

**College of Education and Human Development**  
**EDRS 531: Educational & Psychological Measurement**  
**Fall 2012**



**Course Time: Thursday, 7:20-10:00 p.m. Room L018 Thompson Hall**

**Instructor: Angela Miller, Ph. D.**

Office Hours: Thursday 4:00-6:00 p.m. and by appointment

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**Course Description:** Emphasizes techniques and principles used in the construction, administration, and quantification of measuring devices for evaluation purposes. Discusses interpretation of standardized tests of ability, aptitude, achievement, interest, and personality.

This course is designed to facilitate students acquiring the fundamental measurement concepts, principles, and theories used in psychological and educational testing. Current models for test construction and the evaluation of standardized and standards-based tests will be examined.

Attainment of the overall goal will be demonstrated by students providing evidence of the ability to:

- Apply the principles of educational measurement to relevant problems in testing
- Understand basic technical characteristics of standardized tests
- Interpret technical information presented in standardized test manuals
- Interpret standardized test results
- Evaluate published standardized tests and assessment instruments;
- Knowledge of current professional practices and issues related to educational measurement and assessment;
- Apply sound principles of measurement and assessment in multicultural settings.

These learning objectives correspond to the competency standards advanced by three major educational organizations, namely, the National Council on Measurement in Education (NCME), American Federation of Teachers (AFT), and the national Education Association (NEA). In *Standards for Teacher Competence in Educational Assessment of Students* (1990), these professional associations asserted that educators should be skilled in:

- *Choosing* assessment methods appropriate for instructional decisions.
- *Developing* assessment methods appropriate for instructional decisions.
- *Administering*, scoring and interpreting the results of both externally-produced and teacher-produced assessment methods.
- *Using* assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement.
- *Developing* valid pupil grading procedures which use pupil assessments.
- *Communicating* assessment results to students, parents, other lay audiences, and other educators.
- *Recognizing* unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information.

In addition, NCME's *Code of Professional Responsibilities in Educational Measurement* (NCME, 1999) as well as *Standards for Educational and Psychological Testing* (AERA, 1999) serve as lenses through which each topic will be viewed and understood.

**Required Text:**

Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2013). *Psychological Testing and Assessment* (8<sup>th</sup> ed.). NY: McGraw-Hill.

-Additional readings will be used throughout the semester which are easily accessed electronically or will be made available on Blackboard.

**Course Format:** All students are expected to be active contributors in the class. Students are expected to read extensively, seek information, communicate, and participate in class activities and discussions. I encourage questions at all times; do not "wait for the right moment." If you do not understand something, please ask.

**Class Preparation:** Information on course assignments and notes for class lectures are available on the course Blackboard site.

For assistance with Blackboard students may email [courses@gmu.edu](mailto:courses@gmu.edu), call (803) 993-3141, or go to Johnson Center Rm 311 (office hours: 8:30 am-5 pm). For general technical assistance, students may call 9703) 993-8870 or go to the counter in Innovation Hall.

**Class Attendance & Participation:** Students are expected to come to class on time, complete assignments, and participate in class discussions.

**ASSESSMENT:**

**Homework Assignments (35%):** Specific guidelines for each assignment will be provided.

**Assn #1 Current Practices in Testing and Assessment (10%)**

Action research which requires investigating current issues and practices in standardized testing in a professional area.

**Assn #2 Interpretation of Testing Data (10%)**

Written response to a scenario in which students will recommend the use of a hypothetical instrument to a school district superintendent.

**Assn #3 Evaluation of a Standardized Test (15%)**

Locate a standardized instrument to evaluate and identify the situation in which the instrument would be used. Identify at least 3 reviews or studies on your instrument. Complete a technical evaluation of your instrument.

**Exams (40%):** The two exams will cover the material from the class and textbook and include multiple choice and short answer questions. The exams are worth 20% each.

