Measurement in Research

EDLD 663 – 2 Credits
CRN 27455 for campus students
CRN 28363 for distance students

University of Oregon – College of Education – Educational Methodology, Policy and Leadership

Winter 2013 Term Syllabus

Meeting Days/Time: Wednesdays, 7-8:50pm
Location: ONLINE

INSTRUCTOR

Gina Biancarosa
Assistant Professor
Department of Educational Methodology, Policy, and Leadership

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E-mail: ginab@uoregon.edu
Skype: gina.biancarosa
Address: 102R Lokey Bldg
5267 University of Oregon Eugene, OR 97403-5267
Office Hours: Mondays 10:00-12:00 (Location: Lokey Education 102R)
or by appointment (virtual/online meetings are also possible).

SUPERVISED COLLEGE TEACHING ASSISTANTS

Daniel Farley
Department of Educational Methodology, Policy, and Leadership

E-mail: dfarley@uoregon.edu
Skype: nadfarley
Office Hours: Thursdays 10:00-12:00 (Location: Upstairs in Lokey Education 102 suite)
or by appointment (virtual/online meetings are also possible)

NOTE: Email instructor or assistant if you want to meet on Skype and instructor is not signed in!

DESCRIPTION OF SUBJECTS AND TOPICS EXPLORED

This two-credit course covers applied knowledge in measurement and assessment with an emphasis on use of measures for research purposes. The course serves to advance understanding of measurement and assessment issues, including appropriate use (and misuse) of measures, development of measures, and an introduction to item response theory and generalizability theory. The content is suited for D.Ed. students and for Ph.D. students with no background in measurement and assessment. It is also suited to Master’s students with an interest in research or in pursuing a doctorate in the future.

POSITION IN CURRICULUM

The course is a Master’s level pre-requisite for EMPL Ph.D. students looking to take Measurement & Assessment III. It is also required for first year EMPL D.Ed. students. It is also appropriate for Master’s students in EMPL and in other College of Education programs.
OBJECTIVES

In this course, you will:

- Learn basic principles for the development of measures and assessments.
- Gain experience calculating and interpreting reliability and validity coefficients.
- Develop skill in reporting the technical characteristics of measures.
- Develop a basic familiarity with modern test theory and item response theory.

TEXTBOOKS & READING MATERIALS

<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHOR</th>
<th>PUBLISHER &amp; PUB. DATE</th>
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</thead>
</table>
FORMAT
This course utilizes a hybrid blend of synchronous (i.e., live) and asynchronous (i.e., online and independent) work. Students will assemble either on-line via web-conferencing for synchronous content three times, in Weeks 1, 4, and 8. The first meeting will establish the course structure, expectations, and protocols. At the final meeting, students will present their final projects to the class. During the other meetings, students will engage primarily in discussion and activities designed to enrich their online learning experience. Online content will be completed based on a weekly schedule and will involve students watching presentations, completing activities, and posting weekly on the course discussion board.

COURSE WEBSITES
We will use ObaVerse (Oba; https://www.obaverse.net/welcome/) as the main course website. You will go here for announcements, assignments, datasets, grades, etc. You MUST get an ObaVerse account and enroll in this course on that site. You can find a video on getting an Oba account here: http://www.youtube.com/watch?v=wHGopK2yDIU.

STUDENT ENGAGEMENT INVENTORY
• Graduate: 1 credit hour = 40 hours of student engagement

<table>
<thead>
<tr>
<th>Educational activity</th>
<th>Hrs student engaged</th>
<th>Explanatory comments(if any):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course attendance</td>
<td>8</td>
<td>Synchronous meetings (online and in-person)</td>
</tr>
<tr>
<td>Assigned readings/studying for exams</td>
<td>20</td>
<td>Reading assignments</td>
</tr>
<tr>
<td>Projects</td>
<td>30</td>
<td>Measure comparison paper and presentation</td>
</tr>
<tr>
<td>Online interaction</td>
<td>22</td>
<td>Online content</td>
</tr>
<tr>
<td><strong>Total hours:</strong></td>
<td><strong>80</strong></td>
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</table>

STUDENT WORKLOAD EXPECTATIONS
• In-class: Live, synchronous meetings will comprise 8 hours and asynchronous online content, which includes independent activities, will comprise 22 hours. Together, these amount to about 3 hours per week; however, the course schedule clarifies the exact expectations by week.
• Outside of class: Reading and the course projects will consume approximately 5 hours per week for graduate students.

