PREREQUISITES: A graduate-level statistics course.

MAIN TEXT (required)


DESCRIPTION OF COURSE CONTENT

PURPOSE OF THE COURSE

This graduate level course provides an overview of the research designs common in translational health research. This course will provide students foundational understanding of a variety of research designs including the creation of defensible and meaningful hypotheses, bias potential, strengths, and limitations. Students will explore when different research designs are most appropriate for the scientific knowledge, the context, and the community support. The course provides foundational work for the HOBI and Implementation Science advanced methods courses.

COURSE OBJECTIVES & GOALS

By the end of this course, the student should be able to:

1. Demonstrate a fundamental understanding of key concepts for translational health research designs including individual randomized trials, group randomized trials, quasi-experimental studies, cohort and longitudinal studies, case-control designs, and descriptive studies.
2. Propose and defend feasible hypotheses and translational health research designs to answer clinically meaningful questions.
3. Critique and devise research designs that incorporate mixed methods and multilevel determinates.
4. Apply translational health research designs to implementation science questions.

COURSE POLICIES

ATTENDANCE POLICY

Class attendance is mandatory. Excused absences follow the criteria of the UF Graduate Catalogue (e.g., illness, serious family emergency, military obligations, religious holidays), and should be communicated to the instructor prior to or on the day of absence, not later. Given the online format of the course, students are responsible for all assigned reading material and meeting the scheduled due dates for class assignments.

For information regarding the UF Attendance Policy see the Registrar website for additional details: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

QUIZ/EXAM POLICY

Unless otherwise stipulated, all assignments are individual assignments. Students are forbidden to collaborate or consult with one another on such assignments. Students must of course follow the University Policy on Academic Misconduct, which includes but is not limited to prohibition of plagiarism.

ASSIGNMENT POLICY

A penalty of 10% per day (maximum of two days) shall be assessed on assignments turned in late. Non-participation on discussion forums will earn a grade of zero.

MAKE-UP POLICY

Students are allowed to make up work only as the result of illness or other unanticipated circumstances. In the event of such emergency, documentation will be required in conformance with University policy. Work missed for any other reason will earn a grade of zero.

POLICY ON STYLE FOR CITATION AND PLAGIARISM

The two key purposes of citation are to 1) give appropriate credit to the authors of information, research findings, and/or ideas (and avoid plagiarism) and 2) facilitate access by your readers to the sources you use in your research.

Quotations: When directly quoting an outside source, the borrowed text, regardless of the amount, must be surrounded by quotation marks or block quoted. Quoted text over two lines in length should be single-spaced and indented beyond the normal margins. Every quote must include a source—the author, title, volume, page numbers, etc.—whether an internal reference, footnote, or endnote is used in conjunction with a bibliography page.

Paraphrasing or Citing an Idea: When summarizing an outside source in your own words or citing another person’s ideas, quotation marks are not necessary, but the source must be included. This includes, but is not confined to, personal communications from other students, faculty members, experts in the field, summarized ideas from published or unpublished resource, and primary methods derived from published or unpublished sources. Use the general concept of “when in doubt – cite.”
Plagiarism is a serious violation of the academic honesty policy of the College. If a student plagiarizes others’ material or ideas, he or she may receive an “E” in the course. The faculty member may also recommend further sanctions to the Dean, per College disciplinary action policy. Generally speaking, the three keys of acceptable citation practice are: 1) thoroughness, 2) accuracy, and 3) consistency. In other words, be sure to fully cite all sources used (thoroughness), be accurate in the citation information provided, and be consistent in the citation style you adopt. All references should include the following elements: 1) last names along with first and middle initials; 2) full title of reference; 3) name of journal or book; 4) publication city, publisher, volume, and date; and 5) page numbers referenced. When citing information from the Internet, include the WWW address at the end, with the “access date” (i.e., when you obtained the information), just as you would list the document number and date for all public documents. When citing ideas or words from an individual that are not published, you can write “personal communication” along with the person’s name and date of communication.

UF POLICIES

UNIVERSITY POLICY ON ACCOMMODATION STUDENTS WITH DISABILITIES

Students requesting accommodation for disabilities must first register with the Dean of Students Office: https://drc.dso.ufl.edu/ . The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT

Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at http://www.dso.ufl.edu/students.php . You are expected and required to comply with the University’s academic honesty policy (University of Florida Rules 6C1-4.017 Student Affairs: Academic Honesty Guidelines, available at http://regulations.ufl.edu/chapter4/4017.pdf). Cheating, plagiarism, and other forms of academic dishonesty will not be tolerated. Note that misrepresentation of the truth for academic gain (e.g., misrepresenting your personal circumstances to get special consideration) constitutes cheating under the University of Florida Academic Honesty Guidelines.