**Individual or Paired Project (25%): Scale Creation**

**Step 1: Select one psychological construct (e.g. self-esteem, job satisfaction, depression) to study**

If possible, define sub-constructs. Be sure to write down your conceptual definition in explicit terms. In other words, be very precise.

**Step 2: Identify and review at least 3 studies that addressed your construct.**

How did the researchers conceptually define your construct?

How did the researchers operationally define your construct?

How are the items in the measures different or similar from one another?

**Step 3: Pilot study of 10 items to measure your construct.**

Develop at least 10 items to measure your construct using a Likert scale.

Consider how you will establish validity and reliability of your scale.

Administer your items to at least 10 individuals.

Examine the descriptive statistics and Cronbach alpha and any reliability or validity information.

**Step 4: Revise your items and complete your scale considering the analysis of your pilot data.**

Administer your scale to at least 25 people.

Analyze the data and provide measures of central tendency and variability as well as evidence of reliability and validity

**Final Report:**

Write a final report covering your interpretation of the process and results. More detailed guidelines will be provided later in the semester.

**Grading Scale:** Grades will be assigned based on the following:

A+	98-100%	B+	88-89%	C	70-79%
A	93-100%	B	83-87%	F	below 70%
A-	90-92%	B-	80-82%		

Final grades are based in the assessments described above. “Extra credit” is not available.

## COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT STATEMENT OF EXPECTATIONS:

### *Student Expectations:*

- Students must adhere to the guidelines of the George Mason University Honor Code [See <http://academicintegrity.gmu.edu/honorcode/>].
- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See <http://ods.gmu.edu/>].
- Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/1301gen.html>].
- Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.
- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.
- Students are expected to exhibit professional behaviors and dispositions at all times.

### *Campus Resources*

- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group co workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu/>].
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See <http://writingcenter.gmu.edu/>].
- For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/>].

### **Academic Integrity and Honor Code**

- GMU is an Honor Code university and students are expected to abide by the honor code on all exams and assignments. [See <http://academicintegrity.gmu.edu/>].

**Late Assignments:** *As a general rule, late papers/homework will not be accepted.* If you believe you have EXCEPTIONAL circumstances and wish to negotiate to have extra time to complete course work, you must discuss this with me before the day the assignment is due. (Negotiating means that you will be sacrificing a portion, perhaps substantial, of your grade for extra time).

### Tentative Course Schedule

<b>Date</b>	<b>Class</b>	<b>Topic</b>	<b>Reading</b>	<b>Due</b>
8/30	1	Course Info Role of Measurement & Testing	Ch. 1,2	
9/6	2	Scales of measurement and basic statistic review	Ch. 3	
9/13	3	Types of Tests Essential Qualities of a Good Test  Test Development (part 1)	Ch. 4 Ch. 8	Step 1
9/20	4	Reliability	Ch. 5	
9/27	5	Validity	Ch. 6 AP-Messick	<b>Assn. #1 Due</b>
10/4	6	Utility	Ch. 7	Step 2
10/11	7	<b>Exam 1</b>		
10/18	8	Test Development (part 2) Evaluating Items	Ch. 8 (cont.)	Step 3
10/25	9	Assessment of Intelligence: what is it? tests	Ch. 9 & 10 AP-Intelligence	<b>Assn #2 Due</b>
11/1	10	Assessment for Education : Achievement SoL's Performance Assessment	Ch. 11	
11/8	11	Assessment of Personality	Ch. 12 & 13	Step 4
11/15	12	Clinical & Counseling Assessment	Ch. 14	
11/22		<b>No Class—Thanksgiving Break</b>		
11/29	13	Hot Topics: High Stakes Testing, Value added Assessment, Standards-based Assesment, Special Populations	Readings posted on Blackboard	<b>Assn #3 Due</b>
12/6	14	Catch-up day (if needed) & Review		<b>Final Project Due</b>
12/13	15	<b>Final Exam</b>		