

HSC 3057

RESEARCH METHODS IN THE HEALTH SCIENCES

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Teaching Assistant

COURSE OVERVIEW

This course is designed to provide an overview of research design, methods, and ethics for undergraduate students with an emphasis in the social and behavioral sciences. The overarching *aims* for the course are to provide students with: (1) an overview of the common types of methodological approaches used for health science research; (2) an opportunity to understand how to best present research; (3) a basic understanding of how to critique a research article; and (4) an opportunity to understand how to obtain and decipher evidence-based research. We will use a variety of instructional methods including online lectures, readings, lab groups, class discussion, and worksheets.

COURSE OBJECTIVES

It is expected that by the end of this course students will be able to:

1. Explain the major tenets of quantitative and qualitative research approaches.
2. Explain how to conduct a literature review using search engines.
3. Compare and contrast the key features of experimental, quasi-experimental, comparative, associative, and descriptive research designs.
4. Summarize key ethical issues associated health science research.
5. Identify key components to effectively presenting and communicating research.
6. Critique the major elements of published public health and/or health sciences research articles (i.e., introduction, methodology, results, and discussion sections).
7. Explain how to search for evidence based research when answering a clinical questions.

REQUIRED MATERIALS

There is no required textbook for this course however students will be required to view all online material including lectures, videos, and podcasts prior to class. In addition, students will be assigned an article to read and review. Articles will be accessible via the course website. Additionally, weekly quizzes will be taken during lab via the Canvas Course. Students are required to bring a computer or an electronic device which can access Canvas to lab every day. Similarly, students will complete exam 1 and exam 2 through canvas and will be required to bring a computer or electronic device to designed exam dates in the HPNP auditorium.

REQUIREMENTS / EVALUATION

EXAMS (40%) Students will take 2, 40 question multiple choice exams. All questions will be taken directly from lecture, videos, podcasts, and class discussion. Each question is worth .5 points.

Lab Quizzes (20%) Each week, students will take a 4 question quiz at the beginning of class with each quiz worth 2 points. Quizzes will cover material that was assigned for that week (e.g., lectures, videos, and podcasts). The quiz will open once lab begins and close exactly 5 minutes later. Students must be in lab to take the quiz. Students who attempt the quiz outside lab will, at minimum, receive a zero for the quiz, lose a full letter grade in the course (minus 10%), and be reported to UF's Dean of Students Office. In total, students will complete 12 quizzes however the lowest two grades will be automatically dropped. All quizzes should be taken on laptops using the Lockdown browser feature on Canvas.

Lab Activities / Reaction Papers (30%) Following each quiz, students will participate in either an individual or small group activity (e.g., worksheet, game) followed by a discussion about the activity, or a general discussion about a research related topic. When appropriate, students will either individually upload their group worksheet or submit a brief reaction paper about the research related topic through Canvas. All activities and reaction papers are worth up to 3 points each and must be uploaded by the end of class. In total, students will complete 12 lab assignments / reaction papers however the lowest two grades will be automatically dropped.

Group Research Proposal (10%) Students will form into groups of 3 or 4 to work collectively to develop a quantitative research study proposal. The research proposal will focus on a topic of the group's choosing. The group will write a brief background, develop research hypotheses, select and justify an appropriate research design, describe a feasible sampling strategy, identify appropriate existing instruments to measure the independent and dependent variables, and ultimately develop a specific aims page. Students will also evaluate each group member's contribution to the proposal. Groups are expected to regularly meet in person to discuss the progress of their proposal.

POINT BREAKDOWN

Exam 1	20 Points
Exam 2	20 Points
Lab Quizzes	20 Points Total (lowest 2 grades dropped)
Lab Assignments and Reaction Papers	30 Points Total (lowest 2 grades dropped)
Group Research Proposal	10 Points
Total Points	100 Points
Extra Credit	5 Points

GRADING SCALE

Grade	A	A-	B+	B	B-	C+	C	D+	D	D-	E
Percent	93-100	90-92.9	87-89.9	83-86.9	80-82.9	77-79.9	70-76.9	67-69.9	63-66.9	60-62.9	<60
Points	93-100	90-92.9	87-89.9	83-86.9	80-82.9	77-79.9	70-76.9	67-69.9	63-66.9	60-62.9	<60

