HDFS550: Research Methods I
Spring 2014 Course Syllabus

CLASS HOURS: Tuesdays and Thursdays, 1:30-2:45 PM

PROFESSOR RACHEL G. LUCAS-THOMPSON
Office: 419 BSB  Office hours: Tu/Th, 12:30 AM – 1:30 PM or by appointment
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Course Description
In this course, we will cover important information in terms of designing and executing research in Human Development and Family Studies, and also in terms of helping you understand how to write a research proposal. This course will help you conduct your own (e.g., thesis) research, and will also help you to be a more informed consumer of scholarly literature. The primary focus of the class will be on quantitative research designs and considerations, although both quantitative and qualitative approaches will be discussed. Because of the impact of nature of methodological and statistical decisions, we will also discuss statistics employed to analyze data; therefore, we will cover issues related to basic statistics. Finally, we will also discuss the NIH 9 core competencies of the responsible conduct of research.

Course Objectives
By the end of the course, students should be able to:

• understand the logic behind the foundations, assumptions, and goals of science; understand research misconduct and social responsibility in research
• critically read and evaluate research reports; understand responsible authorship, publication and peer review practices;
• understand how to identify research gaps and formulate research questions/ hypotheses;
• select the most appropriate research design for a research problem and explain the rationale for your choice;
• understand the process of data collection, management, sharing and ownership;
• evaluate research designs with respect to reliability as well as internal and external validity;
• understand the selection of basic statistical procedures as they relate to your research design;
• know how to satisfy ethical concerns when conducting research with humans; understand the importance of collaborative research, mentor/mentee relationships, conflict of interest and
• prepare a high-quality research proposal

Textbook and Readings
Additional readings are on RamCT.

Evaluation
You will have the opportunity to earn up to 295 points in this class.

• Structure of article assignment (due: 2/6) 10 points (5 points/article)
• Article critique (due: 3/13) 30 points
• Two written assignments (due: 2/18, 4/15) 40 points (20 points each)
• Research proposal summary (due: 4/24) 5 points
• Presentation of research proposal (4/29 or 5/1) 10 points
• Research proposal (due: 5/8) 100 points
• Final exam (due: 5/15) 100 points
General information about assignments

- Make sure to see RamCT for detailed handouts about each assignment.
- Unless otherwise indicated, upload assignments to RamCT by class time the day that the assignment is due.

Structure of articles
See handout on RamCT for the information to provide about Stevenson et al. for class on 2/6.

Article critique
The purpose of this critique is to help you better understand the logic of research design. You may work alone on this assignment, or you may work with 1-3 other students in the course on these (and hand in a group paper). You will critique ‘Maternal differential treatment’ by anonymous (due: 3/13, 30 points).

Written assignments
Assignment #1 CAN be turned in by hand (because of the diagramming); however, I encourage you to use Word and/or Powerpoint to diagram your hypotheses. You may be asked to revise and rewrite unsatisfactory assignments. Written assignments (each worth 20 points) will cover:

1) Identifying a research question/problem and formulating testable hypotheses (due: 2/18)
2) How to obtain a sample, collect data, and fulfill ethical responsibilities; assessing validity and reliability in measuring variables; how to determine levels of measurement, analyze data, and test hypotheses (due: 4/9)

Research proposal, summary, and presentation
The major project for this course will be a research proposal, which will integrate the knowledge you have obtained during the course. In addition, for those of you who will be doing research projects or theses, it will give you an opportunity to do some early thinking and get some feedback.

Summary (due: 4/24, 5 points): Minimally, you need to outline your proposal and the key points you intend to make (i.e., the key theoretical and empirical findings you will review, your thoughts about methodology). Refer to van Wagenen (chapter 3) for details.

Presentation (4/29 or 5/1, 10 points): You will summarize for the class exactly what you are planning on proposing. The presentation should be between 5 and 7 minutes long; about that same amount of time will be dedicated to class discussion of the proposal. You are expected to incorporate some of the feedback from the presentation into your final proposal.

Final proposal (due: 5/8, 100 points): The proposal must include a literature review, hypotheses, method, analysis plan, and references. Each proposal will consist of 15-20 double spaced pages (not counting references). A minimum of 20 references (refereed publications) is required. All papers must conform to APA style guidelines (6th edition). See van Wagenen (1991) for guidance on the structure and style of a research paper. I will not accept a late written research proposal. You must budget your time well enough to have it turned in on time.

