COURSE DESCRIPTION AND OBJECTIVES
This course provides students with the opportunity to apply methods and principles learned in previous MPHS classes to the development of a grant application. Students prepare this application on a research question of their own choosing and in the format expected for National Institutes of Health (NIH) R03, R21, or K grant applications (research plan only). Students also have the opportunity to evaluate research proposals for scientific merit. This course is required for medical graduates but optional for medical students.

Competencies
- Apply clinical and population health methods to a research question of students’ own choosing.
- Be familiar with the key principles in developing a grant application for submission to NIH or other similar funding agencies, including content, format, and style.
- Be familiar with the NIH grant review process.
- Conduct a critical review of a grant according to NIH procedures and scoring, and partake in constructive discussions with other reviewers to reach consensus on a priority score for funding.

Time and Location
Tuesday 1:00 to 4:00 pm
Julius Richmond

Instructor
Siobhan Sutcliffe, PhD, sutcliffes@wustl.edu

Teaching assistant
TBD

Small group discussion leaders
TBD

Office hours
By appointment

Credits: 3

COURSE REQUIREMENTS
Final grant application submission (50% of grade)
As NIH is the largest US research funder, each student is expected to develop a grant proposal that meets the R03, R21, or K requirements for NIH. Students will prepare this grant application on a research question of their own choosing, using clinical and population health methods learned in previous MPHS courses. The grant should be written in NIH format and should include a cover letter; project summary or abstract; project narrative or relevance; detailed budget and budget justification; biosketches; research plan; and human subjects and clinical trials information, including all relevant attachments. Resources and equipment pages are not required for the grant submission.
Draft grant component submission (10% of grade)
To help students submit their final grant application on time, drafts of each grant component will be due before the final grant application deadline. These drafts will not be graded, but will serve to keep students on track for timely submission of their final grant application. Students will receive 2% each for handing in five draft components on time.

Written critique of a grant proposal (20% of grade)
Peer review is a critical part of the grant review and funding process. Each student will submit his/her grant proposal for review by the course instructor and two classmates. Writing a thoughtful, concise review is an essential part of the peer review process.

Class participation (20% of grade)
All students are expected to engage actively and professionally in classroom discussions and grant critiques. Students should be prepared to ask questions, raise concerns, present their preliminary work, and interact with fellow students during each class.

CLASS EXPECTATIONS
The instructor will prepare and deliver course material; be available to students by appointment; and provide timely and clearly explained feedback on student performance. The instructor expects students to attend each class on time; complete all assignments in a timely manner; come to class prepared and having read all assignments; participate in class discussions; seek any necessary clarification regarding course expectations; and provide feedback about the effectiveness of the course. Any issues with attendance, meeting deadlines, or completing assignments should be discussed promptly with the instructor. E-mail is the best way to contact the course instructor and teaching assistant.

Academic honesty
Students are expected to complete exams and assignments in accordance with Washington University’s academic rules and regulations regarding honesty and integrity. Any evidence of academic misconduct, including cheating, failure to cite sources, and plagiarism will result in appropriate action as dictated by Washington University. This includes notification to the Associate Dean of Academic Affairs at the Washington University School of Medicine, as well as to the MPHS Director and Program Committee. Any hint of violation for assignments will result in no grade for that particular assignment. For more information, see the University’s Student Academic Integrity Policy: www.wustl.edu/policies/undergraduate-academic-integrity.html.

Special needs
Per University policy, students with a learning, sensory, or physical disability or other impairment should contact the Washington University Center for Advanced Learning Disability Resources (DR) at 935-4062 (tel) or visit http://disability.wustl.edu/DisabilityResources.aspx. The DR office is located in Cornerstone on the Danforth Campus. Students whose first language is not English and/or those in need of assistance in reading or writing assignments may contact the University Writing Center at 935-4981 or visit http://artsci.wustl.edu/~writing/home.html.

Attendance
Class attendance is required. As a courtesy to other students, you are expected to arrive on time. More than one unexcused absence from the class may result in a lowered grade. Do not enroll if you have many absences planned. Be especially responsible about attendance during grant review dates. The value of the class stems from the quality of the input received from peers, the course instructor, teaching assistant, and small group discussion leaders.
Canvas
Please check the site regularly for posted lectures, class readings, and assignments.

Readings
The SF424 (R&R) Application Guide for NIH and Other PHS Agencies (version E) is suggested as complimentary reading.

Grading scale
\[ A+ : 97-100; A : 93-96; A- : 90-92; B+ : 87-89; B : 83-86; B- : 80-82; C+ : 77-79; C : 73-76; C- : 70-72 \]

Course assignments
All written assignments should be uploaded by the deadline to wustl box. Be responsive to deadlines as they also impact other students – this includes all assigned dates for proposals and reviews. Exceptions or changes to due dates will **not** be granted.

Policy on late assignments
Late assignments will result in a deduction of one grade point (e.g., A+ down to A) for late assignments on the same day, and then one further grade point deduction for each subsequent day late (including weekends), unless prior approval has been obtained from the instructor or a compelling situation prevents prior approval. The instructor will allow for (documented) family emergencies (e.g., birth/death in a family) and health issues.

