SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF MINNESOTA

PUBH 6348 SECTION 001

Writing Research Grants
Fall 2017

COURSE & CONTACT INFORMATION

Credits: 2
Meeting Day(s): Mondays
Meeting Time: 3:35pm - 5:30pm
Meeting Place: MoosT 1-317

Instructors: Russell V. Luepker, MD, MS
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Office Hours: By appointment

COURSE DESCRIPTION

This course provides instruction and hands-on experience in the preparation of a NIH grant application. The course is designed for those in the Clinical Research MS Program and PhD students in Epidemiology. It is open to other graduate students with instructor's permission.

COURSE PREREQUISITES

This course is aimed at PhD and MS students who will be involved in preparing NIH grant applications in their careers. Students must be enrolled in the Epidemiology PhD Program, Clinical Research MS Program, or have permission of the instructor. Completion of PubH 6341 (Epidemiology) and PubH 6450 (Biostatistics) are required and subsequent, more advanced courses, recommended. The student must be prepared with their own research topic suitable for a grant.

COURSE GOALS & OBJECTIVES

Upon completion of this course, students will be able to:

a. Understand the structure and organization of the NIH.
b. Understand the elements in the preparation of a NIH grant application: biosketches, specific aims, hypotheses, innovation, significance, approach, evaluation.
c. Understand the review mechanisms for a NIH grant application.
d. Use the NIH pages on the web.
e. Understand the principles used to move from an initial idea to a fully developed grant application.
f. Read NIH grant applications and their associated pink sheets and identify the strengths and weaknesses of the proposal.

g. Prepare a power analysis and sample size calculations for research studies.
h. Understand the principles that guide the protection of human subjects and informed consent in research and prepare an application.
i. Prepare a budget for a research project.

METHODS OF INSTRUCTION AND WORK EXPECTATIONS

New material will be presented in lectures that incorporate classroom discussion. Readings and other assignments will be made for each class. Students will be expected to remain current in their readings and other assignments throughout the course. They will be called on to contribute to the discussion of those readings and assignments.

The student will prepare a written proposal following the format outlined in a NIH grant application form. The proposal will be up to 12 single-spaced laser-printed pages or less in a NIH format. Additional pages may be used for required human subject's permission (IRB), administrative data, references and a budget. The student will present her/his proposal in class in a "site visit" format.

Course Workload Expectations [Note: The University expects that for each credit, you will spend a minimum of three hours per week attending class or comparable activity, reading, studying, completing assignments, etc. over the course of a 15-week term. Thus, this course requires at least [45] hours of effort spread over the course of the term in order to earn an average grade.

COURSE TEXT & READINGS

Textbook:
Kienholz ML, Berg JM. How the NIH Can Help You Get Funded: An Insider's Guide to Grant Strategy. New York, NY: Oxford University Press, 2014.

This book can be purchased through Amazon.

	Topic	Leader	Readings	Activities/Assignments
Week 1 **9/10/18**	• Introduction/Overview • NIH Structure/Grants	Russell Luepker	• Lecture Notes • Book: Chapters 1-3, 7 Readings 1-2	• Assignment 1: Choose Topic
Week 2 **9/17/18**	• Specific Aims • Biographical Sketches	Russell Luepker Kamakshi Lakshminarayan	• Lecture Notes • Book: Pages 105-109 • Lecture Notes • Instructions for a Biographical Sketch	• *Assignment 1: Due* • Assignment 2: Specific Aims and Hypotheses Revised Topics • Assignment 3: Biographical Sketch
Week 3 **9/24/18**	• NIH ASSIST	Frances Spalding	• Lecture Notes	• *Assignment 2: Due* • Students should bring laptops
Week 4 **10/1/18**	• Grants.gov Workspace • Abstract • Co-Investigators	Frances Spalding Russell Luepker Russell Luepker	• Lecture Notes • Lecture Notes • Lecture Notes	• Students should bring laptops
Week 5 **10/8/18**	• Significance • Innovation	Kamakshi Lakshminarayan Kamakshi Lakshminarayan	• Lecture Notes • Book: Chapter 8 • Lecture Notes • Book: Chapter 8	• *Assignment 3: Due* • Assignment 4: Significance • Assignment 5: Innovation
Week 6 **10/15/18**	• Approach I & II	Russell Luepker	• Lecture Notes • PHS Human Subjects/Clinical Trials	• Assignment 6: Approach
Week 7 **10/22/18**	• Budget	Russell Luepker	• Lecture Notes • Book: Chapter 8 • Instructions for completing a Budget	• *Assignment 4: Due* *Assignment 5: Due* • Assignment 7: Budget
Week 8 **10/29/18**	• Human Subjects	Linnea Anderson	• Lecture Notes • Book: Chapter 8	• *Assignment 6: Due* • Assignment 8: Human Subjects Application

