

HSC3057 RESEARCH METHODS

Instructor: Mike Moorhouse, PhD

Office: HPNP, Room 4154

Student Hours: Thursdays 9a-11a, or by Appointment

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CLASS NUMBER: 26656	TUESDAY	3 RD PERIOD	9:35AM – 10:25AM	ROOM: CG-11	TA: RAGHU
CLASS NUMBER: 26657	TUESDAY	4 TH PERIOD	10:40AM – 11:25AM	ROOM: CG-11	TA: YUN-CHAN
CLASS NUMBER: 26658	TUESDAY	7 TH PERIOD	1:55PM – 2:45PM	ROOM: CG-11	TA: GRETEL
CLASS NUMBER: 26659	TUESDAY	8 TH PERIOD	3:00PM – 3:50PM	ROOM: CG-11	TA: GRETEL

Prerequisites

Sophomore standing, PSY2012, STA2023, and Health Science, Public Health, or Communication Sciences and Disorders major, or Applied Brain Science minor.

Course Overview

This course introduces research methods in health sciences, focusing on the principles and practices essential for conducting and evaluating research. Students will explore both qualitative and quantitative methodologies, understanding how to design studies, collect data, and analyze results in health-related contexts. Material will be delivered by way of recorded lectures, class discussion, and small group work. Key topics include sampling, measurement, ethical considerations, and the use of statistical tools to assess outcomes. By the end of the course, students will be equipped to critically evaluate research studies and apply research techniques in various health science fields.

Relation to Program Outcomes

This course introduces, reinforces, and assesses the Health Science major Student Learning Outcome 4 (Critical Thinking) - Develop and apply critical analysis skills to contemporary health issues; as well as introduces and reinforces the Public Health major Student Learning Outcome 3 (Critical Thinking) - Identify, critically evaluate and interpret, and propose strategies, solutions, and interventions to address public health challenges.

Course Objectives

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

- Define the major tenets of quantitative and qualitative research approaches.
- Define probabilistic and non-probabilistic sampling techniques.
- Compare and contrast the key features of comparison and observational research designs.
- Determine the appropriate statistical test for parametric and non-parametric studies.
- Calculate odds ratios and relative risks for observational studies.
- Interpret test significance, confidence intervals, and effect sizes.
- Summarize basic ethical considerations when conducting human subject research.

Blended Learning

What is blended learning and why is it important? A Blended Learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Knowledge content that, as the instructor, I would have traditionally presented during a live class lecture is instead provided online before the live class takes place. This lets me focus my face-to-face teaching on course activities designed to help you strengthen higher order thinking skills such as critical thinking, problem solving, and collaboration. Competency in these skills is critical for today's health professional.

What is expected of you? You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher

learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

Course Materials and Technology

Textbook: There is no required textbook for this course however students will be required to view all online material including lectures and videos prior to class.

Technology: Required Equipment: Computer with high-speed internet access, and use of a supported browser with Lockdown Browser capability. To access this course on Canvas, you will use your Gatorlink ID and password to login.

For technical support for this class, please contact the UF Help Desk by:

Calling (352) 392-HELP (option 2),

Emailing helpdesk@ufl.edu, or

Going to <https://helpdesk.ufl.edu>

Requirements/Evaluation

Syllabus Quiz (3 Points, 3% of Total Grade) Students complete a 6-question syllabus quiz about the course material. Students may take the quiz as many times as necessary until the due date to earn the 100%.

Introduction Video (2 Points, 2% of Total Grade) Students will submit a brief video introducing themselves. Specific instructions are provided on Canvas.

Exams (40 Points, 20 Points Each, 40% of Total Grade) Students will take 2, 40-question multiple choice exams. All questions will be taken directly from recorded lectures and class discussions; and each question is worth .5 point. Exams will be administered in-person during class (50 minutes) on October 7th and November 18th. An optional third exam will be available the last week of class for students wishing to improve their grade. The third exam will be cumulative and consist of 40 multiple choice questions. Students opting to complete the 3rd exam can use their score to replace either their exam 1 or exam 2 grade.

Quizzes (18 Points; 2 Points Each, 18% of Total Grade) Prior to class each week, students will complete a 4 question, open-book/note, untimed quiz to test their comprehension of the material. Like exams, each question is worth .5 point. All quizzes are due by Monday by 11:59pm before that week's class. While there are 10 total quizzes, only 9 will count toward your grade (the lowest grade will be automatically dropped).

