

BI 671 Research Survey in Ecology, Behavior, Evolution and Marine Biology

CONTACT INFORMATION

Peter Buston, Department of Biology, BRB 531
Phone: 617-358-5412
E-mail: buston@bu.edu

LECTURE

Wednesday 4:30 – 5:45 in BRB 219 (second floor conference room)

OFFICE HOURS

TBD

PREREQUISITES

Students should be Biology graduate students, who have not yet taken their qualifying exam, in the areas of Ecology, Evolution, Behavior and Marine Biology. Others will be permitted at the discretion of the instructor.

ENROLLMENT LIMIT

15

OBJECTIVES

The principal objective of this course is to introduce graduate students to current faculty and research in Ecology, Evolution, Behavior and Marine Biology. Students and faculty will be able to share expertise and establish collaborations, helping the Department to leverage its most important asset: intellectual capital. In addition, students will gain practice discussing cutting edge research with their peers and with the authors of the research. Finally, students will gain experience in grant writing by writing an NSF grant proposal (the NSF Graduate Research Fellowship Program). This course will serve a unique role within these areas of the Department of Biology.

BOOKS & OTHER MATERIALS

There is no text for this course. Readings will be papers chosen by individual faculty members, reflecting the current research in their lab. I will post PDFs of all readings on the course website.

COURSE WEBSITE

The course website will be developed on Blackboard.

COURSE POLICIES: grading, absences, make-ups, workload

Grading

Participation in discussion	50%
NSF proposal: first version	10%
NSF proposal: second version	40%

Absences

Non-attendance is not penalized directly. However, students that do not attend will find it hard to participate.

Make-ups & Late work

There will be no opportunities for make-ups that are not well justified. Similarly, late work will not be accepted if it is not well justified

Workload

This is a 2 credit course. So, students should anticipate spending up to 6 hours per week outside of class on this course. Likely, students will average up to 1-2 hours per week on the reading and 4-5 hours per week on their proposals. Notably, students who spent the most time on the proposal had the greatest chance of success.

Conduct

All graduate students are expected to know and understand the GRS Academic and Professional Conduct Code (<https://www.bu.edu/cas/files/2017/02/GRS-Academic-Conduct-Code-Final.pdf>). Cases of suspected academic misconduct will be referred to the Dean's Office.

DISCUSSION SCHEDULE & READINGS (subject to change)

Week 1. Wednesday, September 5: Faculty Speaker – No speaker this week.

Week 1. Wednesday, September 5: Pete Buston – The Graduate Research Fellowship Program.
Graduate Research Fellowship Program: Program webpage and Program solicitation

Week 1. Wednesday, September 5: Visit official NSF GRFP [website](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201&org=DGE&from=home), read Solicitation 18-573, and come prepared with questions (https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201&org=DGE&from=home); Visit unofficial NSF GRFP [website](https://www.nsfgrfp.org) and come prepared with questions (<https://www.nsfgrfp.org>)

Week 2. Wednesday, September 12: Jenny Bhatnagar, Microbial Ecology and Biogeochemistry.
Reading TBD

Week 2. Wednesday, September 12: Pete Buston – What do NSF GRFP proposals look like?
Read recent successful proposals written by graduate students in EEB & MB.

Week 2. Wednesday, September 12: Register in [FastLane](#), think about statements and identify letter writers

Week 3. Wednesday, September 19: Karen Warkentin, Phenotypic Plasticity and Integrative Biology.
Reading TBD

Week 3. Wednesday, September 19: Pete Buston – What distinguishes successful & unsuccessful proposals?
Graduate Research Fellowship Program: Merit Review Criteria.
Re-read recent successful proposals in light of the merit review criteria.

Week 3. Wednesday, September 19: First draft of Personal Statement Due

Week 4. Wednesday, September 26: Adrien Finzi, Forest Ecology and Biogeochemistry.
Reading TBD

Week 4. Wednesday, September 26: Pete Buston – Hitchcock and Writing.
Kirshner, J. 1996. Alfred Hitchcock and the Art of Research. *Political Science & Politics* 29, 511-513.

Week 4. Wednesday, September 26: First draft of Research Statement & Peer review of Personal Statements Due

Week 5. Wednesday, October 3: Richard Primack, Climate Change and Conservation Biology.
Reading TBD

Week 5. Wednesday, October 3: Pete Buston – Strong Inference and Alternative Hypothesis Testing.
Platt, J. R. 1964. Strong inference: certain systematic methods of scientific thinking may produce much more rapid progress than others. *Science* 146, 347-353

Week 5. Wednesday, October 3: Second draft of Personal Statement & Peer review of Research Statements Due

Week 6. Wednesday, October 10: Chris Schmitt, Primate Behavioral Ecology and Functional Genomics.
Reading TBD

Week 6. Wednesday, October 10: Pete Buston – The Science of Writing.
Gopen, G.D. & Swan J.A. The Science of Scientific Writing: if the reader is to grasp what the writer means, the writer must understand what the reader needs. *In: Exploring Animal Behavior 5th edition*, 17-25.

Week 6. Wednesday, October 10: Second draft of Research Statement & Peer review of Personal Statements Due

Week 7. Wednesday, October 17: Mike Sorenson, Avian Behavioral Ecology and Population Genomics.
Reading TBD

Week 7. Wednesday, October 17: Pete Buston – Peer discussion of Personal and Research Statements

Week 7. Wednesday, October 17: Peer review of Research Statements Due

WEEK 8. MONDAY, OCTOBER 22: NSF GRFP LIFESCIENCES APPLICATION DEADLINE

Week 8. Wednesday, October 24: James Traniello, Social Evolution and Neuroethology.
Reading TBD

Week 8. Wednesday, October 24: Pete Buston

Week 8. Wednesday, October 24: Nothing Due

Week 9. Wednesday, October 31: Graham Dow, Plant Ecology and Climate Change.
Reading TBD

Week 9. Wednesday, October 31: Pete Buston — Lessons for the Future
Reflection on the NSF grant-writing process

Week 9. Wednesday, October 31: Final versions of NSF GRFP as PDFs Due

Week 10. Wednesday, November 7: Sarah Davies, Coral Ecology and Ecological Genomics.
Reading TBD

Week 10. Wednesday, November 7: Pete Buston — Alternative sources of funding
Students review the graduate student funding opportunities file

Week 10. Wednesday, November 7: Review alternative sources of funding file

Week 11. Wednesday, November 14: Wally Fulweiler, Biogeochemistry and Marine Ecology.
Reading TBD

Week 11. Wednesday, November 14: Pete Buston — Alternative sources of funding

Week 11. Wednesday, November 14: Survey EBE & MB labs for alternate sources of funding

Week 12. Wednesday, November 21: Thanksgiving Recess
No meeting or reading this week

Week 12. Wednesday, November 21: Thanksgiving Recess
No meeting or reading this week

Week 12. Wednesday, November 21: Thanksgiving Recess
Nothing due this week

Week 13. Wednesday, November 28: Randi Rotjan, Marine Ecology and Conservation Biology.
Reading TBD

Week 13. Wednesday, November 28: Pete Buston, TBD

Week 13. Wednesday, November 28: TBD

Week 14. Wednesday, December 5: Pam Templer, Ecosystem Ecology and Biogeochemistry.
Reading TBD

Week 14. Wednesday, December 5: Pete Buston, TBD

Week 14. Wednesday, December 5: TBD

Week 15. Wednesday, December 12: Pete Buston, Evolutionary Ecology and Marine Ecology.
Reading TBD

Week 15. Wednesday, December 12: Pete Buston, TBD

Week 15. Wednesday, December 12: TBD