HLTH 200 – Introduction to Research in Community Health

<table>
<thead>
<tr>
<th>Semester:</th>
<th>Fall 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom and Time:</td>
<td>ENGR 1202, MWF 2:00-2:50pm</td>
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<tr>
<td>Instructor:</td>
<td>Amelia M. Arria, Ph.D.</td>
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<tr>
<td>Office Hours:</td>
<td>Tuesdays 9:00-10:30a.m. and by appointment via email</td>
</tr>
<tr>
<td>Office:</td>
<td>SPH 1242Y</td>
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<tr>
<td>Phone:</td>
<td>301-405-9795</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:DrArria.terp@gmail.com">DrArria.terp@gmail.com</a> (PREFERRED METHOD OF CONTACT)</td>
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</tbody>
</table>

Teaching Assistant: Travis Hyams
Email: drarria.terp@gmail.com (shared with Dr. Arria)
Office: SPH 1224G
Office Hours: By appointment via email

Credits: 3
Grading Method: Regular, Pass-Fail, Audit
Prerequisite: Permission of SPHL-Behavioral & Community Health department

Description: An overview of specific components and steps involved in the community health research process. Content includes foundations of research, sampling, measurement design, and analysis in a community context.


Course Description: The purpose of the course is to provide students with a broad overview of the community health research process as well as an in-depth examination of specific components, from planning a study to writing up and disseminating results. Overarching content includes foundations of research, sampling, measurement, design, analyses, and presentation of results. Research methods examples will be structured within the broad context of public and community health.

Course Learning Objectives: Upon completing this course, the student will be able to:
1. Describe the rationale for research as well as specific types of validity; conceptualize and articulate community-based research questions; and describe ethical issues in human subjects research.
2. Identify, describe, and apply a variety of sampling methods commonly found in community health.
3. Define and describe validity issues in measurement and the underlying theory of measurement.
4. Apply survey research methods to designing and conducting a community survey.
5. Describe multiple quantitative and qualitative methods of research and understand how to appropriately apply such methods to answer particular research questions.
6. Explain a comprehensive set of experimental and quasi-experimental study designs including strengths/weaknesses and describe research questions that may uniquely suited for a particular design.
7. Identify threats to validity of research designs and how to minimize such threats.
8. Describe potential errors in statistical relationships and how conclusions are impacted.
9. Prepare, analyze, and present data from survey results.
Program Competencies Addressed in this Course: The following competencies for the Behavioral and Community Health program are addressed in this course:

1. Apply statistics and research methods to accurately describe the distribution and examine the determinants of population health.
2. Apply statistics and research methods to community health program evaluations.

Expectations and Important Information about Class Attendance:
Attendance is critical to learning and successful attainment of the course objectives and curriculum competencies. The importance of class attendance to performing well CANNOT BE OVERSTATED.
Class attendance will benefit you GREATLY for the following reasons:

1. This is a fairly intensive and fast-paced class, with each class building upon the next, so it is important for you to come to class to keep up with the material. Please keep up with the reading—reading the relevant material in the book BEFORE coming to class is preferred. Asking questions during class—especially if something in the book does not make sense—is a good idea.

2. Some of the exam questions will be based on what is said in class—that is, there will be things that are said in class that are not in the book and you will be tested on them.

Simply being in class is not enough; paying attention and being respectful of others is critical. Although the size of the class prohibits a great deal of in-class dialogue, discussion will be encouraged to understand concepts and reinforce what has been learned, especially during review sessions and in-class exercises.

Course Policies:
Personal Technology Use Policy
HLTH 200 permits and encourages the use of laptops and tablets to assist students in taking notes and in seeking further clarification of course material during the lectures. Use of personal technology must be conducive to the learning environment and not a distraction to the instructor and other students.