Weekly Assignments (27 Points; 3 Points Each, 27% of Total Grade) Each week, students will participate in either a class discussion or group worksheet activity. Following *Class Discussions*, each student will submit a brief, 200-word (minimum) assignment before midnight the day after class. On *Worksheet* days, students will begin by individually completing a worksheet (via Canvas). After 20 minutes, students will convene with students at their table to compare/discuss their answers, followed by the instructor reviewing the worksheet. Students receive full credit for uploading their worksheet prior to the due date. While there are 10 total in-class assignments, only 9 will count toward your grade (the lowest grade will be automatically dropped). *Note: Only students physically present for class are eligible to complete the weekly assignment. Students excused from class will be provided a different assignment to earn the points.*

Professionalism (10 Points, 10% of Total Grade) Students are expected to arrive on time (see punctuality policy) and come to class fully prepared with necessary materials and completed assignments. All interactions, whether with the instructor or peers, should demonstrate courtesy, active listening, and professionalism, avoiding disruptions or inappropriate behavior. When engaging in class discussions, group work, and other activities, students should contribute thoughtfully and respect to differing perspectives. Students are required to have their cell phones put away throughout the duration of class. On class discussion days, students are required to have all their electronics put away including phones, computers, and tablets.

Point Breakdown / Grading Scale

Syllabus Quiz	3 Points Total	A	93-100 Points	=	4.00
Introduction Video	2 Points Total	A-	90-92.9 Points	=	3.67
Exams (x2)	40 Points Total	B+	87-89.9 Points	=	3.33
Weekly Quizzes (x9)	18 Points Total	B	83-86.9 Points	=	3.00
In-Class Activities (x9)	27 Points Total	B-	80-82.9 Points	=	2.67
Professionalism	10 Points Total	C+	77-79.9 Points	=	2.33
		C	70-76.9 Points	=	2.00
Total Points	100 Points	D+	67-69.9 Points	=	1.33
		D	63-65.9 Points	=	1.00
Extra Credit	Up to 5 Points	E	Less than 63 Points	=	0.00

Class Policies

Punctuality

Students are expected to arrive to class on time and prepared. To maintain a respectful and productive learning environment for all, the following guidelines will be enforced:

Arrival After Class Has Started: Any student who enters the classroom after class has begun should quietly take a seat in one of the designated rows or tables to minimize disruption. A five-minute grace period will be allowed before a student is considered tardy.

Tardiness and Consequences: Students arriving more than five minutes late will be marked as *tardy* by the Teaching Assistant (TA). Accumulating two (2) tardies will result in the loss of 2 points from the student's Professionalism grade. Each subsequent tardy will result in an additional 2 point loss per tardy. Students arriving more than 20 minutes late will be eligible for half credit on their weekly assignment. Students missing more than 35 minutes of the 50 minute class are ineligible to complete the in-class assignment.

*Students who experience extenuating circumstances that impact their ability to consistently arrive on time are expected to communicate with the instructor as soon as possible to discuss potential exceptions.

Excused Absences

Regular attendance is essential to your success in this course and students are expected to attend their designated section each week. Only students who are physically present in class will be permitted to complete the in-class weekly assignment. However, students with an approved excused absence are eligible to complete a makeup assignment.

Excused Absences: In accordance with the University, the following reasons qualify for an excused absence and students must provide proper and sufficient documentation.

- Illness
- Serious accidents or emergencies affecting the student, their family, or their roommates
- Title IX-related situations
- Military obligations
- Religious holidays (*no official documentation required)
- Participation in official university activities
- Court-imposed legal obligations
- Special circumstances (e.g., conference presentations, graduate/professional school interviews, job orientation)

Submission Deadlines for Excused Absence Requests

- For categories a. – c.: Requests should be made as soon as reasonably feasible.
- For categories d. – h.: Requests should be submitted at least 72 hours before the class session.

Make-Up Procedure

Students with an approved excused absence are eligible to make up the missed in-class assignment. Make-ups will take place at the instructor's office (HPNP, Room 4154) on the first available Thursday at 9:00 am following the missed class. Alternate arrangements can be made for students with scheduling conflicts due to class or work.

Students should be prepared to spend approximately one hour completing the makeup. Specific instructions will be provided at the session. Assignments will be graded as a zero in the gradebook until the makeup is completed. Unless otherwise approved by the instructor, all makeup assignments must be completed within 14 days of the missed class. Any assignment not made up within this timeframe will remain a zero in the gradebook. *As a reminder, only 9 of the 10 in-class assignments count toward your final grade. This means you can have one unexcused absence, receive a zero for the assignment, and it won't negatively affect your grade.*

Please refer to UF's absence policy to ensure you meet UF policy on make-up work: [UF Absence Policy](#). Failure to upload an in-class assignment due to severe weather or poor internet connectivity will be reviewed on a case-by-case basis. If you are unable to access consistent internet, please email the instructor ahead of time (if possible); otherwise email the instructor at the earliest time possible.

Late Submissions

Late quizzes or assignments will not be accepted. All in-class weekly assignments (i.e., worksheets and reaction papers) are due by 11:59 pm on Wednesdays. It is your responsibility to ensure that the correct assignment is submitted on time to Canvas. Canvas allows you to resubmit assignments before the deadline if you mistakenly upload an incorrect file. However, failure to submit the correct assignment before the deadline will result in a zero, as submitting the wrong file is treated as a non-submission. Carefully double-check your submission to avoid penalties and ensure you receive credit for your work.

