

SYLLABUS

QBIO 494: Quantitative Biology Honors Thesis

This course is a required course for students majoring in Quantitative Biology (<http://qbio.usc.edu>) with Honors distinction.

Spring 2021

ONLINE

Time and Location: Mondays, 3:30-5:10 pm

Course Instructors: Dr. Naomi Levine (n.levine@usc.edu), Gabilan Assistant Professor of Biological Sciences, Quantitative and Computational Biology, and Earth Sciences

Dr. Remo Rohs (rohs@usc.edu), Professor of Quantitative and Computational Biology, Chemistry, Physics & Astronomy, and Computer Science

Introduction: The Department of Quantitative and Computational Biology offers a Quantitative Biology (QBIO) major to outstanding students who are already pursuing studies for the B.S. degree in Biological Sciences or who will be directly admitted to the QBIO major. This major allows biology students to achieve a fuller background in the quantitative sciences such as computer science and statistics that are essential for modern data driven biological science.

Course Objectives: The goal of this course is to support, stimulate and evaluate the QBIO honors student writing their honors thesis.

Expectations: QBIO 494 students are expected to participate in the weekly QBIO honors class as a means of maintaining communication with the course faculty and other honors students, and to ask questions and exchange ideas based on the oral presentations by fellow honors students.

The QBIO honors thesis committee for each student in class constitutes the two instructors, and students are welcome to invite their faculty research advisor to be part of their honors thesis committee. This committee will advise the student during the thesis preparation and the course instructors will have primary responsibility for grading the honors thesis. Each QBIO 494 student meets with their committee members as part of honors thesis class. The honors thesis this year will be the manuscript of a research paper based on the student's research project. The class participants need to confirm their research project with the course instructors within the initial 4 weeks of

Course Requirements: Each QBIO 494 student will give one oral presentation presenting the outline of his/her honors thesis early in the semester and a second presentation on his/her honors thesis. This second oral presentation (thesis defense) will be presented to the Honors Seminar at or near the end of the semester. Students are encouraged to invite their research advisers to attend their thesis defense.

Honors Thesis: The finished thesis must be submitted to the instructors by agreed deadline. The student will also supply to the QBIO 494 instructors a final copy of her or his thesis following its defense, so it can be added to a permanent collection of Honors Theses in Quantitative Biology.

Grading: Course grades will be based on presentations, the student's honors thesis, and class participation as follows:

% of Grade	Criteria
20 %	Presentation 1 (about student's honors thesis research project)
40 %	Honors Thesis (written document as evaluated by honors committee)
30 %	Presentation 2 (Honors Thesis Defense)
10 %	Participation and discussion of other presentations

Schedule:

- 1/18 No class: MLK Day**
- 1/25 Introduction**
- 2/1 Discussion – How to give a research talk**
- 2/8 Dr. Norman Arnheim, Distinguished Professor, Dept. of Biological Sciences, USC
Why bad slides are not good for you**
- 2/15 No class: President's Day**
- 2/22 Dr. Michael Quick, Provost Emeritus and Professor, Dept. of Biological Sciences, USC
Soft skills – all the parts of being a scientist/health professional that is not science or health**
- 3/1 Discussion – How to write a research paper**
- 3/8 Present Paper Outline I: Alex, Ari**
- 3/15 Present Paper Outline II: Angelina, Christopher**
- 3/22 Present Paper Outline III: Sophia, Darius; Emily presents at noon (same Zoom link)**
- 3/29 Bri McWhorter, MFA, Speech Coach & Communications Expert, Activate to Captivate
Tips and techniques for giving a scientific talk**
- 4/5 Dr. Angela DePace, Assoc. Professor, Dept. of Systems Biology, Harvard Medical School
Communication tools and principles for scientists**
- 4/12 Present Research for Paper I: Alex, Christopher**
- 4/19 Present Research for Paper II: Angelina, Sophia**
- 4/26 Present Research for Paper III: Ari, Darius; Emily presents at noon (same Zoom link)**

Final papers are due on Monday, 5/10, by email submission of a PDF file to both instructors.

Statement for Observance of Religious Holidays: USC's policy grants students excused absences from class to observe religious holidays: <http://orl.usc.edu/life/calendar/absences/>
In this case, please contact your instructor in advance to agree on alternative course requirements.

Statement for Students with Disabilities: Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Statement on Academic Integrity: USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

Statement on Academic Conduct and Support Systems

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.

Provides overall safety to USC community. dps.usc.edu