NETIQUETTE – COMMUNICATION COURTESY

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions, and chats. The first instance of clearly rude and/or inappropriate behavior will result in a warning. The second instance will result in a deduction of five percentage points (20 points) from your overall grade. The third instance will result in a drop of a letter grade (A to B, A- to B-, and so on).


GETTING HELP

For issues with technical difficulties for E-learning, please contact the UF Help Desk at:
• Learning-support@ufl.edu
Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up. Other resources are available at http://distance.ufl.edu/getting-help/

COUNSELING AND WELLNESS RESOURCES

For any type of counseling needs, especially related to stress with school, work, personal life, crisis and emergency counseling, alcohol and other drug related services as well as Psychiatry wellness, you are encouraged to make an appointment with the counseling and wellness center through this link: https://counseling.ufl.edu/

LIBRARY HELP DESK SUPPORT

Should you have any complaints with your experience in this course please visit http://distance.ufl.edu/student-complaint-process/ to submit a complaint.

EVALUATION AND GRADING POLICIES

The following will be used to assess students’ progress in achieving the course objectives.

1. WEEKLY EVALUATION ACTIVITIES (70% OF TOTAL GRADE)

Each week, students will complete an evaluation activity prior to attending class. The type of activity will rotate between quizzes, an in-class discussion forum, and a study design activity.

A. SYLLABUS AND PREREQUISITE QUIZ – (3% OF TOTAL GRADE)
   For week 1, students will complete two brief quizzes: one on the syllabus and the other on prerequisite content. The syllabus quiz will be worth two points and the prerequisite quiz worth one point. On the prerequisite quiz, students will receive full credit regardless of answers.

B. INTRODUCTION VIDEO – (2% OF TOTAL GRADE)
   For week 2, each student will post a get to know you video. Videos should be between 1 to 2 minutes and be a brief introduction of yourself. Please, include your name, area of study, research area of interest, and hobbies. Anything else you include is up to you. Have fun and remember your netiquette.

C. QUIZZES – (10% OF TOTAL GRADE)
   During 5 weeks, the evaluation assignment will be a two-question quiz based on the learning assignment for that week. Each question will be worth one point of the final grade for a total of 10 points (5 weeks * 2 points). All quiz questions will be multiple response option type questions. Quizzes will be posted on 12:00 am on Monday and must be completed by 11:59 pm Sunday. Students will receive full credit for the lowest quiz grade; thus, essentially students may skip one quiz.

D. ONLINE DISCUSSION FORUMS – (15% OF TOTAL GRADE)
During 3 weeks, the evaluation assignment will be participation in an in-class discussion. Participation in a discussion is worth 5 points for a total of 15 points assigned to discussions (3 weeks * 5 points).

Requirements for the discussion forums:
1) Discussion forums for a given week will begin at 12:00 am on Monday.
2) By 11:59 pm Wednesday, each student is required to make two posts based on the week’s learning assignment: a conclusion and a question.
3) By 11:59 Sunday, students must comment on at least two other student’s postings and read all the comments made to their post by 11:59 Saturday.

Rules for the discussion forums:
1) All comments should be supported with evidence
2) Keep one point per message
3) Be constructive! Disagreement is good, but please be respectful of others.
4) Do not spare compliments. Be encouraging.
5) Practice good netiquette: Do not use ALL CAPITAL LETTERS. Do use proper capitalization and punctuation. Do not post inflammatory or accusatory remarks. Profanity and personal attacks are strictly prohibited and should be reported to the instructor immediately.
6) Do not feel distressed if others do not comment on your post. There can be many reasons including there might not be anything to add.
7) Have fun!

E. STUDY DESIGN ACTIVITIES – (40% OF TOTAL GRADE)
During 4 weeks, each student will complete a study design activity by providing short answers to questions for a scenario that leads you to creating a specific study. Each study design is worth 10 points for a total of 40 points (4 weeks * 10 points). Upon completion of each answer, students will receive sample answers so they can adjust their design as needed. Study designs will be graded on conceptual understanding and accuracy based on the study design evaluation rubric. Study design activities will be posted on 12:00 am on Monday and must be completed by 11:59 pm Sunday.

