**Psychometric Theory I**
**15:291:515**
**Fall Semester, 2011**

Instructor: Scott M. Bilder
Institute for Health, Health Care Policy, and Aging Research
848-932-6896 (voice)
732-932-8592 (fax)
bilder@rci.rutgers.edu

Office Hours: Mondays 2:30 pm. to 4:30 pm.
112 Paterson Street, Room 335
*I'll also be available after our class meetings and by appointment. Feel free to send e-mail or call any time.*

Meeting Details: Classes will meet Mondays from 4:50 to 7:30 pm. in room 115 of Murray Hall, College Avenue Campus. Please bring your textbook and all downloaded slides and handouts to class, including those from previous meetings.

Questions during or outside of class are strongly encouraged.

Prerequisite: Statistical Methods in Education I (15:291:531) or the equivalent.

Texts and Materials: Murphy, Kevin R. & Davidshofer, Charles O. (2005). *Psychological testing: Principles and applications* (6th edition). Englewood Cliffs, NJ: Pearson Prentice Hall.

I'll make additional readings and handouts available throughout the semester.

All reading assignments should be completed by the day indicated in the course outline below.

I have transcribed many of my notes into PowerPoint slides that I'll make available as the semester progresses. You may find it useful to print each week's slides before class and use them for taking notes.

I'll use the online tools at sakai.rutgers.edu to make files available to you and to post notices. Please make it a habit to check the site on a regular basis.

Overview: This course is an overview of the broad field of educational and psychological testing and measurement and is intended to be a survey of important topics and issues in the field for specialists in educational and psychology. The focus of the course is on the psychometric aspects of educational measurement rather than on the details of particular psychological tests. The course topics include interpreting and using test scores, the technical properties of tests, developing and analyzing tests, evaluating the quality of tests, and current and future trends in testing. The educational, social, and political influences of test use will also be discussed. Basic concepts of mathematics and statistics are used throughout the course since some issues in the field are necessarily technical.

Course Outline:

| Date | M&D Chapter(s) | Topic(s) | Evaluation |
|---|---|---|---|
| 9/8 | 1, 2, 3 | Course Introduction; Themes and Issues; Testing and Society; Introduction to the Nomological Network | |
| 9/12 | 4 | Statistical Foundations | |
| 9/19 | 5 | Scales, Transformations, and Norms | |
| 9/26 | 6 | Reliability I | |
| 10/3 | 7 | Reliability II | HW 1 |
| 10/10 | 8 | Validity I | Quiz 1 |
| 10/17 | 9 | Validity II | HW 2 |
| 10/24 | 10 | Item Analysis | Quiz 2 |
| 10/31 | 12 | Item Response Theory | HW 3 |
| 11/7 | 12 | Computerized Testing and Reporting | Quiz 3 |
| 11/14 | 11 | Test Construction | |
| 11/21 | | ***No Class*** | |
| 11/28 | 13, 14, 15 | Ability Testing | HW 4 |
| 12/5 | 18 | Tests and Educational Decisions | Quiz 4 |
| 12/12 | TBA | Additional Topics | Essay |

Attendance: Your attendance at class meetings is very important (and expected), particularly because we'll meet only once per week. We'll learn quite a bit through class discussions, and the homework assignments and quizzes will reflect this. Please bring any necessary planned absences to my attention ahead of time.

Evaluation: Your performance in this course will be evaluated based on four homework assignments, four multiple-choice quizzes, and a take-home essay:

| | |
|---|---|
| Homework assignments: | 1/3 |
| Quizzes: | 1/3 |
| Take-home essay: | 1/3 |

Homework assignments and the take-home essay must be turned in at the beginning of the class meetings at which they are due in order to receive full credit.

Quizzes will take up the first 15 minutes of each class meeting on which they're scheduled.

**Policy on Academic Integrity**

Please refer to the Policy on Academic Integrity for Undergraduate and Graduate Students at http://teachx.rutgers.edu/integrity/policy.html. I will follow this policy without exception.