1. Course Statement

Grant writing is the primary mechanism to obtain extramural funding for scientists who plan to pursue a career as an independently-funded principal investigator. Whether that extramural funding is through the National Institute of Health, the National Science Foundation, or a private foundation; the ability to clearly and concisely articulate your program of research and funding needs is a critical skill to succeed as an academic researcher. However, few PhD programs provide formal instruction on the use of successful grant writing techniques.

This course focuses on helping you develop advanced writing skills and knowledge of the grant-writing process, particularly as it pertains to NIH-style grant mechanisms. The course will cover the following topics:

1. Successful writing styles, including: a) writing readable sentences; and b) creating coherent paragraphs
2. Successful strategies for writing a specific aims page
3. Successful strategies for writing significance, innovation, and approach sections
4. Successful strategies for writing preliminary data
5. Successful strategies for writing a training plan
6. Reviewing the NIH review criteria and grant scoring rubric
7. Reviewing the preparation of all supporting documents (e.g., NIH biosketch; Human subjects, etc).
8. Learning to provide constructive peer review of grant applications
The grading for this course will be centered around developing: a) specific aims page; b) significance and innovation sections; c) approach; d) preliminary data; and e) a training plan for a full draft of a Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship. Students will be encouraged to submit their award to NIH for peer review. Although students are encouraged to focus on writing the NRSA grant for the primary course assignment, other types of grant styles will be acceptable.

https://researchtraining.nih.gov/programs/fellowships/F31

Students will primarily read and review funded and unfunded F31 applications to learn how to critically review an application to identify its strengths and weaknesses. Class time will be spent reviewing the structures of funded grants, unfunded grants, as well as providing constructive feedback to students through peer review.

A. Course Description:
This course will train doctoral students on successful technical grant writing strategies that they can implement to prepare a dissertation fellowship grant application. Students will review existing grants and prepare their own dissertation fellowship grant application. Students can expect to: 1) write their own grants; 2) review lecture materials around dissecting existing grants; and 3) work in groups to review each other’s writing to generate feedback to support the development of their own grant.

B. Course Content:
This course will focus on reviewing publicly available grant information from the National Institute of Health. In addition, students will read a collection of grant applications procured by the course instructor. Although this course will emphasize NIH grant applications, students can work with the course instructor to individualize the main assignment (e.g., write a Robert Wood Johnson dissertation fellowship application).

C. Course Objectives and Competencies:
Upon completion of this course, students will be able to:
1. Use the 5 principles of writing readable sentences.
2. Identify how to find and search for NIH grant announcements.
3. Understand how to organization of NIH dissertation fellowships.
4. Understand how to use NIH grant review criteria to inform your grant writing strategies.
5. Draft a full NIH grant dissertation fellowship grant
6. Identify NIH grant mechanisms that target improving the disparities among grant awardees
7. Identify NIH grant mechanisms that facilitate the training of underrepresented minorities

D. Course Design:
This course will employ a number of pedagogical strategies to promote knowledge and skill development, such as reading assignments, group review and feedback, didactic presentations of theory/models/procedures.
E. Curricular Themes:
1. Grant Organization and Design. We will address how to organize/design one’s grant to meet the standard of most dissertation fellowships.
2. Principles for Writing Readable Sentences. We will learn and apply the five principles for writing readable sentences through grant dissection.
3. Understanding Review Criteria. We will learn how grant reviewers view your application and the power phrases they look for to help score your grant.
4. Importance of Group Feedback. We will learn how reading and providing feedback on other grants (in a group format) will be critical to developing effective grant writing skills.

F. Relationship to Social Work Values and Ethics:
Students will learn about the ethics of grant writing adapted from the American Grant Writer’s Association, NIH, and the Chronicle of Higher Education.

G. Intensive focus on PODS:
This course integrates Privilege, Oppression, Diversity and Social Justice (PODS) content and skills with a special emphasis on the identification on grant mechanisms that promote social justice, illuminate injustices and are consistent with scientific and professional knowledge. Through the use of readings and class discussions, this course will support students to learn about Institutes at NIH that facilitate Minority and Health Disparities Research and to recognize and reduce mechanisms that oppress grant submissions from diverse scientists. Overall students will strengthen their critical consciousness, self-knowledge and self-awareness to facilitate PODS learning.

2. Class Requirements

a. Text and class materials
All reading materials will be available through CANVAS.

