WESTERN MICHIGAN UNIVERSITY

EMR 5410
Introduction to Educational
Measurement and Assessment

Course Pack and Syllabus

Spring 2017

Table of Contents

Course Catalogue Description

This course provides the student with an examination of the basic concepts, principles, purposes, and tools used in the construction and valid use of educational testing/assessment instruments from multiple perspectives; e.g., classroom teacher, administration, parents, for the evaluation of classroom learning outcomes. Focus of attention will be on the use of assessment information for educational decision-making. Many aspects of testing/assessment will be presented: including writing and using educational objectives; constructing tests; evaluating the psychometric properties of a test reliability and validity; interpretation of test scores norms, scales, and grades; and some of the current controversies in testing. Additional topics such as basic concepts in reliability and validity from a non-statistical perspective, assessment score interpretation and standards-based grading will be covered. Students will also be introduced to the similarities and differences among achievement, aptitude, performance, personality and personnel assessments and between large-scale high-stakes assessment (summative) and immediate (low-stakes) assessment (formative). Class discussions will additionally include standardized testing in the areas such as achievement, intelligence, and specific aptitudes, and general teacher teaching evaluation.

Course Details

Prerequisite

Successful completion of EMR 5400 *Introduction to EMR* or equivalent as approved by instructor.

Credit and Clock Hours

3 Semester hours
Tuesday 6:00 to 8:30 PM
Classroom: 3140 Sangren Hall

Instructor

Brooks Applegate, Ph.D.
Educational Leadership, Research & Technology
3571 Sangren Hall
V: 269-387-3886
F: 269-387-3696
brooks.applegate@wmich.edu
Skype ID: brooks.applegate

Office Hours

Mondays 1:00 – 4:30 pm and by appointment
Please make an email request to me for private conversations either by phone or live chat if office hours are not convenient for you to make. Alternatively, the eLearning discussion board should be used and if you think your question(s) have a wider appeal; such as course content clarification please use the so that all students can benefit from the discussions and clarifications.

WMU eLearning Web Site Portal

https://elearning.wmich.edu
Western Michigan University Office of Instructional Technology
Helpdesk: http://www.wmich.edu/oit/helpdesk/index.html
Hours: 8am-10pm (Monday-Friday, EST)
Phone (269) 387-HELP (387-4357)
Email: HELPDESK@WMICH.EDU

Required Texts

Reynolds, C. R., Livingston, R. B. & Willson, V. (2009). Measurement and Assessment in Education (2nd ed.). New York: Pearson.

Supplemental Texts

American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (2014). *Standards for Educational and Psychological Testing.* Washington, DC: Author.
Publication manual of the American Psychological Association, (6th ed.) (2009). New York: Author.

Instructional Objectives

The student will be able to:

- Demonstrate an understanding of how the standards for using educational and psychological tests are implemented.
- Define and differentiate measurement, test, and assessment.
- Differentiate and appropriately use vocabulary commonly used in measurement.
- Demonstrate an understanding and be able to differentiate different purposes and uses of testing and assessment.
  - Student decision making
    - Formative / summative
  - Group decision making

- - - Instructional progress
  - o Selection, placement, classification
    - - Credentialing, eligibility, placement
  - o Policy
    - - Evaluating programming effects
  - o Counseling / guidance
    - - Within-individual
- Differentiate NRT and CRT
- Write educational objectives for student learning outcomes.
- Construct a Test Blue Print based on a curriculum and student learning objectives
- Write open and closed form questions for a tests based on a Test Blue Print and student learning objectives
- Demonstrate an understanding of the basic statistics used in testing and test evaluation.
- Explain the differences among different forms for estimating test reliability under Classical Test Theory.
- Be able to describe and provide examples of how one may go about establishing evidence for these different sources of validity evidence.
  - o Content
    - - Content domain sampling
    - - Test/Item to curriculum alignment
    - - Table of specification (blue print)
  - o Criterion related
    - - Concurrent
    - - Predictive utility
    - - Effects of Attenuation
  - o Construct
    - - Developmental – longitudinal
    - - Contrasted groups – experimental
    - - Internal structure
    - - Convergent
    - - Discriminant
- Differentiate standardized and non-standardized tests.
- Describe and develop skills in using standardized test scores and test norms.
- Become familiar with standardized tests in the following areas: intelligence, aptitude, achievement, interest and vocational, personality and behavioral assessment.
- Describe the general process (steps) used in test construction.

Professional Concerns

You are responsible for making yourself aware of and understanding the University policies and procedures that pertain to Academic Honesty. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. The academic policies addressing Student Rights and Responsibilities can be found in the Undergraduate Catalog at http://catalog.wmich.edu/content.php?catoid=24&navoid=974and the Graduate Catalog at http://catalog.wmich.edu/content.php?catoid=25&navoid=1030. If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s) and if you believe you are not responsible, you will have the opportunity for a hearing. You should consult with your instructor if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test.

