

## PHAR 5020 Basics of Research Design

Fall 2016

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**CLASS DAYS and TIME:** Friday 0900-1100

**CLASSROOM:** Room 229B Pharmacology Conference Room

**COURSE FACULTY:** Lance R. McMahon, Ph.D., Associate Professor

**OFFICE LOCATION and HOURS:** Room 211B

**EMAIL:** mcmahonl@uthscsa.edu

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**READ THIS DOCUMENT CAREFULLY - YOU ARE RESPONSIBLE FOR ITS CONTENTS.**

### Overview

This course introduces the basics of research methods and proposal writing. Topics include hypothesis and specific aims development, as well as an overview of scientific study design for solving health-related problems. Learning will be interactive, based on a “how to” theme, and involve regular feedback on student progress. The course objectives will be accomplished through didactic lectures and small group and individual assignments. Students will write an abstract and specific aims page for an NIH NRSA proposal on a topic of their choice. Students will develop and present an oral research proposal in class at the end of the semester. **Pre-requisites** – List any pre-requisites for the course

**Semester credit hours** – State the number of credit hours awarded for successful completion of the course

### Goals

- (1) Introduce components of a research proposal.
- (2) Build a systematic approach to research and problem solving.
- (3) Develop scientific writing and oral presentation skills. List the course objectives.

**Materials** – Describe any course materials that are required for the course such as lab manuals, course packets, etc.

**Computer Access** – Describe the required computer, LMS (CANVAS), or any other software usage for the course, if applicable

### Reading Assignments

**Mandatory and recommended reading assignments are found primarily in the following text books.**

- *Research Methodology: A Step-by-Step Guide for Beginners 4th edition*  
Ranjit Kumar
- *Introduction to Research in the Health Sciences 6th edition*  
Stephan Polgar and Shane A. Thomas
- *The Grant Application Writer's Workbook, NIH version*  
Stephen Russell and David Morrison

## ATTENDANCE

Students are expected to read the material assigned for each class meeting in **Advance** of that date.

Furthermore, class participation is critically important to the overall grade.

In order to achieve the expected level of competency, students must be fully engaged. Therefore, attendance for every class session is expected. It is recognized that a student may occasionally arrive late to class due to unexpected traffic problems or inclement weather. However, chronic lateness is considered an unprofessional behavior that disrupts the learning environment for everyone else in the classroom.

## GRADING POLICIES AND EXAMINATION PROCEDURES

70% Assignments

30% Class discussion

*this component of grading provides evidence that students are reading and critically thinking about assigned class material*

20% Exam Grading System

Include a grading scale used to determine final grades, see example below

A = 90-100%    B = 80-89%    C = 70-79%    F = < 69%

## REQUESTS FOR ACCOMMODATIONS FOR DISABILITIES

In accordance with policy 4.2.3, **Request for Accommodation Under the ADA and the ADA Amendments Act of 2008 (ADAAA)**, any student requesting accommodation must submit the appropriate request for accommodation under the American with Disabilities Act (ADA, form 100). to his/her appropriate Associate Dean of their School and a copy to the ADA Coordinator. Additional information may be obtained at <http://uthscsa.edu/eeo/request.asp>.

## ACADEMIC INTEGRITY AND PROFESSIONALISM

Any student who commits an act of academic dishonesty is subject to discipline as prescribed by the UT System Rules and Regulations of the Board of Regents. Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an exam for another person, signing attendance sheets for another student, and any act designed to give unfair advantage to a student or the attempt to commit such an act. Additional information may be obtained at <http://catalog.uthscsa.edu/generalinformation/generalacademicpolicies/academicdishonestypolicy/>

## TITLE IX AT UTHSCSA

### **Title IX Defined:**

Title of the Education Amendments of 1972 is a federal law that prohibits sex discrimination in education. It reads "no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

### **University of Texas Health Science Center San Antonio's Commitment:**

University of Texas Health Science Center San Antonio (UTHSCSA) is committed to maintaining a learning environment that is free from discriminatory conduct based on gender. As required by Title IX, UTHSCSA does not discriminate on the basis of sex in its education programs and activities, and it encourages any student, faculty, or staff member who thinks that he or she has been subjected to sex discrimination, sexual harassment (including sexual violence) or sexual misconduct to immediately report the incident to the Title IX Director.

In an emergency, victims of sexual abuse should call 911. For non-emergencies, they may contact UPD at 210-567-2800. Additional information may be obtained at <http://students.uthscsa.edu/titleix/>

## EMAIL POLICY

Every student is issued a University e-mail address and account at the time of enrollment. As a matter of University Policy, communications between students and faculty that occur using the student's University e-mail address is considered official business. Therefore, **students are expected to check their university email inboxes on a regular basis** so that any announcements, instructions, or information regarding this course will be received in a timely way. Missed communications due to inadequate monitoring of incoming emails on the University's email server will never be a valid excuse for unsatisfactory academic progress.

## USE OF RECORDING DEVICES

Recording of lectures and other learning activities in this course by any means (*e.g.*, video, audio, etc.) is only permitted if approved by the instructor or required for compliance with Americans with Disabilities Act (ADA).

## ELECTRONIC DEVICES

Cell phones must be turned off during all class meetings and exams. Computers and electronic tablets are allowed only for participating in classroom activities (*e.g.*, viewing slides presented in lecture or conference materials). No texting, tweeting, emailing, web-surfing, gaming, or any use of electronic devices that is not directly connected with classroom activities is permitted.

## TENTATIVE CLASS SCHEDULE PHAR 5020 Basics of Research Design Fall 2016

WEEK	DATE	TOPIC	Assignment	Instructor and Modality
Week 1	Aug. 19 <sup>th</sup>	Literature review and formulating a research problem		
Week 2	Aug. 26 <sup>th</sup>			
Week 3	Sept. 2 <sup>nd</sup>	Outcome measures, variables, and data collection		
Week 4	Sept. 9 <sup>th</sup>	How to develop a statistical plan		
Week 5	Sept. 16 <sup>th</sup>	Human subjects; vertebrate animals		
Week 6	Sept. 23 <sup>rd</sup>	Limitations, problems, conclusions and future directions		

Week 7	Sept 30 <sup>th</sup>	How to write a structured abstract		
Week 8	Oct. 7 <sup>th</sup>	How to write a specific aims page		
Week 9	Oct. 14 <sup>th</sup>	How to develop the NRSA proposal I Assignment 1 due: specific aims page		
Week 10	Oct. 21 <sup>st</sup>	How to develop the NRSA proposal II		
Week 11	Oct. 28 <sup>th</sup>	Graduate Student Symposium (extra credit will be assigned for attendance)		
Week 12	Nov. 4 <sup>th</sup>	How to develop an effective oral presentation		
Week 13	Nov. 11 <sup>th</sup>	Assignment 2 due: in-class oral presentations part 1		
Week 14	Nov. 18 <sup>th</sup>	Assignment 2 due: in-class oral presentations part 2		
Week 15	Dec. 2 <sup>nd</sup>	How to give a great poster presentation		
Week 16	Dec. 9 <sup>th</sup>	Exam		
Week 17				