Classroom rules:
1. Unless required for class content, wireless network adapters should be disabled.
2. Applications irrelevant to the class discussion should not be open. This includes but is not limited to: surfing the web, responding to email, Facebook, Instagram, Twitter, Canvas sites of other classes, etc.
3. All sounds must be muted before the start of class and for the duration of class.
4. Under no circumstances should personal, non-emergency calls be placed or answered from within a classroom while a class is in session.
5. Under no circumstances should students view or send personal, non-emergency text messages
6. Individuals who are aware that they may receive notice of an emergency during a class session should speak with the instructor before class. If such a notification is received, either quietly leave the class or wait until a break before responding.
7. In the event that an emergency notification is sent via UMD’s Emergency Notification System, notify the instructor and follow instructions accordingly.
8. Individuals who require video or audio recording devices to satisfy a DSS service should consult with the instructor to make arrangements for the placement and operation of these devices.
9. Individuals who wish to use audio or video recording devices, but are not doing so to satisfy a DSS service, must receive approval from the instructor before utilizing the equipment.

Contacting Dr. Arria or Travis: The best way to get in touch with Dr. Arria with questions is through EMAIL and by setting up an appointment through email via DrArria.terp@gmail.com. Voicemail messages cannot be expected to be returned. Travis shares this email with Dr. Arria, so do not email the TA separately—just send one message to DrArria.terp@gmail.com.
Email – The Official University Correspondence: Verify your email address by going to www.my.umd.edu. All enrolled students are provided access to the University’s email system and an email account. All official University email communication will be sent to this email address (or an alternate address if provided by the student). Email has been adopted as the primary means for sending official communications to students, so email must be checked on a regular basis. Academic advisors, faculty, and campus administrative offices use email to communicate important and time-sensitive notices.

Students are responsible for keeping their email address up to date or for redirecting or forwarding email to another address. Failure to check email, errors in forwarding email, and returned email (from “full mailbox” or “unknown user” errors for example), will not excuse a student from missing University announcements, messages, deadlines, etc. Email addresses can be quickly and easily updated at www.my.umd.edu or in-person at the Student Service Counter on the first floor of the Mitchell Building. For technical support for University email www.helpdesk.umd.edu or call 301-405-1400.

Absence Policy: It is your responsibility to find out what was covered in class from a classmate. In accordance with University policy if you are absent for a single (1) lecture due to illness or some form of personal or family emergency, this absence will be considered “excused” and the instructor will accept a note from you attesting to the date of the illness/incident, along with an acknowledgement that the information is true. Whenever feasible, the instructor must be contacted in advance. Multiple or prolonged absences, and absences that prevent attendance at a major scheduled grading event (like an exam or test) will require written documentation from an appropriate health care provider/organization. A link to the new policy covering absences from class can be found at http://www.president.umd.edu/policies/v100g.html

Late work and Missed Exams/Assignments: Late work and/or missed exams may not be made up for any other reason except a documented medical/health/emergency reason. When an extension is granted for these reasons, work must be completed within one week after the emergency/health problem has been resolved.

Mid-term Grades: Course grades are determined by faculty in accordance with information found in the course syllabus. Mid-term grades are submitted for undergraduate students enrolled in their first year, enrolled in 100 and 200 level courses, and all student athletes. Mid-term grades are used to inform students of their performance in a course during roughly the first half of the semester; they are used for advising purposes and are not recorded on a student’s academic transcript.

Final Exams: There will be a final exam or assessment in all undergraduate courses. Final exams are scheduled by the University, and the exam schedule is available for you to review.

Students may seek to reschedule final examinations so that they have no more than three examinations on any given day. It is the responsibility of the student to initiate the rescheduling or be responsible for taking the examination as originally scheduled. When rescheduling is desired, students should first contact their instructors (see Academic Deadlines). Students who encounter difficulty rescheduling examinations with their instructors are advised to contact the dean's office of their academic program for help. Faculty members are expected to accommodate students with legitimate rescheduling requests. Students are strongly encouraged to check the final exam schedule before registering for courses. Exam schedules are based on, but not the same as, the start time of the lecture period for the individual class.

