



Broward Community College

Course Outline

STATUS: A

COMMON COURSE NUMBER: EDF 1050

COURSE TITLE: Introduction to Tests and Measurements

CREDIT HOURS: 3

CONTACT HOURS BREAKDOWN:

Lecture/Discussion 48

Lab

Other

Contact Hours/Week 3

CATALOG COURSE DESCRIPTION:

Prerequisite: None

Corequisite: None

This course provides basic information on the use of measurement and evaluation in the educational process. It explores the theoretical foundation of test and measurement development and its practical application in the construction and evaluation of tests.

General Education Requirements - Associate of Arts Degree, meets Area(s):
 General Education Requirements - Associate in Science Degree, meets Area(s):

UNIT TITLES:

1. Introduction to Measurement in the Educational Process
2. Standardized Test Design
3. Test Characteristics
4. Interpretation of Test Scores
5. Norm Referenced and Criterion Referenced Tests
6. Measuring General Ability
7. Achievement Tests
8. Aptitude, Interest, and Attitude Measurement
9. Assessing Personality
10. Teacher Made Tests
11. Information Evaluation Measures

12. The Role of Personal and Environmental Factors in Test Evaluation

I. Course Overview:

Upon successful completion of this course, the students should be able to demonstrate a fundamental understanding of the uses, characteristics and construction of evaluation instruments in education; a knowledge of the types of tests and evaluation tools available; and considerations in test appraisal and administration.

II. Units:

Unit 1. Introduction to Measurement in the Educational Process

General Outcome:

- 1.0 The students should be able to demonstrate an understanding of the purposes of measurement in the field of education, its historical background, current practices, and definition of terminology.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 1.1 Discuss the use of measurement in evaluating instruction programs, policies, and students.
- 1.2 Describe the historical background, figures, theories and instruments that form the foundation for current approaches to tests and measurement.
- 1.3 Describe current strategies of measurement and evaluation and their rationale.
- 1.4 Define appropriate terminology applicable to the field of test and measurement.
- 1.5 Identify types of scales in use in the field of educational measurement.
- 1.6 Describe the use of tests as aids in decision-making.

Unit 2. Standardized Test Design

General Outcome:

2.0 The students should be able to demonstrate an understanding of test format, construction, and standardization.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 2.1 Describe the steps necessary to take in construction of a test.
- 2.2 Discuss formulization of test items, their presentation, how test takers will respond to them, and the analysis of these responses.
- 2.3 Describe the differences in group and individually administered test formats.
- 2.4 Explain item try-out and analysis and assembling the final test form.
- 2.5 Compare the advantages and disadvantages in the use of standardized test formats.

Unit 3. Test Characteristics

General Outcome:

3.0 The students should be able to demonstrate an understanding of the characteristics of instrument design that ensure validity, reliability and employability.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 3.1 Describe the characteristics of a good test.
- 3.2 Define the following:
 - 3.2.1 Validity
 - 3.2.2 Content validity
 - 3.2.3 Criterion related validity
 - 3.2.4 Construct validity
- 3.3 Define the following:
 - 3.3.1 Reliability
 - 3.3.2 Alternative form reliability
 - 3.3.3 Split-half reliability
 - 3.3.4 Internal consistency
 - 3.3.5 Test-retest reliability
- 3.4 Discuss standard error of measurement
- 3.5 Identify considerations in ensuring test applicability and employability.

Unit 4. Interpretation of Test Scores

General Outcome:

4.0 The students should be able to demonstrate an understanding of interpretation and comparison of test score data with an emphasis on specific statistical procedures.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

4.1 Discuss:

- 4.1.1 Test score pattern
- 4.1.2 Ranges
- 4.1.3 Dispersions
- 4.1.4 Analysis

4.2 Explain the use of:

- 4.2.1 Average
- 4.2.2 Mean
- 4.2.3 Median

4.3 Define and explain the significance of the:

- 4.3.1 Normal curve
- 4.3.2 Standard deviation
- 4.3.3 Percentile ranks and stanines
- 4.3.4 Z scores
- 4.3.5 T scores

4.4 Demonstrate an ability to utilize statistical procedures for dealing with test scores.

Unit 5. Norm Referenced and Criterion Referenced Tests

General Outcome:

5.0 The students should be able to demonstrate an understanding of the difference between norm referenced and criterion referenced tests and the advantages and disadvantages of each test.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 5.1 Describe common characteristics of and distinctions between norm referenced and criterion referenced tests.
- 5.2 Discuss the uses of norm references and criterion referenced tests in educational assessment.
- 5.3 Compare the advantages and disadvantages of the use of criterion referenced tests and norm referenced tests in educational evaluation.
- 5.4 Identify the steps in construction of criterion referenced tests.
- 5.5 Discuss statistical differences between criterion and norm referencing.

