

Course: Scientific Writing

Course Directors: Eric Skaar Ph.D. and Chris Aiken Ph.D.

Course Description:

This course will provide students with an introduction to scientific writing with a focus on research articles and NIH grants. The course will be mixture of lectures, large and small group discussions, “Shut up and Write” exercises, and mock study sections. Upon completion of this course, students will gain valuable skills and best-practices relevant to scientific writing while also assembling the research proposal portion of an NIH grant application focused on their thesis work. They will also gain familiarity with the NIH grant review process.

Grading

Grading is based on attendance, class participation, timely completion of assignments, and having assigned writing samples prepared for discussion.

Class Schedule

1/5	9:00-10:30	Introduction to scientific writing course/ <i>Paper Abstract Exercise</i>
1/7	9:00-10:30	Paper Lay Abstract
1/12	9:00-10:30	Paper Results Section
1/14	9:00-10:30	Paper Title and Cover Letter
1/19	9:00-10:30	Editorial Process and Response to Reviews
1/21	9:00-10:30	Introduction to the NIH grant application
1/26	9:00-10:30	Specific Aims page (Due 2/4 midnight)
1/28	9:00-10:30	Shut up and Write
2/2	9:00-10:30	Shut up and Write
2/4	9:00-10:30	Background, Significance, Innovation (Due 2/11; complete Research Plan Due 3/17)
2/9	9:00-10:30	Shut up and Write
2/11	9:00-10:30	Specific Aim 1
2/16	9:00-10:30	Shut up and Write
2/18	9:00-10:30	Specific Aim 2
2/23	9:00-10:30	<i>In class reading day (Write if you Like)</i>
2/25	9:00-10:30	Shut up and Write
3/2	no class	“Spring Break”
3/4	no class	“Spring Break”
3/9	9:00-10:30	Specific Aim 3
3/11	9:00-10:30	Shut up and Write
3/16	9:00-10:30	Shut up and Write
3/18	9:00-10:30	Writing effective reviews
3/23	9:00-10:30	Reading and Reviewing Phase (Reviewers upload critiques no later than 48 hours prior to scheduled discussion of the corresponding proposal)
3/25	9:00-10:30	Mock study section
3/30	9:00-10:30	Mock study section
4/1	9:00-10:30	Mock study section
4/6	9:00-10:30	Mock study section
4/8	9:00-10:30	<i>In class reading day (Write if you Like)</i>
4/13	9:00-10:30	Mock study section
4/15	9:00-10:30	No class (VI4 Symposium)
4/20	9:00-10:30	Ancillary documents for NIH applications (Melissa Krasnove)
4/22	9:00-10:30	Introduction (Revisions only)
4/27	9:00-10:30	Outreach writing exercise show-and-tell (Projects due 4/29)

Faculty Reader Selections

For this course, you will select 2 or 3 faculty other than your mentor as readers for your research proposal. At least one of these should be a faculty member in the MHI or MPI Ph.D. program and should have some familiarity with your general research area (e.g., cellular immunology, bacterial pathogenesis, molecular virology). These faculty will read your Specific Aims page and Research Plan and provide constructive feedback. (MPI students may employ their committee members for this.) Near the end of the course, you will meet with your readers as a group (together with your mentor) and give a presentation on your research proposal. The committee will give you advice for developing the proposal for a Ph.D. dissertation project and/or competitive fellowship application. (For MHI students, this will satisfy the Prequal meeting requirement.)

Assignment Deadlines

1. Faculty Reader selections: 1/19/20
2. Proposal Title and Specific Aims page: 2/4/20
3. Complete Research Plan: 3/17/20
4. Critiques of assigned applications: 48 hours prior to scheduled in-class discussion
5. Outreach Writing Exercise: 4/29/20

Mock Study Section Meeting Process (<25 minutes per proposal)

1. Conflicts of interest disclosed to SRO (Dr. Aiken)
2. Designated Student Chair oversees the discussion
3. Assigned reviewers announce preliminary scores
4. Reviewer 1 describes the proposal and gives major strengths and weaknesses
5. Reviewer 2 states points of agreement and disagreement and any additional thoughts
6. Reviewer 3 states points of agreement and disagreement and additional thoughts
7. Chair invites open discussion among entire panel (including members not assigned as reviewers)
8. Chair summarizes the major strengths and weaknesses
9. Assigned reviewers state their final overall scores
10. All panelists record their scores
11. Chair prepares a written summary of the major strengths and weaknesses to be provided to the applicant

Outreach Writing Exercise

This assignment will involve writing a letter to a lay audience expressing a position on an issue that matters to your and/or the scientific research community. Examples may include a letter to a political representative trying to educate them about a matter of concern, a letter to a newspaper describing a science-related matter, a video for the public describing a scientific process or discovery, or a blog post along these lines. Be creative! (If any of you want to make a Doodly video, we would love to see one!)