Final exam
This will be a take-home exam requiring you to apply your knowledge (100 points). It will be available 5/6 and due 5/15 (by 5 PM). A study guide will be made available 4/29.
**Grading scale:** The following system will be used to assign grades for each assignment, and the course as a whole. The percentage of points earned will roughly correspond to letter grades according to the below scale:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>93-100%</td>
<td>A</td>
</tr>
<tr>
<td>90-92%</td>
<td>A-</td>
</tr>
<tr>
<td>87-89%</td>
<td>B+</td>
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<tr>
<td>83-86%</td>
<td>B</td>
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<tr>
<td>80-82%</td>
<td>B-</td>
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<tr>
<td>77-79%</td>
<td>C+</td>
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<tr>
<td>73-76%</td>
<td>C</td>
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<tr>
<td>70-72%</td>
<td>C-</td>
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<tr>
<td>67-69%</td>
<td>D+</td>
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<tr>
<td>63-66%</td>
<td>D</td>
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<tr>
<td>60-62%</td>
<td>D-</td>
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<td>0-59%</td>
<td>NC</td>
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**The Class Environment**

I encourage open, informed discussion of issues. To achieve this aim, it is important that we be (a) authentic in stating our opinions, (b) respectful and inclusive of others who have a different perspective, (c) open to new ideas, and (d) thoughtful in considering ideas, others’ as well as our own. Students are expected to come to class having read the assigned material. This course is built on discussion. Students will be involved in the learning process through *active class participation*. Students are expected to contribute to the discussions by offering their own ideas and encouraging the ideas of others on topics relevant to this course.

The Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 require Colorado State University to provide academic adjustments or accommodations for students with documented disabilities. Students seeking academic adjustment or accommodations must self-identify with the Office of Resources for Disabled Students (ORDS). You may call for an appointment at 491-6385 or stop in at 100 General Services Building. After meeting with ORDS staff, students are encouraged to meet with their instructors to discuss their needs.

Consistent with the *Academic Honesty Policy of the Department of Human Development and Family Studies*, students are expected to contribute their own ideas, knowledge, and skill for assignments and exams unless directed to do otherwise by the instructor. Incidents of cheating, plagiarism or knowingly providing false or incorrect information are considered serious and will be treated seriously. Consequences of these incidents are at the discretion of the faculty member involved and may consist of confiscation of assignments/tests, an F grade, and/or removal from the Professional Curriculum. It is expected that students will demonstrate concern for others, respect the confidentiality of information about, the property of and the decisions made by others.

Below is a TENTATIVE schedule for the semester. Every class moves at a different speed; therefore, the schedule may be adjusted as we go.
## COURSE OUTLINE

Readings refer to Gliner et al. (2009) unless otherwise noted. Readings are to be completed BEFORE the class session (e.g., the readings listed for 2/11 are to be completed in preparation for class on 2/11).

<table>
<thead>
<tr>
<th>DATES</th>
<th>TOPIC</th>
<th>Readings and due dates</th>
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</thead>
<tbody>
<tr>
<td>Week 1 (1/21, 23)</td>
<td>Overview</td>
<td>Chp 1-2</td>
</tr>
<tr>
<td>Week 2 (1/28, 30)</td>
<td>Variables, research problems, and hypotheses</td>
<td>Chp 3; Badia &amp; Runyon</td>
</tr>
</tbody>
</table>
| Week 3 (2/4, 6)  | Literature reviews                            | Pages 25-27, 391-398; van Wagenen (Chp 3, 7)  
2/6: Structure of articles assignment due |
| Week 4 (2/11, 13) | 2/11: Evaluating manuscripts  
2/13: Ethical issues in conducting research | 2/11: Chp 23, 24 & 402-406; Fiske & Fogg; Klaus et al., 1972  
2/13: Chp 14; See the case of Diederik Stapel on RamCT; visit IRB website |
| Week 5 (2/18, 20) | Research designs                              | Chp 4, 5, 7;  
2/18: Written assignment #1 due |
| Week 6 (2/25, 27) | 2/25: Internal validity  
2/27: Work outside of class on critique | 2/25: Chp 8                                           |
| Week 7 (3/4, 6)  | Sampling & external validity                  | 3/4: Chp 9; Fletcher & Hunter                                |
3/13: Critique due |
| Week 9 (3/18, 20) | SPRING BREAK!                                  |                                                             |
| Week 10 (3/25, 27) | 3/25: Measurement and descriptive statistics  
3/27: Intro to inferential statistics | 3/25: Chp 10; Wainer; Bakeman  
3/27: Chp 16; statistical significance in court |
| Week 11 (4/1, 3)  | General design classifications; selection of statistics | Chp 18-19; recommended Rutter (1994) |
| Week 12 (4/8, 10) | Data analysis: Basic statistics               | Chp 20-22; Bakker & Wichers discussion section              |
| Week 13 (4/15, 17) | Mediation & moderation; manuscript writing    | Dearing & Hamilton; White  
4/15: Assignment #2 due |
| Week 14 (4/22, 24) | Research replication (meta-analysis); applications to evidence-based practice | 4/22: Chp 17; Chp 26; Small & Utal  
4/24: Summary/outline for research proposal due |
| Week 15 (4/29, 5/1) | Student presentations  
4/29: Study guide made available | 5/6: Readings TBA  
5/8: Research proposal due |
| Week 16 (5/6, 8)  | Qualitative methods; single-subject designs  
5/6: Final exam distributed |                                                             |
| Finals week      |                                                | 5/15: Final exam due by 5 PM                                |

For those interested in qualitative research, see a special issue of qualitative methods in family studies in *Journal of Family Theory and Review, 4*(2), 2012.
FURTHER READING

“Practical advice from working researchers” at 4Researchers website: http://www.4researchers.org/

**Philosophy of Science**

**Ethics**

**Sampling**

**Measurement and Design**

**Writing**