WMU aspires to be a community of academics and professionals who value the diverse perspectives and experiences each individual brings to the university community. These differences contribute to a rich and vibrant academic environment which strives to broaden our understanding of complex issues and gain new insights of the world. Although our perspectives, ideas and opinions may vary, each person is valued and treated respectfully. Several University policies speak to this goal: 1) prohibited sexual misconduct under Title IX, the Clery Act and the Violence Against Women Act (VAWA) and Campus Safe the *Sexual and Gender-Based Harassment and Violence, Intimate Partner Violence, and Stalking Policy* can be found at www.wmich.edu/sexualmisconduct; 2) the *Faculty Senate Religious Observances Policy* (MOA-07/02) was passed by the Senate in May, 2007 and approved by the provost and president in June, 2007 can be found at http://www.wmich.edu/facultysenate/downloads/MOA0702_religious_observances _final.pdf. Please note that members of the Jewish faith may participate in two religious observances during the first few weeks of the new academic year. Rosh Hashanah observances begin at sunset on Sunday, Oct. 2 and continue through Tuesday, Oct. 4. Yom Kippur observances begin at sunset on Tuesday, Oct. 11 and continue through Wednesday, Oct. 12. The Interfaith Calendar available at www.interfaithcalendar.org is a helpful resource for identifying religious observance dates.; and 3) The Faculty Senate, provost and president approved an aspirational *Civility Statement* in May, 2016 which can be found at http://wmich.edu/sites/default/files/attachments/u370/2016/Civility%20Stmt.7- 27-16_0.pdf.Need for Accommodations

Any student with a documented disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the professor and the appropriate Disability Services office at the beginning of the semester (www.wmich.edu/disabilityservices). The two disability service offices on campus are: Disabled Student Resources and Services 269-387-2116 and the Office of Services for Students with Learning Disabilities 269-387-4411.

Need for Accommodations

Any student with a documented disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the professor and the Disability Services for Students office at www.wmich.edu/disabilityservices

Diversity Statement

The University and Department of Educational Leadership, Research & Technology (ELRT) EMR program maintains a strong and sustained commitment to the diverse and unique nature of all learners and high expectations for each student. A general resource got Diversity can be found at Division of Student Affairs at www.wmich.edu/students/diversity.

Plagiarism and Academic Honesty

Students who take this class must be prepared to submit electronic copies of some or all assignments. The University expects that all students will be evaluated and graded on their own work. If you use language, data, or ideas from other sources, published or unpublished, you must take care to acknowledge and properly cite those sources. Failure to do so may constitute plagiarism or other violation of University academic honesty policies, see above reference to University policy. To detect and deter plagiarism, encourage responsible student behavior, improve student learning, and ensure greater accountability, assignments for this class may be submitted for textual similarity review to Turnitin.com and/or other resource. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com website.

Papers that are submitted to Turnitin.com become part of the Turnitin.com database (student identities are protected) solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com site. Students agree that by taking this course all required papers maybe subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the

Terms and Conditions of Use posted on the Turnitin.com site. The results of a Turnitin.com originality report or other resources may be used as evidence to charge you with plagiarism or other offense. If that is the case, you will be you will be referred to the Office of Student Conduct.

If you wish to request that your paper(s) not be included in the Turnitin.com reference database, I need to receive your request in writing prior to submission of any course assignments; the paper(s) can then be processed and reviewed accordingly.

Evaluation Policy

Course grades are based on total points from homework assignments and exams, including extra credit homework and exam problems. However, regardless of total points, no student who fails the final examination will receive an "A" grade in the course. Professionalism in all course-related endeavors and active class participation is expected. All work will be evaluated based on accuracy, adherence to guidelines and due dates, thoroughness, evidence of effort, evidence of professionalism, evidence of data integration, coherence, and appearance. Be sure to check, proof, and edit all work submitted.

Methods of Evaluation

In order to benefit most from your study of this course material, you are expected to read the course text, all related documents, journal articles, complete assignments related to course topics, and document mastery of course content through a midterm and final exam. Timely completion and the quality of your work will contribute to your overall course grade. In fairness to all, a penalty will be imposed for any work submitted late. Generally speaking, the penalty will be equivalent to one letter grade or more. Extenuating circumstances will be considered with proper documentation.

Attendance and Participation in Class

Regular and punctual class attendance is expected of all students. A student will be dropped from a course and assigned a failing grade for excessive absences. Excessive absence is attending less than 80% of scheduled class meetings. One absence will be accepted without affecting your participation grade. If you have to be absent, please make arrangements to get materials/notes from a classmate or instructor. Regardless of the reason, you cannot receive credit for participation if you are not present to participate. Be prepared to discuss problems and readings as a class or in cooperative groups. If you have questions, you may ask them in class, or via email, as it is your responsibility to gain clarification. You may need to do supplementary reading for this class to make up for deficient and weakness in your background knowledge.

Course Grading Scale

100 - 95%	A	94 - 90%	BA	89 – 85 %	B
80 – 84 %	CB	79 – 75 %	C	Below 75 %	E

Assessment Weighting

Test I	40 pts
Test II	40 pts
Final	40 pts
Project	60 pts
Class Participation	20 pts

Digital Drop-Box

Students are required to submit certain assignments to the digital drop-box via the on-line course web site (WMU eLearning) in Microsoft Word file format only (*.doc or *.docx). If you are unable to meet this requirement, please inform the instructor immediately. The Word attachment requirement allows for easy handling from the course instructor back to the students (with feedback included within the attached document).