QUIZZES AND EXAMS
There are no formal quizzes or exams in this course, however some online lectures may include informal quizzes and self-assessments that are intended to serve as guides for learning and formative assessments.

MEASURE COMPARISON ASSIGNMENTS
For these assignments you will need to select two measures that take different approaches to measuring the same construct (i.e., two algebra measures is acceptable; two measures of different mathematics skills is not acceptable). Students are encouraged to choose a construct of substantive interest.
Students MUST meet at least once with the professor or teaching assistant by Week 4 at the latest to insure the suitability of measures chosen, allow adequate time to complete each related assignment, and test the recording software to be used for the presentation (described below). Failing to meet this requirement will result in a deduction of 5% from each of the related assignments.

APA Style Measure Descriptions
Students will develop a 1-2 page APA-style description for each of two chosen measures (i.e., 2-4 pages total not including reference list). The purpose of this assignment is to give you experience in APA style writing specifically related to measure description. APA descriptions are comprehensive but concise. Please be sure to also use APA style citations and references. This assignment is due Week 6, Friday, February 14th at 10PM.

The Week 4 lesson focuses on APA reporting and should be of great use in this assignment. You are also encouraged to consult the sixth edition of the APA publication manual, especially pages 31, 65-71, and 171-173. Model measure descriptions will also be provided, but please be careful in your use of these as wording and relevance of certain details necessarily vary depending on what is measured and how. The descriptions constitute 25% of your grade.

Measure Comparison Presentation
Students will create a 15-20 minute presentation to present a comparison of the two chosen measures. The presentations will be recorded and posted to the course website. This assignment is completed individually. The presentation is due Friday, March 7th at 10PM. This deadline is non-negotiable to accommodate peer reviews, so please do not ask for an extension.

The presentation should begin by describing the targeted construct. It should then go on to directly compare and contrast the two measures in terms of:

- Target purpose (i.e., intended uses)
- Target age or grade group
- Description of measure
  - Number and types of subtests available
  - Number of forms available
  - Time for administration
  - Method of administration
  - Accommodations for special populations
  - Scoring guidelines
- Description of scales available
  - Units of different scales
  - Properties of different scales
  - Size and composition of norming sample if applicable
  - Description of criterion used for cut-scores used if applicable
- Reliability information as available, including but not limited to:
  - Internal consistency
  - Test-retest reliability
  - Alternate form reliability
  - Inter-rater reliability
- Validity information as available, including but not limited to:
- Concurrent validity
- Convergent validity
- Divergent validity
- Predictive validity
- Construct validity

The paper should conclude with a summary and recommendations regarding the use of each measure based on your review. Additional information about requirements, scoring, and specifications will be provided later in the term.

You will create your presentation using PowerPoint or a similar slide program and record it using PowerPoint's presentation-recording tools or free screen-capture software (e.g., Quicktime X for Mac users, Blueberry Flashback for PC users) or screen-capture software of your own. The following helpful tips will insure a trouble-free experience:

a. Test the recording program early!

b. Record using a microphone to minimize background noise (but test it out to make sure it actually makes things better).

c. To keep the vocals engaging and understandable, it helps to write a “script” or at least a list of points for each slide.

d. Don’t just read your slides; if you do, you probably have too much text on them!

e. **Do NOT wait until the last minute to record.** Murphy’s Law applies here, and it is much more difficult to help you problem-solve when time is at a premium.

f. **Do NOT wait until the last minute to upload.** Murphy’s Law again applies. Uploads can be time-consuming depending on your internet connection and the size of the video. Videos larger than 50 MB will need to use a two-part upload process involving uploading to YouTube or another third-party website and then posting a link to Obaverse.