Religious Observances: The University System of Maryland policy provides that students should not be penalized because of observances of their religious beliefs; students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the student’s responsibility to inform the instructor in the first week of class about any intended absences for religious observance.
Special Accommodations / Disability Support Services: If you have a documented disability and wish to discuss academic accommodations for test taking or other needs, you will need documentation from Disability Support Services (301-314-7682). If you are ill or encountering personal difficulties, please let the instructor know as soon as possible. You can also contact Learning Assistance Services (301-314-7693) and/or the Counseling Center (301-314-7651) for assistance.

Inclement Weather / University Closings: In the event that the University is closed for an emergency or extended period of time, the instructor will communicate to students regarding schedule adjustments, including rescheduling of examinations and assignments due to inclement weather and campus emergencies. Official closures and delays are announced on the campus website (http://www.umd.edu) and snow phone line (301-405-SNOW), as well as local radio and TV stations. Do not assume that the university will be closed due to inclement weather if no notices are sent out.

Course Evaluations: The University, the School of Public Health, and the Department of Behavioral and Community Health are committed to the use of student course evaluations for improving the student experience, course and curriculum delivery, and faculty instruction. Your evaluations help instructors improve their courses; help deans and department chairs decide on merit pay for faculty, renewal of contracts, and support tenure and promotion decisions; and help current and future students decide on classes. A notice will be posted on ELMS/CANVAS regarding the dates when course evaluations can be posted (www.CourseEvalUM.umd.edu).

Complaints about Final Course Grades: Any questions about course grades should first be addressed to the course instructor. In the case of Final Course grades the University of Maryland has a procedure for you to follow if you believe that your final course grade was assigned on some basis other than performance, or that the grade was assigned according to unreasonable standards different from those which were applied to other students in the course, or that the grade was assigned in a manner that was a substantial, unreasonable, or unannounced departure from the instructor's previously articulated standards. According to the policy the grade appeal must be filed within 20 working days after the first day of instruction of the next regular semester. The grade appeal procedure is outlined in the policy. Note that the policy encourages you to begin by attempting an informal resolution with your course instructor and/or the administrator of the academic unit offering the course. If you have questions about this policy you may want to speak to your academic advisor or the Undergraduate Student Ombudsperson.

Academic Integrity: The University's code of academic integrity is designed to ensure that the principle of academic honesty is upheld. Any of the following acts, when committed by a student, constitutes academic dishonesty:

- CHEATING: intentionally using or attempting to use unauthorized materials, information, or study aids in an academic exercise.
- FABRICATION: intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
- FACILITATING ACADEMIC DISHONESTY: intentionally or knowingly helping or attempting to help another to violate any provision of this code.
- PLAGIARISM: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.

For more information see: http://www.shc.umd.edu/code.html. The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.shc.umd.edu.
The Honor Pledge is a statement undergraduate and graduate students should be asked to write by hand and sign on examinations, papers, or other academic assignments. The Pledge reads:
I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.

Statement on Cheating: The Department of Behavioral and Community Health has a zero tolerance policy on academic dishonesty of any kind. If a Departmental instructor believes that a student has been involved in academically dishonest activity, he or she will report it to the University’s Office of Student Conduct, and is not obligated to disclose the report to the student in question. Once referred, the Office of Student Conduct will contact the student in writing to inform them of the charges.

Sexual Misconduct: The University of Maryland is committed to providing a working and learning environment free from sexual misconduct. Sexual misconduct, including relationship abuse, is prohibited by UMD’s Sexual Misconduct Policy & Procedures. The Office of Civil Rights & Sexual Misconduct receives all complaints of sexual misconduct. To report an incident, contact the Office of Civil Rights & Sexual Misconduct by phone at 301-405-1142 or by email at titlexcoordinator@umd.edu.

Discrimination: The University of Maryland is committed to creating and maintaining an educational, working and living environment that is free from discrimination and harassment. UMD’s Non-Discrimination Policy & Procedures prohibit discrimination against individuals based on certain characteristics, including but not limited to, disability, sexual orientation, and race. The Office of Civil Rights & Sexual Misconduct receives all complaints of discrimination, harassment, and retaliation. To report an incident, contact the Office for Civil Rights & Sexual Misconduct by phone at 301-405-1142, or email civilrights@umd.edu. For more information go to Office for Civil Rights & Sexual Misconduct.