2. STUDENT RESEARCH PROJECT (30% OF TOTAL GRADE)
Students will create a 5 page, double-spaced, description of a health outcomes and policy research study of their interest. The assignment will be described in depth during class 1. Briefly, descriptions should cover the STROBE (http://www.strobe-statement.org/) or CONSORT (http://www.consort-statement.org/) checklist materials in title, abstract, introduction, and methods. Students should cite at least 20 references in a standard and consistent format. Grades will be assigned based on the research project rubrics. Final student projects must be uploaded by December 8, 2019 at 11:59 pm.

SCALING

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<thead>
<tr>
<th>Letter grade</th>
<th>Grade points</th>
<th>Grade Percentage</th>
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<tbody>
<tr>
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ONLINE FACULTY COURSE EVALUATION PROCESS

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results. Students’ evaluations are important (e.g. for assessing instructors’ performance on their teaching activities in relation to promotion) and they will be used to improve the course topics, materials, assignments, exams, and the instructor’s teaching style.

COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Major Topic</th>
<th>Learning Assignment</th>
<th>Evaluation Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>8/19 – 8/25</td>
<td>Introduction to the Course</td>
<td>• Reading Ch. 2, 3, 12</td>
<td>• Pre-requisites Quiz</td>
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<td></td>
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<td>• Course overview lecture</td>
<td>• Syllabus Quiz</td>
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<td>2</td>
<td>8/26 – 9/1</td>
<td>What is HOP research</td>
<td>• Reading Ch. 1 &amp; 6</td>
<td>• Get to know you video</td>
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<td>• PCORI methodology</td>
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<td>• HOP research design lecture</td>
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<td>3</td>
<td>9/2 – 9/8</td>
<td>Research principles</td>
<td>• Reading Ch. 15</td>
<td>• Discussion Forum 1</td>
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<td>• Bias overview 2004</td>
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<td>• PICO webpage</td>
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<td>• Research principles lecture</td>
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<td>9/9 – 9/15</td>
<td>Study Designs</td>
<td>• Grimes 2002 overview</td>
<td>• Quiz 1</td>
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<td>• McKee 1999</td>
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<td>• Observational Studies in Learning Health Systems video</td>
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<td>• Design a study example</td>
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<td>9/16 – 9/22</td>
<td>Individual Randomized Trials</td>
<td>• Ch 7</td>
<td>• Discussion Forum 2</td>
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<td>• Rochwell 2005</td>
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<td>• RCT lecture</td>
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<td>• Consort checklist</td>
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<td>• Consort checklist example</td>
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<td>6</td>
<td>9/23 – 9/29</td>
<td>Group Randomized Trials</td>
<td>• Murray 1998</td>
<td>• Study Design Activity 1</td>
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<td>• Consort checklist</td>
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<td>• RCT lecture</td>
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<td>7</td>
<td>9/30 – 10/6</td>
<td>Quasi-experimental studies</td>
<td>• Petticrew 2005</td>
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<td>• Wagenaar &amp; Komro 2013 CH 14</td>
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<td>• Staras 2016</td>
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<td>• Quasi lecture</td>
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<tr>
<td>Week</td>
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<td>Topic</td>
<td>Study Materials</td>
<td>Other Activities</td>
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| 8    | 10/7 – 10/13 | Cohort and longitudinal studies | • Ch. 8  
• Ch 10 pages 265-270 and 274-275  
• Cohort study example  
• STROBE checklist  
• Framingham Heart Study website field trip | • Study Design Activity 2 |
| 9    | 10/14 – 10/20 | Case-control Design | • Ch. 9  
• Ch 10 pages 271-273 and 276-283  
• Case-control study example  
• STROBE checklist | • Study Design Activity 3 |
| 10   | 10/21 – 10/27 | Descriptive studies | • Grimes 2002  
• Ecologic study example  
• STROBE checklist  
• NHANES website field trip | • Quiz 3 |
| 11   | 10/28 – 11/3 | Choosing a Design | • PCORI methodology  
• Appendix D-4  
• Design lecture | • Study Design Activity 4 |
| 12   | 11/4 – 11/10 | Meta-Analyses | • IOM Standards for Systematic Review  
• Finding the evidence 1-3  
• PRISMA checklist  
• Meta-analysis lecture  
• Identifying gaps | • Quiz 4 |
| 13   | 11/11 – 11/17 | Mixed methods | • Creswell Ch 1 and 4  
• Mixed methods lecture | • Discussion Forum 3 |
| 14   | 11/18 – 11/24 | Multi-level designs | • Multilevel interventions  
• Multilevel analysis example  
• Multilevel exercise | • Quiz 5 |
| 14   | 11/25 – 12/1 | Student Research Project | • Student Research Project  
Due 12/8/19 at 11:59 pm |