You will need to upload your presentation (or a link to your presentation) to Obaverse. Your grade will be determined through peer review. Additional details on the format and requirements for the presentation, including the rubric to be used for the peer reviews, will be provided during the term. **The presentation constitutes 30% of your grade.**

**Measure Comparison Presentation Peer Reviews**

Peer reviews of three of your colleagues’ measure comparison presentations are also required. You will be randomly assigned three presentations to review and provided with a rubric and guidelines for feedback.

In general, you are to judge each peer’s ability to convey clearly the nature of the target construct, features of the chosen measures, and recommendations for use of the measures. In addition to completing a rubric, you will provide written feedback to your peers. When offering feedback to colleagues, if you are in doubt as to the justness of a critique, try asking questions that would help the presenter clarify points of confusion.

To complete your peer reviews in a fair, but timely manner, we recommend that you spend 25-30 minutes watching the presentation (allowing for rewind) and 25-30 minutes completing the rubric and writing your feedback. In this way, the reviews should not take much longer than a final exam would (about 3-4 hours). Your three peer reviews are due **Friday, March 14th at 10PM**.
Your peer reviews will be graded based on how closely you align with the average score for each peer (with adjustment as needed based on instructor evaluation of the presentations), as well as the respectfulness and content of your written feedback. The peer reviews constitute 20% of your grade.

OTHER FORMS OF ASSESSMENT

Participation
Student participation and engagement will also be assessed through completion of online lessons, including weekly participation on Forums, and attendance and participation at synchronous meetings. Participation constitutes 25% of your grade.

GRADING POLICY

Your final grade for this course will be determined based on attendance/participation in synchronous meetings and online discussion boards, a presentation of the measures review, and the final APA style written measures review. The presentation and written review will comprise 70% of your final grade. Attendance/participation will comprise the remaining 30% of your grade.

- Participation = 25%
- APA-style Measure Descriptions = 25%
- Measures Review Presentation = 30%
- Measures Presentation Peer Review = 20%

Your final grade will be based on the total number of points accrued during the term. There will not be a curve. Final letter grades for the course will be calculated as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>97-100%</td>
</tr>
<tr>
<td>A</td>
<td>93-96.9%</td>
</tr>
<tr>
<td>A-</td>
<td>90-92.9%</td>
</tr>
<tr>
<td>B+</td>
<td>87-89.9%</td>
</tr>
<tr>
<td>B</td>
<td>83-86.9%</td>
</tr>
<tr>
<td>B-</td>
<td>80-82.9%</td>
</tr>
<tr>
<td>C+</td>
<td>77-79.9%</td>
</tr>
<tr>
<td>C</td>
<td>73-76.9%</td>
</tr>
<tr>
<td>C-</td>
<td>70-72.9%</td>
</tr>
<tr>
<td>D+</td>
<td>67-69.9%</td>
</tr>
<tr>
<td>D</td>
<td>63-66.9%</td>
</tr>
<tr>
<td>D-</td>
<td>60-62.9%</td>
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<tr>
<td>F</td>
<td>&lt; 59.9%</td>
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Please note that if this class is taken P/NP, 80% or higher is required to pass the class. EDLD Majors must take course as graded.
## SCHEDULE OF TOPICS AND ASSIGNMENTS