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Grading Procedures

Examination I  September 30, 2016  175 points
Examination II  November 7, 2016  175 points
In class Exercises  See Listing of Class Sessions below for dates  100 points
FINAL Exam  December 17, 2016 (1:30-3:30 PM)  300 points
Research Concept Proposal  Part I due: October 17, 2016 at 2PM in class  150 points
Pop Quizzes  Five in-class quizzes will be given (25 points each)  100 points

Best of four quiz scores will be used toward final grade.  

No makeup quizzes or in class exercises will be given if class is missed with the exception of medical absences for illnesses documented prior to class.

TOTAL:  1000 points

Grading

960-1000 points  A+
930-959 points  A
900-929 points  A-
860-899 points  B+
830-859 points  B
800-829 points  B-
760-799 points  C+
730-759 points  C
700-729 points  C-
660-699 points  D+
630-659 points  D
600-629 points  D-
0-599 points  F

BEHAVIORAL AND COMMUNITY HEALTH DEPARTMENTAL POLICY
NO EXTRA CREDIT IS GIVEN UNDER ANY CIRCUMSTANCE FOR ANY PURPOSE.

Exam I, II and the Final Exam: There will be three in-class examinations. Each exam will consist of multiple-choice questions. Cell phones and any other electronic devices must be turned off and stored during the exams. Make-up exams will include essay questions and will be considered only for those students who have a legitimate emergency or medical/health reason for absence and provide written documentation to substantiate their absence. Makeup exams for these reasons must be completed within one week of scheduled exam time. Otherwise, students are expected to be in attendance on the specified date and time set in the syllabus for all exams. No accommodations will be made unless there is serious documented illness that precludes attendance.

If an unforeseen emergency or illness prevents a student from being in class on the day of the exam, the professor must be contacted within 24 hours prior to the start of the exam. The final exam is cumulative. See the table below for the lectures covered by Exams 1 and 2.

Research Concept Proposal (150 points): This writing assignment consists of a four-page proposal to request “fake funding” to conduct a community health survey to answer an important question in public health. One of three topics (presented during the fourth week of class) will form the basis of this writing assignment. This assignment will illustrate your knowledge and ability to apply the course content. The assignment is divided into two parts. The first part consists of the first two components of the proposal: the Statement of the Problem and the Purpose of the Proposed Study. Part 1 is not graded, but due in class on October 17, 2016 at 2PM in class and the professor will give feedback on these sections. The final proposal is due on November 21, 2016 at 2PM in class and will be graded. The final proposal will consist of all of the components listed below. In total, the assignment is required to be four single-spaced pages in length of text (11 point Calibri font, 1 inch margins), exclusive of the Title Page, References and Appendices. One figure is allowed as an Appendix. The scale or index
you choose to use must be included in the Appendix and does not count toward the page limit. A reference list must be included using American Medical Association format. Grading of this proposal will be based on Dr. Arria’s review of the completeness of the proposal, presentation, and the degree to which it demonstrates your understanding of how to develop a research question, and a study design and procedures to answer the research question. The grade on the concept proposal is final and cannot be negotiated. Research Concept Proposals that are turned in late will not be accepted. This assignment is a requirement to pass this class. This grading process parallels the experiences that you will encounter in the future if you submit a research proposal to a funding agency. More information about the specific requirements for each section of this assignment detailed in the outline below will be discussed in class. You must use the following outline as bolded headings in your proposal:

**Research Concept Proposal**

**PART 1**
1. **Title Page** (Title, Your name, Date and Signed Honor Pledge; not included in page limit)
2. **Statement of the Problem**
3. **Purpose(s) of the Proposed Study**

**PART 2**
4. **Research Question and Hypotheses**
5. **Research Design**
6. **Sampling Plan and Rationale**
7. **Data Collection Procedures**
8. **Measures**
9. **Summary of Innovation and Significance to Public Health**
10. **References** (must use American Medical Association format); not included in page limit