b. Class schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>SEMINAR LECTURES/TOPICS</th>
<th>READINGS &amp; ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8/20</td>
<td>Lecture: Class Introduction</td>
<td>Read: Funding Your Future: What you need to know to develop a pre- or postdoctoral</td>
</tr>
<tr>
<td>Session 1</td>
<td>Dissertation Fellowships (eg NIH F31)</td>
<td>training application</td>
</tr>
<tr>
<td></td>
<td>Writing Style,</td>
<td>Weil, Nemes, &amp; Munly (Canvas)-NIH book chapter</td>
</tr>
<tr>
<td></td>
<td>Writing Readable Sentences,</td>
<td></td>
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<tr>
<td></td>
<td>Creating Coherent Paragraphs,</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Session</td>
<td>Activities and Lectures</td>
</tr>
<tr>
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</tr>
<tr>
<td>1/15/20</td>
<td>Session 2</td>
<td>Mini-Lectures: Grant Review Criteria; Deconstruct Dissertation Research Experience; Deconstruct Training Goals; Deconstruct Activities; Mentorship Engagement</td>
</tr>
<tr>
<td>1/22/20</td>
<td>Session 3</td>
<td>Group Activities: Read &amp; Discuss: Cornacchio’s Dissertation &amp; Research Experience; Training Goals; Activities sections</td>
</tr>
<tr>
<td>1/29/20</td>
<td>Session 4</td>
<td>Group Activities: Read and Give Feedback on your own drafts of Dissertation &amp; Research Experience; Work in groups to identify training activities; Read and Discuss Glass or Mowbray Aims</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture: Specific Aims (Cornacchio vs. Goodrum)</td>
</tr>
<tr>
<td>2/5/20</td>
<td>Session 5</td>
<td>Group Activity: Read and Give Feedback on Aims</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture: Significance (part 1)</td>
</tr>
<tr>
<td>2/12/20</td>
<td>Session 6</td>
<td>Group Activity: Read and Give Feedback on Aims</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture: Approach (Part 1)</td>
</tr>
<tr>
<td>2/19/20</td>
<td>Session 7</td>
<td>Group Activity: Read and Give Feedback on Significance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture: Approach (Part 2)</td>
</tr>
<tr>
<td>2/26/20</td>
<td>Session 8</td>
<td>Lecture: Biosketch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group Activities: Draft Personal Statement;</td>
</tr>
<tr>
<td>Date</td>
<td>Session</td>
<td>Topic</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 3/11/20    | 9       | Read and Give Feedback on Significance
Jigsaw Discussion: NIH’s Mission to Establish NIMHD to facilitate disparity research
https://nimhd.nih.gov/about/overview/mission-vision.html
https://dpcpsi.nih.gov/sgmro
Barriers/Facilitators/Study Design to address needs of underrepresented minority participants.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3935672/ |                                    |
| 3/18/20    | 10      | Grant Writing Ethics: on canvas
Lecture: Small Pieces (e.g., Protection of HS; Women & Minorities; Budget)
Group Activity: Read and Discuss Approach | Due: Draft of Significance        |
| 3/25/20    | 11      | Lecture: Respective Contributions; Training in Responsible Conduct of Research; Sponsor Statements
Group Activity: Read and Discuss Approach |                                    |
| 4/1/20     | 12      | New Groups
Group Activity: Read and Discuss Background and Training Plan
Individual meetings with Dr. Smith | Due: Draft of Approach            |
| 4/8/20     | 13      | New Groups
Group Activity: Read and Discuss Aims
Individual meetings with Dr. Smith |                                    |
| 4/15/20    | 14      | New Groups
Group Activity: Read and Discuss Approach
Individual meetings with Dr. Smith |                                    |
|            |         | Wrap Up                                                                                                                                                                                                |                                    |
|            |         | **Jigsaw Discussion:** Disparities in receiving NIH Funding:
https://diversity.nih.gov/building-evidence/racial-disparities.nih-funding |                                    |


https://www.nigms.nih.gov/research-training/research-training-grant-programs/high-school-programs

<table>
<thead>
<tr>
<th>4/19/20</th>
<th>No Class – Final Assignment Due by 11:59pm</th>
<th>Due: Final Assignment</th>
</tr>
</thead>
</table>

### c. Assignments

The primary assignment is to write a dissertation fellowship award consistent with the guidelines of the NIH F31 dissertation fellowship granting mechanism.  
[https://researchtraining.nih.gov/programs/fellowships/F31](https://researchtraining.nih.gov/programs/fellowships/F31)

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Email Assignment to: <a href="mailto:mattjsmi@umich.edu">mattjsmi@umich.edu</a></th>
<th>Percent of overall grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft of Dissertation &amp; Research Experience</td>
<td>by 11:59am on 1/29/20</td>
<td>10%</td>
</tr>
<tr>
<td>Draft of Training Goals</td>
<td>by 11:59am on 2/5/20</td>
<td>10%</td>
</tr>
<tr>
<td>Draft of Specific Aims</td>
<td>by 11:59am on 2/19/20</td>
<td>10%</td>
</tr>
<tr>
<td>Draft of Significance</td>
<td>by 11:59am on 3/11/20</td>
<td>10%</td>
</tr>
<tr>
<td>Draft of Approach</td>
<td>by 11:59am on 3/25/20</td>
<td>10%</td>
</tr>
<tr>
<td>Final Grant Assignment</td>
<td>by 11:59pm on 4/19/20</td>
<td>40%</td>
</tr>
</tbody>
</table>

### d. Attendance and class participation

Class participation is the final 10% of the grade.  
5% by attendance:  
5% if no missed classes; 4% if 1 missed class; 3% if 2 missed classes; 2% if 3 missed classes; 1% if 4 missed classes; 0% if 5 or more missed  
5% by group contribution (group members will blindly rate one another)
e. Grading

Grading will be determined by applying the student’s ability to integrate the 4 principles for writing readable sentences into their narrative as well as their ability to clearly organize and articulate their grant proposal.

A+ 100-98  B+ 90-88  C+ 80-78  D+ 70-68  F 60 or less
A  97-94  B  87-84  C  77-74  D  67-64
A- 93-91  B-  83-81  C-  73-71  D-  63-61

Additional School and University policies, information and resources are available here: https://ssw.umich.edu/standard-policies-information-resources. They include:

- Safety and emergency preparedness
- Mental health and well-being
- Teaching evaluations
- Proper use of names and pronouns
- Accommodations for students with disabilities
- Religious/spiritual observances
- Military deployment
- Writing skills and expectations
- Academic integrity and plagiarism