

Neural Science Honors Seminar (NEURL-UA.301) — Fall 2019

Time: Tuesdays 2:00 – 4:00
Location: Meyer Hall, Room 760

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| Sep 3 | 1. Research Foundations: Experimental Design, and Scientific Epistemology
How to Present Research: Framing the Question and Approach
<i>Reading: Hailman and Strier, Ch. 1- How to Plan Research</i> |
| Sep 10 | 2. Student Oral Presentations of Research Plan
<i>Each student presents a 5-min research statement, offers feedback for other presenters</i> |
| Sep 17 | 3. Exploring the Mentor-Trainee Relationship
<i>Reading: Macrina, Ch. 1 - Methods, Manners, and the Responsible Conduct of Research
Ch. 2 - Ethics and the Scientist</i> |
| Sep 24 | 4. Science Writing (also: How to Structure Your Thesis)
<i>Reading: Hailman & Strier, Ch. 3 - How to Write a Research Report</i>
*Journal Club article selection due |
| Oct 1 | 5. Student Journal Club Presentations 1
*1-page Journal Club link to student's research due |
| Oct 8 | 6. Student Journal Club Presentations 2
*1-page Journal Club link to student's research due |
| Oct 15 | ** NO CLASS – NYU MONDAY SCHEDULE ** |
| Oct 22 | 7. Ethical Treatment of Research Subjects
<i>Reading: Macrina, Ch. 5 - Use of Humans in Biomedical Experiments
Ch. 6 - Use of Animals in Biomedical Experiments</i>
*Paper: preliminary Introduction due |
| Oct 29 | 8. Authorship and Publication Practices
Oral Presentation Skills: Best Practices for Posters and Talks
<i>Reading: Macrina, Ch. 4 - Authorship and Peer Review
Hailman and Strier, Ch. 4 – How to Present Research</i> |
| Nov 5 | 9. Three-Minute Student Research Presentations |
| Nov 12 | 10. Data Acquisition, Management, and Analysis
<i>Reading: Macrina, Ch. 11 - Scientific Record Keeping</i>
*Paper: preliminary Methods due |
| Nov 19 | 11. Responsible Conduct of Research
<i>Reading: Macrina, Ch. 1 – Methods, Manners, and the Responsible Conduct of Research
Ch. 2 – Ethics and the Scientist</i> |
| Nov 26 | 12. Student Research Presentations and Class Critiques 1
<i>Each student presents a 10-min presentation on project, offers feedback for other presenters</i>
*Paper: preliminary Results and Figures due |
| Dec 3 | 13. Student Research Presentations and Class Critiques 2
<i>Each student presents a 10-min presentation on project, offers feedback for other presenters</i> |
| Dec 10 | 14. Survival Skills for Research-Inspired Careers
*Final paper due |

Text: Hailman, J.P. and Strier, K.B. Planning, Proposing, and Presenting Science Effectively. Cambridge University Press, Cambridge, 2006.

Macrina, F.L. Scientific Integrity, 3rd Ed., ASM Press, Washington, 2005

Grading: **Preliminary statement and review of research goals** 5%
Each student presents a 5-min research statement, and offers feedback for other presenters.

Journal club

Each student chooses an effective research article, and leads a presentation. Class members provide constructive feedback, and discuss the implications of the article. The presenter must manage all of this within 15 mins.

Student submits one-page summary of how the article is relevant to his/her research.

Individual oral presentation 10%
Class participation 10%
1-page written account of link to student's research 4%

Research oral presentation (3 mins) 10%

Each student gives a 3-min presentation of his/her laboratory research, with just one slide, and offers feedback for other presenters.

Research oral presentation (10 mins)

Each student gives a 10-min presentation of his/her laboratory research.

Class members ask questions, and critique the presentation (5 mins).

Individual presentation 20%
Class participation 10%

Final research paper

To be submitted electronically no later than 5pm, Dec 10, 2019.

The paper may serve as a preliminary draft of the Honors Thesis; further details in class.

Preliminary Introduction 2%
Preliminary Methods 2%
Preliminary Results and Figures 2%
Final paper 25%

TOTAL: 100%

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