**BCH Undergraduate Final Program Portfolio**
During HLTH 491 (internship semester) each student is responsible for the development of a "Final Program Portfolio". The portfolio is contained in a 3-ring binder and includes material that is reflective of your internship and academic experiences as a community health major. The academic section will include a specific deliverable (assignment) for each of your core courses. The portfolio deliverable for this course HLTH 200 is the Research Concept Proposal. **Please be sure to save this assignment for inclusion in your Final Program Portfolio.** You may use a copy of your original work, the graded returned assignment, or an edited version that incorporates grading comments. For more information regarding the Final Program Portfolio, please refer to the Undergraduate Internship Program Manual located on the Department of Behavioral and Community Health website.
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<tr>
<th>Session</th>
<th>Date</th>
<th>Topic</th>
<th>Trochim Chapter</th>
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<tr>
<td>#1</td>
<td>M-8/29</td>
<td>Welcome! Syllabus Review/Review of Goals and Expectations</td>
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<tr>
<td>#2</td>
<td>W-8/31</td>
<td>Overview of Key Concepts</td>
<td>Chapter 1</td>
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<tr>
<td>#3</td>
<td>F-9/2</td>
<td>Research Questions and Research Designs</td>
<td>Chapter 1</td>
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<tr>
<td>M-9/5</td>
<td></td>
<td>LABOR DAY NO CLASS</td>
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<tr>
<td>#4</td>
<td>W-9/7</td>
<td>Types of Studies, Types of Relationships</td>
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<tr>
<td>#5</td>
<td>F-9/9</td>
<td>Hypothesis Testing and Units of Analysis (In class exercise 25 points)</td>
<td>Chapter 1</td>
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<tr>
<td>#6</td>
<td>M-9/12</td>
<td>The Validity of Research</td>
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<tr>
<td>#7</td>
<td>W-9/14</td>
<td>Ethics: The “whys” and “hows” of following ethical guidelines</td>
<td>Chapter 4</td>
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<tr>
<td>#8</td>
<td>F-9/16</td>
<td>How do you choose the right sample to study? RCP Topics Presentation</td>
<td>Chapter 5</td>
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<tr>
<td>#9</td>
<td>M-9/19</td>
<td>Probability Sampling</td>
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<tr>
<td>#10</td>
<td>W-9/21</td>
<td>Non-probability Sampling</td>
<td>Chapter 5</td>
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<tr>
<td>#11</td>
<td>F-9/23</td>
<td>Reliability: If you measured something twice, do you get the same answer?</td>
<td>Chapter 5</td>
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<tr>
<td>#12</td>
<td>M-9/26</td>
<td>Construct Validity: Is what you are measuring what you want to measure</td>
<td>Chapter 5</td>
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<tr>
<td>W-9/28</td>
<td></td>
<td>Review Session for Exam 1 -- bring YOUR questions</td>
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<tr>
<td>F-9/30</td>
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<td>EXAM 1 (Covers Sessions 1-12)</td>
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<tr>
<td>#13</td>
<td>M-10/3</td>
<td>Quantitative Survey Research Methods, Part 1</td>
<td>Chapter 7</td>
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<tr>
<td>#14</td>
<td>W-10/5</td>
<td>Quantitative Survey Research Methods, Part 2</td>
<td>Chapter 3</td>
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<td>#15</td>
<td>F-10/7</td>
<td>Qualitative Research Methods Part 1</td>
<td>Chapter 3</td>
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<td>#16</td>
<td>M-10/10</td>
<td>Qualitative Research Methods Part 2</td>
<td>Chapter 3</td>
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<td>#17</td>
<td>W-10/12</td>
<td>Scales and Indices (In class Exercise 15 points)</td>
<td>Chapter 8</td>
