Counselor Education Syllabi

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CE 620 Syllabus: Tests, Measurements, and Research Design

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CE620 TESTS, MEASUREMENT, & RESEARCH DESIGN

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Required Texts:

Kaplan, R. M., & Saccuzzo, D. P. (1997). Psychological testing: Principles, applications, and issues. Pacific Grove CA: Brooks/Cole Publishing Company.

Creswell, J. W. (1994). Research Design: Qualitative & Quantitative Approaches. Thousand Oaks, CA: Sage Publications Inc.

Recommended: Workbook for Psychological Testing (above). Ask me and I can put on reserve.

Course Objectives:

1. To review elementary statistical concepts and procedures and their applications in the construction and interpretation of psychological tests and meaning of scores on psychological tests and to be able to read and understand research articles in testing and other areas.

2. To become familiar with the main concepts in the area of measurement (e.g., scaling, reliability, and validity), methods of determining them, and the implications of measurement theory for research and program evaluation.

3. To become familiar with experimental and quasi-experimental design and their applications to research design and program evaluation. Research design models will include both quantitative and qualitative approaches.

4. To identify the nature and characteristics of psychological testing, including construction, proper usage and limitations.

5. To become familiar with widely used psychological tests in the areas of personality, intelligence/abilities, and interests, and controversial issues in the use of psychological tests.

6. Gain some experience in the interpretation of psychological tests. However, this course does not prepare the student to administer and/or interpret psychological tests to other persons. That would require additional course work and supervised clinical experiences.

7. To become familiar with the ethical issues involved in research and evaluation, as well as ethical issues involved in the use of psychological tests.

Course Requirements:

1. There will be two examinations, a midterm examination and a final examination (50 points each).
2. Complete homework assignments covering the section on statistics and reliability and validity. Points for these assignments will be announced.
3. Written review of one psychological test from the manual (20 points).
4. Group Presentation on an area of psychological testing to be assigned (20 points).
5. Develop two Research Proposals that includes both Qualitative and Quantitative methodology (75 points).
6. Take three psychological tests and write a Personal Profile interpretation combining the information obtained (50 points).

Date	Topics & Readings

Class 1 Organization of Class, Overview of Research Design, Assignments to Groups for projects. Identifying topics of Interest for design project.

Class 2 Scaling and Basic Statistics. K 2. C 1 & 11.

Class 3 Correlation, Regression and Multivariate analysis.

Class 4 Use of Literature and formulating research questions.. K 3. C 2 through 4. Statistical packages for PC's. Homework Assignment Due.

Class 5 Reliability and Validity. K 4 & 5.

Midterm Examination.

Class 6 Measurement - Item construction and analysis. K 6 through 8. C 8. Written Test Review Due.

Class 7 Test Construction Techniques and Structured Instruments. K 10, 11, & 15. Presentations.

Class 8 Structured Instrument and Presentations Cont'd. K 12 through 14.

Class 9 Structured Instruments and Alternatives. K 17 through 19.

Class 10 Qualitative research Designs. C 9. K 9. Test Profile Due.

April 29 (12)	Alternatives to Structured Instruments. K 16. C 10.
May 6 (13)	Final Group Research Proposal Meetings and Consultations.
May 13 (14)	Ethical Issues in Testing and Research. Ethical Co

Research Proposals Due.

Test Review Guidelines

purpose of this paper is to acquaint you with the manuals that are published to guide the use of particular ychological measurement instruments. The text gives examples of what information should be included in good test manuals. My recommendation is that your paper should reflect examining the manual for the following information (20 points):

- What does the test measure (include both generally and also specific scales)?
- For what population is the test intended?
- What was the makeup of the norm group?
- What evidence and data are given for the reliability and validity of the   instrument (give numbers and methods - summarize if necessary)?
- How is it administered and scored?
- What training or education is required to use the instrument?
- What is the cost?
- Anything else that you consider useful, interesting, important.

Personal Test Profiles

The purpose of this Assignment is to give you the opportunity to interpret three psychological tests that you have taken and compare them with your self-perception (50 points). This will give you a personal standard by which to gauge the validity of the instruments. There is no particular format that is "right" for this type of paper. H owever, here are some suggestions:

- Section 1. Begin with an objective interpretation of each instrument individually.
- Section 2. Summarize across instruments - noting areas of agreement and disagreement among the instruments. Finish this section with an overall "picture" of this person based on the test information.
- Section 3. React and comment subjectively on the information given by the tests. Does it fit with what you know about yourself? Are there experiences that you feel may have been important in a given characteristic? Overall, what is your opinion of the psychological testing information. Would you use it in your counseling?

Problem Set #1

A group of 11 students took two tests, a spelling test and a mathematics test. Below are the scores for each student (identified by number) for each test.

Student I.D. Number	Score on Spelling Test	Score on Math Test
1	20	20
2	18	25
3	15	19
4	15	20
5	14	19
6	14	20
7	14	18
8	13	19
9	13	18
10	10	16
11	8	15

1. For **each** of the above tests, determine the three measures of central tendency (i.e., the mean the mode and the median) and the three measures of variability (i.e., the range, the interquartile range and the standard deviation).

2. Draw a frequency distribution for the scores from the spelling test.

3. What is the mean of the "z" scores for the Math test?

4. Determine the "z" scores for each score on both tests. Using the model on page 19 in the text, compute the correlation coefficient and interpret it.

5. Draw a scatterplot of the scores on the two tests.

6. Your instructor believes that the correlation between the two tests demonstrates that being good in spelling causes one also to be good at math. Discuss his hypothesis.

7. Give an example of a floor effect.

8. How many percent in a quartile?

9. Give an example of the following levels of measurement; nominal, ordinal, interval, and ratio.

10. $Y = 2X - 4$. When $X = 2$, what does $Y = ?$