

The Neuroscience Junior Tutorial in the Fall Semester

In the Fall semester of your junior year, you will participate in small group tutorials to discuss research papers from the primary literature. These tutorials provide an interactive format for you to learn to read and analyze current primary scientific literature—this is essential for you to develop new ideas about research and for formulating hypotheses.

You will participate in discussions headed by postdoctoral instructors once a week for 1.5 hours. The tutorial is broken into two 4-week sections, each with a distinct topic area. At the end of each section, you will be asked to write a short critique of a relevant research paper assigned by the instructor. Students will attend and participate in a total of 8 discussion groups and will write 2 short papers for the fall tutorial.

For important details, please see the NEU Fall Junior Tutorial Guide 2015

Fall Tutorials Schedule, 2015

Part I

Week of September 14th:

Sign up for tutorial groups.

Week of September 21st through week of October 12th:

Session #1 of Fall Junior Tutorials begins

Meet 4 times with instructor.

Week of October 19th:

Research skills: databases, referencing, pdf management

November 9 (5:00pm):

First paper is due. Email it to Professor Ghazanfar (Department Representative).

Part II

Week of November 9th through week of November 16th:

Session #2 of Fall Junior Tutorials begins, with a new Instructor

Meet 2 times with tutorial group.

Week of November 23rd:

Thanksgiving Break – no meetings

Week of November 30th through week of December 7th

Meet 2 times with tutorial group.

January 5th (5:00pm) [University deadline for submitting Junior Independent Work]:

Second paper is due. Email it to Professor Ghazanfar (Department Representative).

Your Postdoctoral Instructors and Tutorial Times and Rooms

Chris Baldassano chrisb@princeton.edu

Ben Engelhard benengelhard@gmail.com

Sarah Maguire smaguire@princeton.edu

Nicolas Schuck nschuck@princeton.edu

Part I (Week of September 21st through week of October 12th):

Nico: Monday, 730pm-900pm, Room PNI 130

Sarah: Wednesday, 730pm-900pm, Room PNI 130

Ben: Tuesday, 230pm-400pm, Room PNI 159

Chris: Thursday, 230pm-400pm, Room PNI 159

Part II (Week of November 9th through week of December 7th):

Sarah: Monday, 730pm-900pm, Room PNI 130

Chris: Wednesday, 730pm-900pm, Room PNI 130

Nico: Tuesday, 230pm-400pm, Room PNI 159

Ben: Thursday, 230pm-400pm, Room PNI 159

Note: At the beginning of the semester you will receive an email asking you to rank your preferences for days/times using SurveyMonkey.

Junior Tutorial Paper Guidelines and Structure

Each student will be given an article to analyze for the paper.

While students may discuss their paper with peers and their instructor, each student should work individually when writing the paper. If students would like to get writing feedback from a peer or from the Writing Center, the person providing the feedback must not be in the student's group.

Students may *not* refer to previous student papers on the topic.

Each of the two papers shall include the following sections (lengths are approximate; concise and well-articulated content is always preferable to longer, less clear text):

- Summary/Abstract (no more than 200 words, approximately 1/2 a page)
- Background (approximately 1 page)
- Experimental Approach and Findings (approximately 2 pages)
- Critical Review/Original Analysis (approximately 2 pages)
- References (approximately 1/2 page)

The format for the paper should be:

- 5 - 7 pages in length (but no longer than 7 pages, excluding abstract and references)
- double-spaced (except for references)
- a minimum of 1 inch margins all around
- Arial 11 or Times New Roman 12 font only

Cover Page

Please include your name, the date, instructor's name and tutorial group number. A signed honor pledge should be on the cover page as well. We will remove the cover pages and assign your papers numbers so that the papers may be graded in an unbiased fashion. To preserve anonymity, please do not include your name in any other part of the paper.

Summary/Abstract (no more than 200 words)

Describe the major findings presented in the article along with a summary of your critical review of the findings. Abstracts should be concise.

Background (approximately 1 page)

Conduct a literature search and summarize the major and most relevant findings in the field. The background should be a succinct review of the topic in the paper being critiqued. You should rely on review articles to point the reader to a more extensive source of information, but don't use a review article as a primary citation for a fact. *You are strongly encouraged to research beyond the articles discussed or provided in class.* Typically, 5 - 10 references should be used for the background section.

Experimental Approach and Findings (approximately 2 pages)

For the key experiments in the article, briefly summarize the following:

1. The question addressed
2. The experimental approach used
3. The results of the experiment

Critical Review/Original Analysis - (approximately 2 pages)

Discuss each of the following in your paper:

1. Evaluate the quality of the data (e.g. Do the experiments include the appropriate controls? Could an experiment have been conducted differently to answer the question at hand?)
2. Evaluate the conclusions made by the authors. For example, are there alternative explanations or conclusions for the data?
3. Evaluate the major implications of the findings in the article as they relate the field of study.
4. Propose future experiments not mentioned in the research article.

References - (not included in the page limitation and may be single-spaced)

1. You may use any appropriate scientific format for listing references.
2. Any fact that is discussed should be referenced.
3. The complete references should be detailed in a Reference Section found at the end of the document.
4. List all of the articles cited. Only include a reference if it is specifically cited.
5. Do not cite the Internet (e.g., Wikipedia). Many items found on the internet have not undergone "peer review" scrutiny and may be unreliable. Rely on published, peer-reviewed articles.

Grading of the Junior Tutorial Papers

Students will be evaluated based on class participation in each section and on the two papers. As a % of total grade, the breakdown is as follows:

Class participation Part I	10%
Paper for Part I	40%
Class participation Part II	10%
Paper for Part II	40%

Because papers are “blind” graded, the only place your name should appear is on the cover page. Make sure the cover page is detachable (i.e. don't use double-sided printing for the cover page). Also, make sure that you have signed the honor pledge on the cover page only.

There are multiple components to the Fall Junior tutorial papers. In general, the best papers are concise, but thorough, analyses of the experimental approaches in the primary literature, and in-depth critiques of data and conclusions. Remember that the goal of the assignment is to practice how to assess experimental methods and results and then to shape that assessment into an effective argument. This will help develop important skills for writing your research proposal and senior thesis.

Students will receive comments on their papers in addition to their grades. Students are encouraged to discuss their paper evaluations with their instructor, as well as with Professor Ghazanfar.