CALENDAR

WEEK ONE	JAN 7 – JAN 11
ONLINE LECTURE	NONE
LAB	CLASS INTRODUCTION
WEEK TWO	JAN 14 – JAN 18
ONLINE LECTURE	QUANTITATIVE AND QUALITATIVE RESEARCH & THE QUANTITATIVE RESEARCH PROCESS
	PRIMARY RESEARCH VARIABLES FOR QUANTITATIVE RESEARCH
HBO VIDEO	SCIENTIFIC STUDIES: LAST WEEK TONIGHT WITH JOHN OLIVER
LAB	QUIZ 1
	CLASS DISCUSSION / REACTION PAPER 1
WEEK THREE	JAN 21 – JAN 25
ONLINE LECTURE	FORMULATING QUANTITATIVE RESEARCH QUESTIONS
	CONDUCTING A LITERATURE REVIEW
	WRITING HYPOTHESES
PODCAST	REVISIONIST HISTORY: McDONALDS BROKE MY HEART
	REVISIONIST HISTORY: THE BASEMENT TAPES
LAB	QUIZ 2
	CLASS DISCUSSION / REACTION PAPER 2
WEEK FOUR	JAN 28 – FEB 1
ONLINE LECTURE	GENERAL OVERVIEW OF QUANTITATIVE RESEARCH DESIGNS (INTERNAL VALIDITY)
	QUANTITATIVE RESEARCH DESIGNS: EXPERIMENTAL AND QUASI-EXPERIMENTAL STUDIES
LAB	QUIZ 3
	LAB ASSIGNMENT 1
DUE	RESEARCH PROPOSAL: RESEARCH PROBLEM AND 10 ARTICLE LITERATURE REVIEW FOR BACKGROUND
WEEK FIVE	FEB 4 – FEB 8
ONLINE LECTURE	QUANTITATIVE RESEARCH DESIGNS: COMPARATIVE, ASSOCIATION, AND DESCRIPTIVE STUDIES
	THREATS TO INTERNAL VALIDITY
LAB	QUIZ 4
	LAB ASSIGNMENT 2
WEEK SIX	FEB 11 – FEB 15
ONLINE LECTURE	SAMPLING (EXTERNAL VALIDITY)
	THREATS TO EXTERNAL VALIDITY
LAB	QUIZ 5
	LAB ASSIGNMENT 3
DUE	RESEARCH PROPOSAL: SELECT AND JUSTIFY A RESEARCH DESIGN
WEEK SEVEN	FEB 18 – FEB 22
ONLINE LECTURE	MEASUREMENT SCALES
	INSTRUMENTATION (CONSTRUCT VALIDITY)
LAB	QUIZ 6
	CLASS DISCUSSION / REACTION PAPER 3
DUE	RESEARCH PROPOSAL: DESCRIBE AND JUSTIFY A SAMPLING STRATEGY
WEEK EIGHT	FEB 25 – MAR 1
	EXAM 1: WEDNESDAY FEBRUARY 28TH @ 7PM IN THE HPNP AUDITORIUM
WEEK NINE	MAR 4 – MAR 8
	SPRING BREAK

WEEK TEN	MAR 11 – MAR 15
ONLINE LECTURE	DEVELOPING ITEMS/QUESTIONS ADMINISTERING SURVEYS CONDUCTING INTERVIEWS OR FOCUS GROUPS
LAB	QUIZ 7 LAB ASSIGNMENT 4
WEEK ELEVEN	MAR 18 – MAR 22
ONLINE LECTURE	RESEARCH QUESTIONS FOR QUALITATIVE RESEARCH QUALITATIVE THEORIES DATA ANALYSIS QUALITATIVE VALIDITIES
LAB	QUIZ 8 LAB ASSIGNMENT 5
DUE	RESEARCH PROPOSAL: IDENTIFY APPROPRIATE INSTRUMENTS/MEASURES FOR YOUR STUDY
WEEK TWELVE	MAR 25 – MAR 29
ONLINE LECTURE	RESEARCH ETHICS STANFORD PRISON EXPERIMENT
NETFLIX VIDEO	QUIZ 9
LAB	CLASS DISCUSSION / REACTION PAPER 4
WEEK THIRTEEN	APR 1 – APR 5
ONLINE LECTURE	EVALUATING RESEARCH ARTICLES I EVALUATING RESEARCH ARTICLES II EVALUATING RESEARCH ARTICLES III PRESENTING RESEARCH
ARTICLE	TO BE ASSIGNED
LAB	QUIZ 10 GUEST PRESENTATION / REACTION PAPER 5
EXTRA CREDIT	ATTEND PHHP RESEARCH DAY PRESENTATION AND EVALUATE GUEST SPEAKER (3 POINTS) EVALUATE STUDENT POSTER PRESENTATION (1 POINT EACH; MAXIMUM OF 2 POINTS)
DUE	RESEARCH PROPOSAL: SPECIFIC AIMS PAGE
WEEK FOURTEEN	APR 8 – APR 12
ONLINE LECTURE	EVALUATING RESEARCH ARTICLES IV EVALUATING RESEARCH ARTICLES V THE NATIONAL INSTITUTES OF HEALTH
ARTICLE	TO BE ASSIGNED
LAB	QUIZ 11 LAB ASSIGNMENT 6
DUE	RESEARCH PROPOSAL: GROUP EVALUATION
WEEK FIFTEEN	APR 15 – APR 19
ONLINE LECTURE	PICO LEVELS OF EVIDENCE
LAB	QUIZ 12 LAB ASSIGNMENT 7
WEEK SIXTEEN	APR 22 – APR 26
	EXAM 2: TUESDAY APRIL 24TH @ 7PM IN THE HPNP AUDITORIUM

ACADEMIC INTEGRITY

Each student is bound by the academic honesty guidelines of the University that state: "The students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code." And, each student, upon submission of an assignment, implies the pledge: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

STUDENTS WITH DISABILITIES

Students with disabilities will be accommodated. Students must follow the written University procedure: "Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation."

COUNSELING AND STUDENT HEALTH

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling and Wellness Center, 352-392-1575; visit their web site for more information: www.counseling.ufl.edu/. The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: www.health.ufl.edu/shcc. Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789.

INCLUSIVE LEARNING ENVIRONMENT

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act." If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: www.multicultural.ufl.edu.