Grade challenges
Students have one week from the day an assignment/exam is returned to the class to challenge a grade. Under no circumstances will a grade be adjusted beyond this time. During a grade challenge, the instructor reserves the right to review the entire assignment/exam and add or deduct points, as appropriate.

Mobile phones/IM/social networking
Phone ringers should be silenced during class. Please resist the urge to use IM or social networking sites during class.

Classroom environment
This is a course in which students bring research ideas in development. Ideally, everyone should be involved in classroom discussions. In order for everyone to feel comfortable presenting work and voicing their opinions and suggestions, a climate of tolerance and respect is essential. Proposals that you are asked to read and review are confidential and should not to be shared with anyone. As with the federal peer review process, respect for the privacy of investigators’ ideas is important.

Misappropriation of intellectual property, including the unauthorized use of ideas or unique methods obtained from a grant review, is considered plagiarism and falls under the definition of scientific misconduct.

Accommodations based upon sexual assault
The University is committed to offering reasonable academic accommodations to students who are victims of sexual assault. Depending on the specific nature of the allegation, such measures may include but are not limited to: implementation of a no-contact order, course/classroom assignment changes, and other academic support services and accommodations. If you need to request such accommodations, please direct your request to Kim Webb (kim_webb@wustl.edu), Director of the Relationship and Sexual Violence Prevention Center. Ms. Webb is a confidential resource; however, requests for accommodations will be shared with the appropriate University administration and faculty. The University will maintain as
confidential any accommodations or protective measures provided to an individual student so long as it does not impair the ability to provide such measures.

**Bias Reporting**
The University has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of bias, prejudice, or discrimination against a student can report their experiences to the University’s Bias Report and Support System (BRSS) team. See: diversityinclusion.wustl.edu/brss/

**Mental Health**
Mental Health Services’ professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. See: shs.wustl.edu/MentalHealth
# Tentative schedule: these dates are subject to change

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Deadlines/accomplishments by this date</th>
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| January 15 | Lecture: Overview of NIH grant format  
Finding funding opportunities  
Lecture: Grant writing experiences: from pilot to U grants  
*Dr. Allison King* |                                                                                                     |
| January 22 | Lecture: Scope of projects  
Specific aims  
Lecture: Resident grant-writing and research experiences  
*Previous students* | Read two specific aims page examples before class                                                 |
| January 29 | Lecture: Budget, budget justification, and grant staffing  
*Aleksandra Klim, Jennifer Tappenden, and Mary Heeley* | E-mail Dr. Sutcliffe a brief description of your proposed study before the start of class (1pm) |
| February 5 | Lecture: Significance and innovation  
Lecture: Responding to reviewer critiques  
*Dr. Su-Hsin Chang* | Read Ratner and Parrish grant aims, significance, and innovation sections before class          |
| February 12| Lecture: Mybibliography resources and biosketches  
*Amy Suiter*  
Lecture: Approach: Preliminary studies  
Group discussion: Review of draft specific aims | Upload draft specific aims to wustl box by 1pm                                                   |
| February 19| Lecture: Approach: Study design  
Group discussion: Review of draft specific aims |                                                                                                     |
| February 26| Lecture: Approach: Statistical analysis  
Group discussion: Review of draft significance and innovation sections | Upload draft significance and innovation sections to wustl box before 1 pm                       |
| March 5    | Lecture: Human subjects and clinical trials information; abstract; cover letter, etc  
Group discussion: Review of preliminary studies section and personal biosketches | Upload draft preliminary studies sections and personal biosketch to wustl box before 1 pm       |
| March 12   | Lecture: Abstract, cover letter, etc  
Group discussion: Review of draft approach section | Upload draft approach sections to wustl box before 1 pm                                           |
| March 19   | Lecture: Peer review process and grant critiques  
Group discussion: Review of draft human subjects section | Upload draft human subjects section to wustl box before 1 pm                                     |
<p>| March 26   | Free class to work on grant proposal |                                                                                                     |</p>
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<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>April 2</td>
<td>Lecture: K and F grant-writing experiences</td>
<td>Drs. Erin Linnenbringer and Justin Moore</td>
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<td></td>
<td>Mock study section of a practice grant</td>
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<tr>
<td></td>
<td>Group discussion: Review of budgets and question and answer session</td>
<td>for final grant submission</td>
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<tr>
<td></td>
<td></td>
<td>Read practice grant before class</td>
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<tr>
<td>April 9</td>
<td>Free class to work on grant proposal</td>
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<tr>
<td>April 14</td>
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<td>Grant can be e-mailed to Dr. Sutcliffe and the TA to check for errors</td>
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<tr>
<td>April 16</td>
<td>Free class to work on grant proposal</td>
<td>Upload final grant proposals to wustl box by 4pm</td>
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<tr>
<td>April 23</td>
<td>Free class to work on grant critiques</td>
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<tr>
<td>April 30</td>
<td>Mock study section of peer grants</td>
<td>Upload grant critiques to wustl box by 1pm</td>
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<tr>
<td>May 7</td>
<td>Mock study section of peer grants</td>
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