UF |
| Oct 29 | ADDITIONAL OPPORTUNITY - Workshop: Applying to Professional schools-Medical Pharmacy, Dental Schools etc. | |
| Nov 5 | ADDITIONAL OPPORTUNITY -Workshop: Applying to Graduate School/Funding (Guest- Graduate Admissions Coordinator) | |
| Nov 12 | ADDITIONAL OPPORTUNITY - Workshop: CV and resume writing, interviewing skills (Book an appointment & visit the Career Resource Center) | Submit your CV. Mentor checks your results, work on final presentation |
| Nov 19 | Final Presentations | |
| Nov 26 | Final Presentations | |
| Dec 3 | Final Presentations | Annotated bibliography |
| Dec 9 | Communication Skills: Attend a Graduate exit Seminar/ Symposium/poster/Talk/Presentation | |
| Dec 9 | End of Semester Research/literature review Report | Report Due |

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Course attendance:

Attendance is required and essential for success in this course and is a component of your participation grade. I understand that absences happen, but if you make this a habit, you are guaranteed to perform poorly. Attendance is a component of your class participation grade.

Make up policy:

If you have a valid documented excuse and notify me in advance, you may be able to make up missed discussion assignments. I will determine this on an as-needed basis.

U Matter, We Care: Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

UF counseling services:

Resources are available on campus for students having personal problems or lacking clear career and academic goals. The resources include:

UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.

Career Resource Center, Reitz Union, 392-1601, career and job search services.

Many students experience test anxiety and other stress – related problems. “A Self Help Guide for Students” is available through the Counseling Center (301 Peabody Hall; 392-1575) and at their web site:

<http://www.counsel.ufl.edu/>.

Academic Honesty Policy:

All students registered at the University of Florida have agreed to comply with the following statement:

“I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

In addition, on all work submitted for credit the following pledge is either required or implied:

“On my honor I have neither given nor received unauthorized aid in doing this assignment.”

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at:

<https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

Plagiarism is a violation of the Academic Honesty Policy. It will not be tolerated. Please review how to define plagiarism and how to avoid it: <http://web.uflib.ufl.edu/msl/07b/studentplagiarism.html>

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Accommodations for students with disabilities:

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation by the second week of classes. No accommodations are available to students who lack this documentation. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.