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<tr>
<td>#18</td>
<td>F-10/14</td>
<td>Overview of Experimental Design – (Guest lecture)</td>
<td>Chapter 8</td>
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<td>#19</td>
<td>M-10/17</td>
<td>Internal Validity Part 1 of Research Concept Proposal Due at 2PM in class</td>
<td>Chapter 9</td>
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<tr>
<td>#20</td>
<td>W-10/19</td>
<td>Switching Replications Designs, Factorial Designs</td>
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<tr>
<td>#21</td>
<td>F-10/21</td>
<td>Real World Experimental Designs and Analysis</td>
<td>Chapter 9</td>
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<tr>
<td>#22</td>
<td>M-10/24</td>
<td>Experimental Designs – Threats to Validity</td>
<td>Chapter 9</td>
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<tr>
<td>#23</td>
<td>W-10/26</td>
<td>Quasi-Experimental Design Part 1</td>
<td>Chapter 10</td>
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<tr>
<td>#24</td>
<td>F-10/28</td>
<td>Quasi-Experimental Design Part 2</td>
<td>Chapter 10</td>
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<tr>
<td>#25</td>
<td>M-10/31</td>
<td>Examples of Real World Quasi-Experimental Research Studies</td>
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<td>W-11/2</td>
<td></td>
<td>Review Session for Exam 2 – bring YOUR questions</td>
<td></td>
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<tr>
<td>#26</td>
<td>F-11/4</td>
<td>In Class Exercise (Peer Review Activity) 35 points</td>
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<td>M-11/7</td>
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<td>EXAM 2: Covers Sessions 13-25</td>
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<tr>
<td>#27</td>
<td>W-11/9</td>
<td>Data Preparation</td>
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<td>#28</td>
<td>F-11/11</td>
<td>Descriptive Statistics</td>
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<td>#29</td>
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<td>Correlations</td>
<td>Chapter 11</td>
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<td>#30</td>
<td>W-11/16</td>
<td>Inferential Statistics, Part 1</td>
<td>Chapter 12</td>
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<tr>
<td>#31</td>
<td>F-11/18</td>
<td>Inferential Statistics, Part 2</td>
<td>Chapter 12</td>
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<tr>
<td>#32</td>
<td>M-11/21</td>
<td>Conclusion Validity, Type 1 and Type 2 errors</td>
<td>Chapter 11</td>
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<td></td>
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<td>RESEARCH CONCEPT PROPOSAL DUE AT 2PM in class</td>
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<tr>
<td>W 11/23-Su 11/27 THANKSGIVING BREAK NO CLASS</td>
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<tr>
<td>#33</td>
<td>M-11/28</td>
<td>Observational Study Analyses Examples</td>
<td>Chapter 11&amp;12</td>
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<tr>
<td>#34</td>
<td>W-11/30</td>
<td>Experimental Study Analyses Examples</td>
<td>Chapter 11&amp;12</td>
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<tr>
<td>#35</td>
<td>F-12/2</td>
<td>In Class Exercise (25 points)</td>
<td>Chapter 13</td>
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<tr>
<td>#36</td>
<td>M-12/5</td>
<td>Writing up a research study, Part 1</td>
<td>Chapter 13</td>
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<td>#37</td>
<td>W-12/7</td>
<td>Writing up a research study, Part 2</td>
<td>Chapter 13</td>
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<tr>
<td>#38</td>
<td>F-12/9</td>
<td>Translation of Research Findings for the Public Good</td>
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<tr>
<td>M-12/12</td>
<td></td>
<td>Review Session for Final Exam – bring YOUR questions</td>
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<tr>
<td>SAT, Dec 17 1:30-3:30 FINAL EXAM</td>
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### Session Outline and Learning Objectives

