2022 Syllabus (draft 2-16-21)

Course title: “NIH Fellowship Success”, course number Uni Stu 231, code 87945
Instructors: Professor David Fruman, Adjunct Professor Harinder Singh, and guest lecturers

Background: This 2-unit course was offered for the first time in spring 2021 after a successful pilot workshop offered in May-June 2020 by the GPS-STEM program.

Purpose: To provide instruction and practice of writing NIH fellowships. The format is designed to help PhD students & postdocs to write NIH F30/F31/F32 fellowship applications (National Research Service Awards; NRSA). Improving successful NRSA submissions is a priority for individual students, faculty research advisors, training grant directors, and the campus in general. The course is offered annually in spring quarter, with the primary goal of preparing trainees to submit new or revised applications for the August 5 NIH deadline. Several of the students and postdocs from 2020 and 2021 have been successful at obtaining F-series awards.

Learning Objectives:
- Understand the grant review criteria and the principles of grant peer-review
- Become familiar with each required component of grant application
- Develop practical experience writing Specific Aims and Background/Significance sections, Goals for Training section
- Practice peer-review skills

Format: The course will involve 8 weekly meetings. Sessions 1, 3 and 8 will be in-person (Natural Sciences 2, room 4201) and the rest will be given via Zoom. Prior to sessions 2, 4, 5, and 6, enrolled students will view faculty presentations that were pre-recorded from the 2020 workshop. At those meetings, the faculty presenters will review key points and then answer questions about the material they presented. Other meetings will include panel discussions by successful applicants, or time set aside for group work and peer-review. Peer groups will include trainees with related research interests as much as possible (e.g. neuroscience, immunology).

A number of external resources will be provided for students to self-study (for example: NIH webinars and grant-writing podcasts, iBiology videos, blog posts).

Schedule: (50min meetings, 4 – 4:50pm Mondays).

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<tr>
<th>Session</th>
<th>Topic</th>
<th>Instructor/Speaker</th>
<th>Homework &amp; Activity (Reading, Listening, Watching)</th>
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<tbody>
<tr>
<td>1 3/28/22</td>
<td>Introduction &amp; Overview; Types of Grants - Predoc, Postdoc, K awards, Funding Agencies and key differences, Funding opportunities and resources for international students on visa</td>
<td>Professor David Fruman, Ph.D, Megan Vu and Justin Sarkis (School of Biological Sciences)</td>
<td>Watch: Tips of effective grant writing and why write a grant? Open grants: grants.org, Researchers sharing their grant proposals openly, PIVOT database at UCI to find grants</td>
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<td>Date</td>
<td>Session Description</td>
<td>Instructor</td>
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| 2/4/22 | Writing Successful Grants:  
  - Steps  
  - Good practices  
  - Pitfalls to avoid | Professor Aimee Edinger, VMD-Ph.D | 10 simple rules of getting grants  
NIH Podcast topic on Getting to know grants process | After session 1, submit list of 3-4 keywords describing your research. Instructors will use this to suggest peer groups.  
Specific Aims guides from NIH and National Research Mentoring Network |
| 4/11/22 | Working groups: Peer review and discussion of Specific Aims | Peer groups and facilitators | | Prepare a rough draft of your Specific Aims section of your grant, share with your partner/group one day before class. Meet and discuss during class in Zoom breakout rooms. |
| 4/18/22 | Communicating your Science:  
  - Know your audience  
  - Communicating your ideas  
  - Understand the reviewer (Review criteria, common criticisms) | Professor Craig Stark, Ph.D | | Work on revised Specific Aims, prepare an outline of Background/Significance and Innovation |
| 4/25/22 | Preliminary Data:  
  - Guidelines  
  - How much is too little  
  - Best practices for making figures and legends  
  - Research Strategy | Professor Kim Green, Ph.D | Tips for grant writing (preliminary data section)  
Bring your preliminary section, reflect upon it and update based on the class | |
| 5/2/22 | Other important elements:  
  - Training plan (PI & applicant)  
  - PI Funding  
  - Co-mentor  
  - Collaborator | Professor David Fruman, Ph.D | Training plan for you by PI  
Applicant career plans (IDP)  
PI Funding  
Identify potential collaborator or co-mentor | |
| 5/9/22 | Working group: Form Peer-peer grant review groups and provide feedback on:  
  - Background  
  - Significance  
  - Innovation | Facilitators working with each peer working group | Split into groups & share your draft of grant with all the elements in place and give feedback, during and after the class |
| 8   | Lessons Learned: Panel discussion with successfully funded students and postdocs | Panelists: PhD students and postdocs who obtained NRSAs  
Moderator: Professor David Fruman |

**Evaluation/Assessment:** The primary instructor (Fruman) will recruit senior peer reviewers (faculty, postdocs, or graduate students) to assist in reviewing trainee Specific Aims pages and Goals for Training. These faculty will provide written feedback to each student.

**Grading:** P/NP. A passing grade will require attendance at each session (one excused absence) and timely submission of Specific Aims and Goals for Training within 14 days after session 8.