Unit 6. Measuring General Ability

General Outcome:

6.0 The students should be able to demonstrate an understanding of the theories concerning structure of intelligence and the tests designed to measure these constructs.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 6.1 Describe the group factor theory of intelligence and the two-factor theory.
- 6.2 Discuss mental age and I.Q.
- 6.3 Describe the test most appropriately used to measure intelligence according to the two-factor and group factor theories.
- 6.4 Identify the correlation and overlap of intelligence and achievement test scores.
- 6.5 Discuss validity and reliability of intelligence tests.

Unit 7. Achievement Tests

General Outcome:

7.0 The students should be able to demonstrate an understanding of the purpose of achievement tests, their advantages, usage and limitations.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 7.1 Discuss the validity of achievement tests.
- 7.2 Identify the types of achievement test scores.
- 7.3 Explain the uses of achievement test scores in the field of education.
- 7.4 Describe factors to consider in the selection of an achievement test.
- 7.5 Discuss the advantages and limitations of the use of achievement tests.
- 7.6 Identify widely used achievement tests and their pertinent features.

Unit 8. Aptitude, Interest and Attitude Measurement

General Outcome:

- 8.0 The students should be able to demonstrate an understanding of the use of aptitude tests, vocational batteries, interest inventories and assessment of attitudes.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 8.1 Describe the measurement of aptitudes and testing of specific skill areas.
- 8.2 Discuss the characteristics of general vocational batteries and the use of the multi-factor test.
- 8.3 Describe the use of college aptitude tests and college entrance tests.
- 8.4 Explain the concepts of creativity and existing tests which measure these concepts.
- 8.5 Discuss the construction of interest inventories and the interpretation of these scores.
- 8.6 Explain the procedures used for assessing attitudes and the use of the Likert Scale and the Thurstone Scale.

Unit 9. Assessing Personality

General Outcome:

9.0 The students should be able to demonstrate an understanding of personality assessment, the types of personality inventories, their limitations and usefulness.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

9.1 Discuss the personality inventories used in educational settings, their structure and characteristics.

9.2 Explain the limitations and problems associated with personality assessment.

9.3 Describe the uses of personality assessment.

9.4 Explain the use of projective tests.

Unit 10. Teacher Made Tests

General Outcome:

10.0 The students should be able to demonstrate an understanding of teacher assessment of student achievement, the construction of test items and basic considerations necessary for competent test planning.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 10.1 Describe the purposes of teacher made tests and use of instructional objectives.
- 10.2 Explain the use of a table of specifications in planning test construction.
- 10.3 Discuss the choice of norm or criterion referenced procedures.
- 10.4 Understand the use of the Taxonomy of Educational Objectives in the construction of tests.
- 10.5 Identify types of test items and their construction for class use.
- 10.6 Compare the following test formats:
 - 10.6.1 True-false
 - 10.6.2 Multiple choice
 - 10.6.3 Matching
 - 10.6.4 Completion
 - 10.6.5 Essay style

Unit 11. Informal Evaluation Measures

General Outcome:

11.0 The students should be able to demonstrate an understanding of the use of observation, check lists, rating scales and concrete, hands-on assessment tasks for informal evaluation.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

11.1 Describe the types of information evaluation measurement.

11.2 Explain the advantages and limitations in the use of informal evaluation methods.

11.3 Discuss the purposes of observation and appropriate guidelines for its successful use.

11.4 Identify types of observation techniques:

11.4.1 Running behavior record

11.4.2 Time sampling

11.4.3 Event sampling

11.4.4 Use of anecdotal record

Unit 12. The Role of Personal and Environmental Factors in Test Evaluation

General Outcome:

12.0 The students should be able to demonstrate an understanding of the importance of personal and environmental conditions in evaluating test results.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

12.1 Discuss the influence of the characteristics of the test administrator may have on the test results.

12.2 Describe the environmental factors in the testing room, and their influence on the examinee:

12.2.1 Lighting

12.2.2 Ventilation

12.2.3 Distractions

12.3 Explain the following concepts and their effect on test results:

12.3.1 Test anxiety

12.3.2 Test wiseness

12.3.3 Response bias

12.4 Discuss physiological factors which may impair the individual's test taking abilities.

12.5 Assess the importance of environmental and personal factors in evaluating test results.