#### Sessions 1-7

**TOPIC: Foundations and Ethics of Research**

*Learning Objectives:*
- Understand the basic language of research
- Understand underlying philosophical issues that drive the research endeavor
- Describe types of research studies and types of relationships
- Explain critical ethical issues that affect the researcher, research participant, and the research efforts
- Understand where research problems come from
- Learn how to develop a research question and hypothesis

**Required Reading:** Chapters 1 & 2 Trochim

#### Sessions 8-10

**TOPIC: Sampling**
- Understand external validity
- Understand sampling terminology
- Understand statistical terms in sampling
- Understand probability sampling
- Understand nonprobability sampling
- Understand how and why different types of research questions require different types of samples

**Required Reading:** Chapter 4, Trochim

#### Sessions 11-12

**TOPIC: Theory of Measurement**
- Be able to assess the quality of a measurement tool
- Understand the theory of what constitutes a good measure
- Understand the consistency or dependability of measurements
- Understand the four major levels of measurement

**Required Reading:** Chapter 5, Trochim

#### Sessions 13-14

**TOPIC: Survey Research**
- Understand how to construct a research survey
- Understand how to construct questions used for survey research
- Explain the role of an interviewer
- Describe the major types of surveys
- List advantages and disadvantages of survey methods
- Know the steps involved in conducting a community survey

**Required Reading:** Chapter 7, Trochim

#### Session 15-16

**TOPIC: Qualitative and Unobtrusive Measures**
- Understand the purpose of a qualitative study
- Describe qualitative data and how it differs and complements quantitative data
- Explain different types of qualitative methods
- Explain standards for judging the validity of qualitative measurement

**Required Reading:** Chapter 3, Trochim
Session 17

TOPIC: Scales and Indexes

- Distinguish between a scale and an index
- Explain the difference between multidimensional and unidimensional scaling
- Understand the three types of unidimensional scales
- Learn how to use indexes and scales
- Learn when each type of index or scale is most appropriate

Required Reading: Chapter 6, Trochim

Sessions 18-22

TOPIC: Experimental Design

- Understand the basic components of research design
- Learn to classify the major types of designs
- Learn how to design a research design
- Understand the relationships among designs and their importance when making design choices
- Learn how to tailor a research design to fit the particular needs of the research context
- Understand the logic of design construction
- Understand the idea and purposes of an experimental design
- Describe why experimental design is strong in internal validity
- Understand the key distinguishing feature of experimental design
- Distinguish between random selection and random assignment
- Describe how to classify the different experimental designs

Required Reading: Chapters 8 & 9, Trochim

Sessions 19, 22, 32

TOPIC: Threats to Validity

- Understand how internal validity is a function of research design
- Understand major threats to internal validity
- Understand how to minimize the relevant threats to validity

Required Reading: Chapters 9 & 10, Trochim

Session 23-25

TOPIC: Quasi-Experimental Design

- Understand the in quasi-experimental designs
- Understand two of the classic quasi-experimental designs: the nonequivalent-groups design and the regression-discontinuity design
- Understand the assortment of other quasi-experiments

Required Reading: Chapter 10, Trochim

Sessions 27-28

TOPIC: Preparation of Data and Descriptive Statistics

- Learn the issue of data preparation
- Learn steps involved in cleaning and organizing the data for analysis
- Understand the basics of descriptive data analysis
- Understand conclusion validity and the validity of inferences drawn from the data analyses
- Understand of some of the key principles involved in any research analysis

Required Reading: Chapter 11, Trochim
### Sessions 29-33

**TOPIC: Correlations and Inferential Statistics**
- Understand the relationship between design and analysis
- Understand correlational analyses
- Understand inferential statistics
- Explain the purpose of general linear modelling
- Understand how analysis is crafted to research design
- Learn about the perils of applying the analysis

**Required Reading:** Chapter 11&12, Trochim

### Session 34-35

**TOPIC: Analysis of Quasi-Experimental & Experimental Data**
- Describe the steps involved in quasi-experimental data analysis
- Describe the steps involved in experimental data analysis

**Required Reading:** Chapter 12, Trochim

### Sessions 36-38

**TOPIC: Write-up and Translation of Research**
- Identify the components of a research article
- Understand the purpose of each component
- Understand the importance of framing the research in the context of other studies
- Describe various audiences for research findings
- Understand the importance of translating research findings to various audiences
- Understand how to translate research findings

**Required Reading:** Chapter 13, Trochim