<table>
<thead>
<tr>
<th>WEEK</th>
<th>ACTIVITY</th>
<th>TOPIC</th>
<th>READ BEFORE CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Synchronous (5-7pm)</td>
<td>Course introduction and fundamental issues in measurement and assessment (2 hours)</td>
<td>Thorndike &amp; Thorndike-Christ (T &amp; T-C), Chap 1</td>
</tr>
<tr>
<td></td>
<td>Asynchronous</td>
<td>Principles of Test Development and Use</td>
<td>T &amp; T-C, Chap 5 APA</td>
</tr>
<tr>
<td>2</td>
<td>Asynchronous</td>
<td>Construct Definition</td>
<td>T &amp; T-C, Chap 9</td>
</tr>
<tr>
<td>3</td>
<td>Asynchronous</td>
<td>Constructing Items and Exercises</td>
<td>T &amp; T-C, Chap 9</td>
</tr>
<tr>
<td>4</td>
<td>Asynchronous</td>
<td>APA write-ups of measures</td>
<td>Elmore</td>
</tr>
<tr>
<td></td>
<td>Synchronous (5-7pm)</td>
<td>Discussion and review of Weeks 1-3</td>
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</tr>
<tr>
<td>5</td>
<td>Asynchronous</td>
<td>Diagnostic Efficiency</td>
<td>Riddle &amp; Stratford</td>
</tr>
<tr>
<td>6</td>
<td>Asynchronous</td>
<td>Advanced Topics in Reliability</td>
<td>T &amp; T-C, Chap 4 Ponterotto &amp; Ruckdeschel</td>
</tr>
<tr>
<td></td>
<td>Assignment</td>
<td><em>MEASURE DESCRIPTIONS DUE, FRIDAY, 10PM</em></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Asynchronous</td>
<td>Advanced Topics in Validity</td>
<td>T &amp; T-C, Chap 5 Kane Messick</td>
</tr>
<tr>
<td>8</td>
<td>Asynchronous</td>
<td>Factor Analysis and Construct Validity</td>
<td>Thompson &amp; Daniel</td>
</tr>
<tr>
<td></td>
<td>Synchronous (5-7pm)</td>
<td>Discussion and review of Weeks 4-8</td>
<td></td>
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<tr>
<td>9</td>
<td>Asynchronous</td>
<td>Item Response Theory</td>
<td>Baylor et al. Edwards</td>
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<tr>
<td></td>
<td>Asynchronous</td>
<td>Generalizability Theory</td>
<td>Hambleton &amp; Jones</td>
</tr>
<tr>
<td></td>
<td>Assignment</td>
<td><em>PRESENTATIONS DUE</em></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Asynchronous</td>
<td>Review and rate 3 assigned presentations</td>
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</tr>
<tr>
<td></td>
<td>Assignment</td>
<td><em>PEER REVIEWS DUE, FRIDAY, 10PM</em></td>
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## ATTENDANCE AND ABSENCE GUIDELINES

Attendance is required to succeed in this course and master the course material. If a student does miss class, it is the student’s responsibility to get class notes, and handouts or other distributed materials. Contact the instructor in case of illness or emergencies that preclude completing assignments as scheduled or attending class sessions. Messages can be left on the instructor’s voice mail or e-mail at any time of the day or night, prior to class. If no prior arrangements have been made before class time, the absence will be unexcused.
Students must contact the instructor in case of illness or emergencies that preclude attending class sessions or taking quizzes as scheduled. Messages can be left on the instructor's voice mail or e-mail at any time prior to class. If no prior arrangements have been made before class time, the absence will be unexcused.

If you are unable to take a quiz or exam due to a personal and/or family emergency, you should contact your instructor or discussion leader as soon as possible. On a case-by-case basis, the instructor will determine whether the emergency qualifies as an excused absence.

EXPECTED CLASSROOM BEHAVIOR
Classroom expectations include:
- Participate actively in class activities.
- Respect the diversity of cultures, opinions, viewpoints in the classroom.
- Listen to fellow students, professors, and lecturers with respect.
- Arrive on time, prepared for class.
- Attend for the duration of class.
- Return from breaks in a timely manner.
- Do not read other materials, books, or newspapers.
- Do not use laptops for email, surfing, or other activities unrelated to class.
- Turn off cell phones and other electronic devices.
- Racist, homophobic, sexist, and other disrespectful comments will not be tolerated.

Eating during class is allowed, but please try to keep noise and mess to a minimum. Food waste should be disposed of outside the classroom.

If you open a window or door, it is your responsibility to close it when class is over.

DIVERSITY
It is the policy of the University of Oregon to support and value diversity. To do so requires that we:
- Respect the dignity and essential worth of all individuals.
- Promote a culture of respect throughout the University community.
- Respect the privacy, property, and freedom of others.
- Reject bigotry, discrimination, violence, or intimidation of any kind.
- Practice personal and academic integrity and expect it from others.
- Promote the diversity of opinions, ideas and backgrounds which is the lifeblood of the university.

