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Course Description and Objectives:

Description: This course is the first half of a two-semester course sequence intended to introduce beginning doctoral students to research. This sequence is designed to provide an understanding of the procedures involved in investigating psychological and educational research questions scientifically, and to provide experience in evaluating research done by others. Throughout the sequence, critical, evaluative thinking of all phases of research is emphasized.

The first semester of the sequence involves mastery of the terms, concepts, and research methods fundamental to conducting scientific research. Topics include ethical and legal aspects of research, hypotheses, variables, reliability, validity, experimental designs, quasi-experimental designs, correlational designs, case study, survey research, and qualitative research methods. In order to help preparing doctoral students for their own (thesis) research, various practical aspects are also covered, such as collecting data via questionnaires and interviews, data preparation, dealing with Internal Review Boards, and opportunities for obtaining external funding/fellowships. Selected members of the department faculty will be invited to present a sample of their research activities so that students are exposed to hands-on examples of some of the research strategies reviewed during the semester.

Objectives: At the end of the course, students should be able to 1.) demonstrate understanding of fundamental concepts of scientific research, 2.) understand and recognize basic research methods and designs used in psychological and educational research, and 3.) evaluate published empirical research with regard to the topics covered throughout the semester.
Course Materials:

A package of reading materials has been placed on electronic reserve in the M.D. Anderson Library Reserve. You will need a valid UH library barcode to access these materials. To download or print, go to http://docutek.lib.uh.edu:8081/eres/default.aspx. Look for the course materials under instructor name or course number.

Occasionally, some class materials may be posted on e-classrooms (log in under http://discussions.coe.uh.edu/).

Course Requirements and Evaluation:

Grading: There will be nine reading summaries, two exams, and the small group critique. Your final grade will be based on a weighted combination of the percent of total points earned on the four components. There will be no opportunity for extra credit. The nine reading summaries together count 10% toward the final grade, the midterm exam counts 30%, the small group paper counts 25%, and the final exam 35% toward the final grade. Letter grades will be based on the following total percentages:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Total Point Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 – 100</td>
</tr>
<tr>
<td>A-</td>
<td>90 – 92.99</td>
</tr>
<tr>
<td>B+</td>
<td>87 – 89.99</td>
</tr>
<tr>
<td>B</td>
<td>83 – 86.99</td>
</tr>
<tr>
<td>B-</td>
<td>80 – 82.99</td>
</tr>
<tr>
<td>C+</td>
<td>77 – 79.99</td>
</tr>
<tr>
<td>C</td>
<td>73 – 76.99</td>
</tr>
<tr>
<td>C-</td>
<td>( \leq 72.99 )</td>
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</tbody>
</table>

Example: Suppose you achieved 100% of the points for all homework assignments together, 86% of the points in the midterm exam, 95% of the points for the small group critique, and 96% of the points for the final exam. The final grade then will be determined by computing \(.1(100)+.3(86)+.25(95)+.35(96)= 93.2\%\). According to the table (see above), the final grade would be an A.

Reading Summaries: For each assigned reading, students are expected to complete a 2 pages long, typed, double-spaced summary (for all readings assigned in a specific week together). The summary is due at the beginning of class on the date stated on the syllabus. There will be a total of nine reading summaries (for each, 10 points are earned). Please complete the following for each of the assigned readings:

1. List your name, course #, semester, and summary due date in the first line of the first page.
2. Describe subsequently the content of the reading(s) in a summary.
3. Finally, you are to discuss aspects of the reading that puzzle you, that lead you to further reading, about which you have questions.

Small Group Critique: Students will practice critiquing a published research study based on the issues discussed during the semester. Each small group will consist of 3-4 students. Criteria for research critiques will be provided in the second week of class. Small group critiques are due on the date listed on the syllabus and must be submitted in hardcopy (typed, double-spaced). Late
submissions will not be accepted and result in the loss of all points. The majority of the group can identify in writing that a specific individual’s performance is not up to par.

**Exams:** The two exams will be in class and closed-books and closed-notes. They will include a variety of short-answer and short-essay questions to assess mastery of the research strategies reviewed in this semester and the skills necessary for evaluation of research studies. Details and criteria will be provided three weeks prior to the given exam. The only acceptable reasons for missing an exam are severe illness or personal or family emergencies, given that you provide formal documentation (e.g., letter from a doctor). The midterm exam will cover material from the sessions prior to the midterm; the final exam will cover material from the sessions after the mid-term.

**Class Participation:** Students are expected to attend each class during the scheduled time and to arrive on time. Students are expected to have read all materials prior to class and to participate in class discussions and small group activities. A limited number of small group activities will be conducted within class to help students master the concepts discussed during lecture. It is your responsibility to obtain class notes from other students if you need to miss class for a valid reason.