Save your homework as a Word file so that all assignments can be identified by the attachment name who dropped the assignment and which assignment was dropped: For example, John Doe - Assignment #3 would be saved as **DoeHMK3.docx**. Please do not e-mail the instructor to check on the status of an assignment placed in the digital drop box. If you need verification that I received your email simply CC yourself, if you got it, then so did I. Failure to follow these directions may result in a misplaced assignment, lower grade and untimely feedback.

The following information MUST be included at the top of all assignments on a separate page. The simplest way to do this is to create a template page with the necessary information as the face page for all homework submissions. Extra credit homework opportunities are offered throughout the semester.

Example
    Brooks Applegate: brooks.applegate@wmich.edu
    EMR5410
    Assign #1: Test & Item Scoring
    0/21/17

Homework Policy

Homework/project assignments are due when class starts (6:00 PM) of the due date posted but will be accepted up to 1 class meeting past the posted due date. However, any homework/project received after the posted due date are *evaluated at the discretion of the course instructor* and may be penalized up to 50% of the available points for that assignment unless prior arrangements are made with the instructor. All homework/project write-ups (when appropriate) are to meet APA editorial style (12pt font), including all tables and figures. Failure to comply will result in an automatic deduction of up to 20%.

Homework Descriptions

EMAIL (2 pts EC)

Due 1/13/17 @11:30pm
Post an introduction of yourself to the course eLearning web site "Student Introductions." Tell your classmates and me something about yourself and why you are taking this class. I'd also like to know what experiences you have had related to constructing any measuring instrument, e.g., classroom test, survey, questionnaires.

ASSIGNMENTS AND EXAMS:

1. Class participation is required. All students are expected to respond to questions regarding the reading material and contribute in class discussions.
2. Two in-class tests. The questions will cover material from the readings and class discussions.
3. A final exam
4. Test project described separately

Tentative Topic List

Week	Date	Reading	Topic
1:	1/10/17	1	Educational Assessment
2:	1/17/17	2&3	Basic Mathematics of Measurement
			Meaning of Test Scores
3:	1/24/17	4	Reliability
4:	1/31/17	5	Validity
5:	2/7/17	6	Item Analysis
6:	2/14/17	7	Developing Classroom Assessments
			In Class Assessment (Ch 1-6)
7:	2/21/17	8&9	Test Item Formats: Selected-Response Formats &
			Constructed-Response Formats
8:	2/28/17	9&10	Test Item Formats: Constructed-Response Formats
			& Portfolios
9:	3/3/17	SPRING BREAK	
10:	3/14/17	11	Grading Practices
11:	3/21/17	12	High-stakes Achievement Assessment
			In Class Assessment (Ch 7-11)
12:	3/28/17	13	Aptitude Assessment
13:	4/4/17	14	Behavior & Personality Assessment
14:	4/11/17	15	Assessments for Students with Disabilities
15:	4/18/17	16&17	Assessment Bias & Best Practices
			TEST PROJECT DUE 4/21/17 @ 6:00PM
16:	4/25/17		In Class Final Exam (Ch 12-17) 6:00-8:00 PM

Test Project

DUE FRIDAY 4/21/17 @ 6:00PM

The purpose of this project is to provide students with experience in planning and developing a test. Each student will develop a test that requires 10 to 20 minutes for administration. The test should be one that the student can give to his or her classroom (if currently teaching) or to a sample of other people that the student has access to. The activities for the project include: determining the purpose of the test, developing test objectives, developing a test blueprint, writing the test items, administering the test, preparing norms, and writing a report of the test project.

The following steps will be used in construction of your test:

- Select the type of test you want to construct.
- Develop the purpose of your test; in operational terms describe the content, skills, and traits your test will measure. This should be very limited because your test should only take 10 to 20 minutes to administer.
- Translate the purpose of your test into comprehensive objectives.
- Develop a test blueprint.
- Select the type of items you wish to use, use only one type.
- Write and revise items according to your test plan.
- Develop standardized directions for administration and scoring.
- Administer your test to a minimum of 15-20 people (the examinee sample needs to sampled from the intended target population).
- Analyze your test data and revise/delete items as needed.
- Develop derived scores (one type of derived score is sufficient).
- Support the reliability of your test with one of the following:
    - Split half, coefficient alpha, KR20.
- Determine the standard error of measurement of your test.
- Write up the report of your test project, include the following:

    - Purpose, uses, and rationale of the test.
    - Description of the test and what it measures.
    - Test objectives.
    - Test blueprint.
    - Description of the sample used to develop the test
        - (e.g., age, sex, class standing, etc.).
    - Item analysis.
    - Norms/derived score.

- Reliability and standard error of measurement.
- Directions for administration and interpretation.
- Guidelines for interpretation.
- Cautions in the use of this test.

- Turn in the report and a copy of the test.