

HUDM 4050

Introduction to Measurement

Fall 2011 Tuesday 5:10-6:50, GDH 281
Instructor: Lawrence T. DeCarlo, Ph.D.
Office: Dodge 453h
Office hours: Tuesday 3:30-5, Thursday 1:30-3:00, and by appointment
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Text: *Measurement and evaluation in psychology and education*. 8th ed. (2010).
Robert M. Thorndike, Tracy Thorndike-Christ. NY: Pearson.

Other useful references:

American Psychological Association (1999). *The standards for educational and psychological testing*. Washington, D.C.: Author. Available at:
<http://www.apa.org/science/programs/testing/standards.aspx>

Anastasi, A., & Urbina, S. (1997). *Psychological testing*, 7th ed. Upper Saddle River, NJ: Prentice-Hall.

Crocker, Linda M. & Algina, James. (1986). *Introduction to classical and modern test theory*. NY: Holt, Rinehart, & Winston.

Suen, Hok. K. (1990). *Principles of test theories*. NJ: Lawrence Erlbaum.

Journals

Here are some journals that publish articles concerned with measurement:

Educational and Psychological Measurement

Journal of Educational Measurement

Journal of Educational and Behavioral Statistics

Applied Psychological Measurement

Applied Measurement in Education

Measurement: Interdisciplinary Research and Perspectives (new in 2002)

Objectives

A general introduction to measurement as applied in psychology and education. A survey of methods and problems involved in measurement of, for example, aptitude, achievement, and personality. Basic requirements are:

1. attend class meetings
2. read assigned chapters in Thorndike
3. take examinations
4. prepare assignments and hand them in on time

Schedule of Topics

Introduction - Origins and basics of measurement
Statistical concepts
Norms
Reliability
Validity
Issues and decisions in testing
Ability, aptitude, and achievement tests
Classical item analysis
Item response theory

Readings

Chapters in Thorndike corresponding to the topics shown above are given below (page numbers are for the 7th edition).

Course Outline

| Date | Topic | Chapters |
|-------------|-----------------------------------|------------------|
| 9/13 | History and issues in measurement | 1 |
| 9/20 | Measurement and numbers | 2 (skip 53-63) |
| 9/27 | Statistics and measurement | |
| 10/4 | Giving meaning to scores | 3 (skip 108-114) |
| 10/11 | Statistics/Norms continued | |

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| 10/18 | Exam 1 | |
| 10/25 | Classical Test Theory | 4 (also read 53-58, skip 145-152) |
| 11/1 | Reliability | |
| 11/8 | Reliability (continued) | 4 |
| 11/15 | Construct validity (started) | |
| 11/22 | Exam 2 | |
| 11/29 | Validity continued | 5 |
| 11/6 | Validity, MTMM, SEM | |
| 11/13 | Classical item analysis, IRT | 9 (read 305-310) 3 (read 108-114) |
| 11/20 | Final exam | |

Grades

Grades will be based on the three exams (90%) and homework (10%). The three exams will be weighted equally. The exams will be open book with free access to text and notes. If you cannot make an exam or need to re-schedule you must have a valid reason and notify me two weeks before the scheduled exam.

Students with disabilities

The College will make reasonable accommodations for persons with documented disabilities. Students are encouraged to contact the Office of Access and Services for Individuals with Disabilities for information about registration (166 Thorndike Hall). Services are available only to students who are registered and submit appropriate documentation. As your instructor, I am happy to discuss specific needs with you as well.

Incomplete

The grade of Incomplete is to be assigned only when the course attendance requirement has been met but, for reasons satisfactory to the instructor, the granting of a final grade has been postponed because certain course assignments are outstanding. If the outstanding assignments are completed within one calendar year from the date of the close of term in which the grade of Incomplete was received and a final grade submitted, the final grade will be recorded on the permanent transcript, replacing the grade of Incomplete, with a transcript notation indicating the date that the grade of Incomplete was replaced by a final grade.

If the outstanding work is not completed within one calendar year from the date of the close of term in which the grade of Incomplete was received, the grade will remain as a permanent Incomplete on the transcript. In such instances, if the course is a required course or part of an approved program of study, students will be required to re-enroll in the course including repayment of all tuition and fee charges for the new registration and satisfactorily complete all course requirements. If the required course is not offered in subsequent terms, the student should speak with the faculty advisor or Program Coordinator about their options for fulfilling the degree requirement. Doctoral students with six or more credits with grades of Incomplete included on their program of study will not be allowed to sit for the certification exam.