University Policies & Resources

University policies and information related to the Disability Resource Center, the Counseling and Wellness Center, University Honesty Policy, GatorEvals, In-Class Recording, and general Academic Resources such as the UF Computing Help Desk, the Career Connection Center, and Writing Studio can be found at: [UF Syllabus Policy Links - Online Course Syllabi - University of Florida](#)

Calendar (subject to change)

August 26th

	Review Syllabus	Syllabus Quiz Due Wednesday by 11:59pm Introduction Video Due Wednesday by 11:59pm
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September 2nd Research Basics

L1: Differentiating Quantitative and Qualitative Research (10:51) L2: Quantitative Research Validities (14:43) L3: Research Variables (33:47) L4: Writing Research Hypotheses (15:39) Quiz 1 Due Monday 11:59pm	Discussion: <i>Why Humans Are Bad at Research</i>	Complete Assignment Due Wednesday by 11:59pm
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September 9th Research Basics

L1: General Designs for Examining Causality (19:36) L2: Choosing Experimental or Observational Designs (9:35) L3: Using PICO to Construct Clinical Research Questions (15:15) L4: Search Engine Strategies (14:39) Quiz 2 Due Monday by 11:59pm Optional Extra Credit (1 Point) Due Monday by 11:59pm	Worksheet: <i>Identifying Variables & the General Research Design</i>	Upload Worksheet Due Wednesday by 11:59pm
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September 16th External Validity

L1: Understanding Generalizability (9:03) L2: Probabilistic Sampling (13:34) L3: Non-Probabilistic Sampling (5:45) Quiz 3 Due Monday by 11:59pm	Worksheet: <i>Assessing Confidence in Sampling Generalization</i>	Upload Worksheet Due Wednesday by 11:59pm
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September 23rd Internal Validity

L1: Deeper Look at Experimental Designs (16:35) L2: Threats to Internal Validity (28:09) L3: Clinical Trial Phases (8:33) Quiz 4 Due Monday by 11:59pm Optional Extra Credit (1 Point) Due Monday by 11:59pm	Worksheet: <i>Strength of Study Design</i>	Upload Worksheet Due Wednesday by 11:59pm
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September 30th Internal Validity

L1: Deeper Look at Observational Designs (16:34) L2: Calculating Odds Ratios and Relative Risks (14:22) Quiz 5 Due Monday by 11:59pm Optional Extra Credit (1 Point) Due Monday by 11:59pm	Discussion: <i>Mis/Disinformation in Healthcare Research</i>	Complete Assignment Due Wednesday by 11:59pm
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October 7th

Optional Review Session Monday at 5pm	Exam 1	
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October 14th Construct Validity

L1: Types of Data (12:17) L2: Measurement (Reliability and Validity) (29:20) Quiz 6 Due Monday by 11:59pm Optional Extra Credit (1 Point) Due Monday by 11:59pm	Discussion: <i>Why Most Assessments Are Flawed</i>	Complete Assignment Due Wednesday by 11:59pm
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October 21st Statistical Conclusion Validity

L1: Choosing the Correct Statistical Test (28:18) Quiz 7 Due Monday by 11:59pm	Discussion: <i>The Dangers of Demographic Variables</i>	Complete Assignment Due Wednesday by 11:59pm
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October 28th Statistical Conclusion Validity

L1: Statistical Significance Testing (30:29) L2: Effect Sizes and Confidence Intervals (22:54) Quiz 8 Due Monday by 11:59pm Optional Extra Credit (1 Point) Due Monday by 11:59pm	Worksheet: <i>Choosing the Correct Test and Interpreting Results</i>	Upload Worksheet Due Wednesday by 11:59pm
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November 4th Ethics

L1: Research Ethics (13:39) Video: You're Not Ready for What DNA Editing Will Do Next Quiz 9 Due Monday by 11:59pm	Discussion: <i>Henrietta Lack and the HeLa Line</i>	Complete Assignment Due Wednesday by 11:59pm
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November 11th Qualitative Research

L1: Qualitative Research Approaches (12:54) L2: Qualitative Validities and Tools (14:48) L3: Interviews and Focus Groups (21:45) Quiz 10 Due Monday by 11:59pm Optional Extra Credit (1 Point) Due Monday by 11:59pm	No Class – Veteran's Day Worksheet: Identifying the Qualitative Approach <i>(will be made available before Tuesday)</i>	Upload Worksheet Due <i>Thursday</i> by 11:59pm
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November 18th

Optional Review Session Monday at 5pm	Exam 2	
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November 25th

	Thanksgiving Week – No Class	
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December 2nd

	Optional Exam 3 (Cumulative)	
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