**Standards Covered:**
This course is aligned with AERA Standards for Reporting on Empirical Social Science Research in AERA Publications (Council of AERA, June 2006), APA Guidelines for Statistical Methods in Psychology Journals (Wilkinson & Task Force on Statistical Inference, 1999), and the fourteen APA Learner-centered principles: 1. The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience; 2. The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge; 3. The successful learner can link new information with existing knowledge in meaningful ways; 4. The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals; 5. Higher order strategies for selecting and monitoring mental operations facilitate creative and critical thinking; 6. Learning is influenced by environmental factors, including culture, technology, and instructional practices; 7. What and how much is learned is influenced by the learner’s motivation, which, in turn, is influenced by the individual’s emotional states, beliefs, interests and goals, and habits of thinking; 8. The learner’s creativity, higher order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control; 9. Acquisition of complex knowledge and skills requires extended learner effort and guided practice. Without learners’ motivation to learn, the willingness to exert this effort is unlikely without coercion; 10. As individuals develop, there are different opportunities and constraints for learning. Learning is most effective when differential development within and across physical, intellectual, emotional, and social domains is taken into account; 11. Learning is influenced by social interactions, interpersonal relations, and communication with others; 12. Learners have different strategies, approaches, and capabilities for learning that are a function of prior experience and heredity; 13. Learning is most effective when differences in learners’ linguistic, cultural, and social backgrounds are taken into account; 14. Setting appropriately high and challenging standards and assessing the learner as well as learning progress – including diagnostic, process, and outcome assessment – are integral parts of the learning process.

**Link to Conceptual Framework Collaboration for Learning and Leading**
This course helps students to prepare for conducting independent research on basic or applied issues in the fields of psychology and education.
ADA Statement:
When possible, and in accordance with 504/ADA guidelines, we will attempt to provide reasonable academic accommodations to students who request and require them. Please call the Center for Students with DisABILITIES (713-743-5400) for more assistance.

Academic Dishonesty:
Students are expected to abide by the university’s academic honesty policy in all matters concerning this course (http://www.uh.edu/dos/hdbk/acad/achonpol.html). In particular, plagiarism, “Representing as one’s own work the work of another without acknowledging the source”, whether intentional or unintentional, will not be tolerated. Note that academic dishonesty can take various forms, such as, cheating on an exam, assisting someone else in cheating, and presenting someone else’s written material as your own.

Literature References:
### Course Outline:

*The instructor reserves the right to make changes at any time. Any changes will be announced in class.*

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
<th>Due Dates</th>
</tr>
</thead>
</table>
| 08/24 | Introduction  
Ethics and Role of Research | --- | --- |
| 08/31 | Research Questions and Hypotheses  
Variables (including IV, DV, moderator, mediator)  
Scales of Measurement | Kerlinger: Chapter 2  
Meyers: pp. 18-29 | --- |
| 09/07 | Reliability  
Validity  
Sampling Strategies | Stangor: Chapter 5  
Henry (1998) | --- |
| 09/14 | Experimental Designs: Common Forms | Gay: Chapter 9  
Shadish: Chapter 8 | --- |
| 09/21 | Experimental Designs cont’d  
Dr. Brian Carter: *Laboratory Research on Addictions* | Same as last week  
(no reading summary) | --- |
| 09/28 | Quasi-Experimental Research: Common Forms | Stangor: Chapter 14  
Reichardt (1998) | --- |
| 10/05 | Quasi-Experimental Research cont’d | Same as last week  
(no reading summary) | --- |
| 10/12 | Midterm Exam | --- | Midterm Exam |
| 10/19 | Case Study Research  
(Web) Survey Research | Gay: Chapter 10  
Czaja: Chapter 2  
Couper (2000) | --- |
| 10/26 | Correlational Designs: Common Forms  
Qualitative Methods: Myths and Controversies | Lerner: pp. 498-503  
Marecek (2003) | --- |
| 11/02 | Dr. Susan X Day: *Concepts and Strategies in Qualitative Research*  
Dr. Susan X Day: *Writer’s Block and Flow in Thesis and Dissertation* | --- | --- |
| 11/09 | Behavioral Observation  
Dr. Romilia Ramirez: *Assessment of ADHD in a Cross-Cultural Setting* | Gall: Chapter 9  
Margolin: Article | --- |
| 11/16 | Data Gathering Guide: Questionnaires and Interviews  
Guide for Data Preparation  
Structure of Research Reports | Gall: Chapter 8  
Kerlinger: App. A | Small Group Critique |
| 11/23 | No class (Thanksgiving Holiday) | --- | --- |
| 11/30 | Dealing with the IRB (with sample application)  
Pre-Doctoral Fellowships: Getting funded | Gall: Chapter 3 | --- |
| 12/07 | Final Exam | --- | Final Exam |