Week 9 **11/5/18** **Note: Class will meet in 1-368 MoosT**	• **Approach III Analysis**	**David Jacobs**	• **Lecture Notes**	• ***Assignment 7: Due***
Week 10 **11/12/18**	• **Approach IV Power Calculations**	**Darin Erickson**	• **Lecture Notes**	
Week 11 **11/19/18**	• **Understanding Grant Reviews** • **K Grants for Junior Investigators**	**Russell Luepker** **Kamakshi Lakshminarayan**	• **Lecture Notes** • **Book: Chapter 11-14** • **Lecture Notes** • **Readings 3-5**	
Week 12 **11/26/18**	• **No Class – Work on grants and presentations**			
Week 13 **12/3/18**	• **Student Presentations**	**Russell Luepker** **Kamakshi Lakshminarayan**		• ***Assignment 8: Due***
Week 14 **12/10/18**	• **Student Presentations**	**Russell Luepker** **Kamakshi Lakshminarayan**		
Week 15 **12/17/18**	• **Student Presentations**	**Russell Luepker** **Kamakshi Lakshminarayan**		• ***Grant Applications Due***

SPH AND UNIVERSITY POLICIES & RESOURCES

The School of Public Health maintains up-to-date information about resources available to students, as well as formal course policies, on our website at www.sph.umn.edu/student-policies/. Students are expected to read and understand all policy information available at this link and are encouraged to make use of the resources available.

The University of Minnesota has official policies, including but not limited to the following:

- Grade definitions
- Scholastic dishonesty
- Makeup work for legitimate absences
- Student conduct code
- Sexual harassment, sexual assault, stalking and relationship violence
- Equity, diversity, equal employment opportunity, and affirmative action
- Disability services
- Academic freedom and responsibility

Resources available for students include:

- Confidential mental health services
- Disability accommodations
- Housing and financial instability resources
- Technology help
- Academic support

EVALUATION & GRADING

[Enter a detailed statement of the basis for grading here. Include a breakdown of course components and a point system for achieving a particular grade. Include expected turnaround time for grading/feedback. Please refer to the University's Uniform Grading Policy and Grading Rubric Resource at https://z.umn.edu/gradingpolicy]

Grading Scale
The University uses plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following, and you can expect the grade lines to be drawn as follows:

% In Class	Grade	GPA
93 - 100%	A	4.000
90 - 92%	A-	3.667
87 - 89%	B+	3.333
83 - 86%	B	3.000
80 - 82%	B-	2.667
77 - 79%	C+	2.333
73 - 76%	C	2.000
70 - 72%	C-	1.667
67 - 69%	D+	1.333
63 - 66%	D	1.000
< 62%	F	

- A = achievement that is outstanding relative to the level necessary to meet course requirements.
- B = achievement that is significantly above the level necessary to meet course requirements.
- C = achievement that meets the course requirements in every respect.

- D = achievement that is worthy of credit even though it fails to meet fully the course requirements.
- F = failure because work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I (Incomplete).
- S = achievement that is satisfactory, which is equivalent to a C- or better
- N = achievement that is not satisfactory and signifies that the work was either 1) completed but at a level that is not worthy of credit, or 2) not completed and there was no agreement between the instructor and student that the student would receive an I (Incomplete).

Evaluation/Grading Policy	Evaluation/Grading Policy Description
Scholastic Dishonesty, Plagiarism, Cheating, etc.	You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis (As defined in the Student Conduct Code). For additional information, please see https://z.umn.edu/dishonesty The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://z.umn.edu/integrity. If you have additional questions, please clarify with your instructor. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam. Indiana University offers a clear description of plagiarism and an online quiz to check your understanding (http://z.umn.edu/iuplagiarism).
Late Assignments	Weekly assignments are due as indicated. If late, permission must be requested.
Attendance Requirements	No more than 2 unexcused absences.
Extra Credit	NA