DOCUMENTED DISABILITY
Appropriate accommodations will be provided for students with documented disabilities. If you have a documented disability and require accommodation, arrange to meet with the course instructor within the first two weeks of the term. The documentation of your disability must come in writing from the Accessible Education Center in the Office of Academic Advising and Student Services. Disabilities may include (but are not limited to) neurological impairment, orthopedic impairment, traumatic brain injury, visual impairment, chronic medical conditions, emotional/psychological disabilities, hearing impairment, and learning disabilities. For more information on Accessible Education Center, please see http://aec.uoregon.edu

MANDATORY REPORTING
UO employees, including faculty, staff, and GTFs, are mandatory reporters of child abuse and prohibited discrimination. This statement is to advise you that your disclosure of information about child abuse or prohibited discrimination to a UO employee may trigger the UO employee’s duty to report that information to the designated authorities. Please refer to the following links for detailed information about mandatory reporting:

https://hr.uoregon.edu/policies-leaves/general-information/mandatory-reporting-child-abuse-and-neglect/presidents-message
http://around.uoregon.edu/mandatoryreporting

ACADEMIC MISCONDUCT POLICY

All students are subject to the regulations stipulated in the UO Student Conduct Code (http://conduct.uoregon.edu). This code represents a compilation of important regulations, policies, and procedures pertaining to student life. It is intended to inform students of their rights and responsibilities during their association with this institution, and to provide general guidance for enforcing those regulations and policies essential to the educational and research missions of the University.

CONFLICT RESOLUTION

Several options, both informal and formal, are available to resolve conflicts for students who believe they have been subjected to or have witnessed bias, unfairness, or other improper treatment.

It is important to exhaust the administrative remedies available to you including discussing the conflict with the specific individual, contacting the Department Head, or within the College of Education, you can contact Angie Whalen, Assistant Dean for Academic Programs and Student Services, at 346-2898 or awhalen@uoregon.edu; Lauren Lindstrom, Associate Dean for Research and Academic, at 346-1399 or lindstrm@uoregon.edu; or Surendra Subramani, Diversity Coordinator, at 346-1472 or surendra@uoregon.edu.

- Outside the College, you can contact:
- UO Bias Response Team: 346-1139 or http://bias.uoregon.edu/whatbrt.htm
- Conflict Resolution Services 346-0617 or http://studentlife.uoregon.edu/SupportandEducation/ConflictResolutionServices/tabid/134/Default.aspx
- Affirmative action and Equal Opportunity: 346-3123 or http://aaeo.uoregon.edu/

GRIEVANCE POLICY

A student or group of students of the College of Education may appeal decisions or actions pertaining to admissions, programs, evaluation of performance and program retention and completion. Students who decide to file a grievance should follow the student grievance procedure, or alternative ways to file a grievance outlined in the Student Grievance Policy (https://education.uoregon.edu/academics/student-grievance) or enter search: student grievance.

IN CASE OF INCLEMENT WEATHER

In the event the University operates on a curtailed schedule or closes, UO media relations will notify the Eugene-Springfield area radio and television stations as quickly as possible. In addition, a notice regarding the university’s schedule will be posted on the UO main home page (in the “News” section) at http://www.uoregon.edu. Additional information is available at http://hr.uoregon.edu/policy/weather.html.
If an individual class must be canceled due to inclement weather, illness, or other reason, a notice will be posted on the UO website or via email. During periods of inclement weather, please check the UO website, Oba, and your email rather than contact department personnel. Due to unsafe travel conditions, departmental staff may be limited and unable to handle the volume of calls from you and others.

**COURSE INCOMPLETE POLICY**

Students are expected to be familiar with university policy regarding grades of “incomplete” and the time line for completion. For details on the policy and procedures regarding incompletes, Please see: [https://education.uoregon.edu/academics/incompletes-courses](https://education.uoregon.edu/academics/incompletes-courses)