

**CPU 920
Instrument Construction
Fall 2005**

Instructor: Sharif M. Shakrani
Telephone: 355-4494
Class Day & Time: Monday 12:40-3:30 p.m.
Office Hours: Monday 10 a.m.-12:30 p.m.

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Course Content

The main objective of CEP 920: Instrument Construction is to provide students with application-oriented introduction to evaluating existing and constructing new instruments for making educational and psychological measures. The Course should improve the knowledge and understanding of graduate students by giving them a better basis for evaluating different measurement procedures and for knowing what each signifies and how much confidence can be placed in each. The Course will address the process of constructing test items and instruments, develop the general criteria of validity and reliability by which all measures are evaluated, provide familiarity with variety of methods of reporting test scores, and describe and evaluate a number of test instruments commonly used in educational and psychological testing and assessment.

Grading

There are three assignments in CEP 920; each is worth one-third of the final grade. Grades are criterion-referenced, in that the final grade is based on the percent of total possible points that the student receives on the three assignments. 4.0 for scores 90% or higher, 3.5 for scores 80-90%, 3.0 for scores 70-80%, 2.5 for scores 60-70%, and 2.0 for scores 50-60%.

The first assignment is the midterm examination. This will be a paper and pencil test that covers the topics addressed in the first half of the course. The test will be mostly of the multiple-choice format with one or two open-ended questions.

The second assignment is a test evaluation and critique. Each student will identify a published test manual that summarizes the development and testing program of an existing educational or psychological measurement instrument, and will write an interpretation and critique of the quality of the instrument (validity, reliability, norms, and other relevant traits). The evaluation and critique of the test instrument should not exceed five pages in length.

The third assignment is an instrument development exercise. Each student will select a content area of interest and write five to ten measurable objectives within that area. Then for each objective defined, the student will prepare two or three test questions that measure the objective. The test questions must adhere to the principals of effective item construction and must describe a procedure for possible test development process. The instrument development exercise is due

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on December 5, 2005. The report should not exceed seven pages in length. The student should be able to discuss the strength and weaknesses of their test development experience during the final examination week (December 12).

Course Requirements

1. Read assigned portions of the textbook and standards prior to discussion in class.
2. Prepare the evaluation and critique of a published test of your choice.
3. Prepare the Objectives and test items in the content area of interest to you.
4. Participate in class projects and discussions.
5. There will be one midterm examination. There is no written final examination, but student will meet during final exam week as if finals were being taken.

CEP 920: Construction of Test Instruments
Class Schedule: Fall 2005
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Week	Dates	Topic	Readings from Textbook	Readings from Standards
1	August 29	Introduction To Instrument Construction	Chapters 1-3,	Introduction
2	September 5	Labor Day: No Class		
3	September 12	Describing Educational Data	Chapter 10	
4	September 19	Quality of Measurement: Reliability	Chapter 12	S2
5	September 26	Quality of Measurement: Validity	Chapter 13	S1
6	October 3	Norms, Scores, and Profiles	Chapters 11 & 19	S4
7	October 10	Content Framework & Test and Item Specs.	Chapter 4, Shakrani	S3 & S6
8	October 17	Writing & Critiquing Test Items	Chapters 5-9, Shakrani	S3
9	October 24	Midterm Examination		
10	October 31	Achievement Testing and Assessment	Chapters 14 & 16	S13
11	November 7	Aptitude Measures & Psychological Testing	Chapter 15	S12
13	November 14	Test Evaluation Due: Student Presentations		
14	November 21	Test Evaluation Due: Student Presentations		
15	November 28	Differential Item Functioning (DIF)	Shakrani	S7
16	December 5	Emerging Trends in Testing and Measurement	Shakrani	
17	December 12	Final Examination		

Textbook: Mehrens, W.A., & Lehmann, I.J. (1992). *Measurement and Evaluation In Education and Psychology*. Fourth Edition. Chicago: Holt, Rinehart, & Winston.

Standards: AERA, APA, & NCME (1999). *Standards for Educational and Psychological Testing*. Washington, DC: American Educational Research Association.

Shakrani: Instructor will provide Reading materials.