

Course Syllabus
15:291:515
Psychometric Theory I
Spring 2012

Instructor: Youngsuk Suh

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Office hours: Monday 2:00 - 3:30 PM, or by appointment

Time: Tuesday, 7:40 – 10:20 PM

Place: Room 121, Scott Hall

Text: Murphy, Kevin R., & Davidshofer, Charles O. (2005). *Psychological Testing: Principles and Applications* (Sixth edition).

Recommended:

1. Crocker, L. & Algina, J. (1986). *Introduction to Classical & Modern Test Theory*. NY: Holt, Rinehart, and Winston.
2. Allen, M. J., & Yen, W. M. (2002). *Introduction to Measurement Theory*. Prospect Heights, IL: Waveland Press.
3. Thorndike, R. M. (2005). *Measurement and evaluation in psychology and education*. (7th ed.). Upper Saddle River, NJ: Prentice Hall

Course Description

This course is designed to provide an overview of basic but important topics and issues in educational and psychological testing and measurement. The goals of the course are for you to learn the fundamental concepts, methods, and principles of educational and psychological measurement, so that you can critically evaluate the uses of tests and other educational and psychological assessment procedures. The course topics include principles of educational and psychological measurement, such as scaling, reliability and validity analyses, and item analysis, introduction to Classic Test Theory (CTT), introduction to Item Response Theory (IRT), and test development. Basic statistical knowledge is required throughout the course since some issues in the field are necessarily technical.

Calculator: A calculator that performs basic operations is necessary for homework assignments, class exercises, and exams.

Course Requirements

1. **Exams:** There will be two in-class exams (midterm and final) and two take-home exams. Each exam will be worth 25% of the final grade. The exams may consist of multiple choice items, computations, and short answer/essay questions.
2. **Homework assignments** and in-class work activities will be given throughout the semester.

The answers will be either posted on the course website or discussed during class.

3. **Reading assignments** must be completed prior to each lecture.

4. **Attendance:** Your attendances at the meetings are expected during the semester. Please bring any necessary planned absences to my attention ahead of time.

Grading System

Final letter grade will be assigned as follows:

Final Score	Letter Grade
90% and Above	A
80%-89.99%	B+
75%-79.99%	B
65%-74.99%	C+
60%-64.99%	C
55%-59.99%	D
Below 55%	F

Makeup Assignments

Only in exceptional circumstances and only with **prior** permission from the instructor, or with a verifiable medical excuse, will students be able to take a makeup exam. The student must provide **medical proof** of illness. The student is responsible for notifying the instructor **by the day** of the exam that they cannot attend the exam.

If a student becomes ill (supported with a doctor's note) on the day that a homework assignment is due and the assignment is not complete, then the student will receive credit only for what was attempted. It is the student's responsibility to notify the instructor **before class starts** that they cannot attend class. It is also their responsibility to ensure that the work is handed in that day (by the **start** of class) or that an alternative time is arranged with the instructor. It is important to complete assignments **before** the day that they are due.

Without permission or a medical excuse, the student will receive a zero for the missed homework assignment or exam.

Communication

In this course **e-mail** will be used as a means of communication with students. You will be responsible for checking your e-mail regularly for class work, deadlines, changes and announcements.

Do NOT leave me a phone message in my office because I do NOT check my voicemail regularly. I do, however, check email several times each weekday (on **weekdays** between 9am and 5pm).

Class handouts used by the instructor will be available on Sakai website at **<http://sakai.rutgers.edu>** under ***Psychometric Theory I***. They will be made available by **8am** each day before the class meets.

The handouts provide a skeleton of what is being covered each day and will thus be an **incomplete** version of the material actually covered.

Tentative Class Schedule

Date	Topic	Assigned Readings
Jan. 17	1. Introduction, Test and Measurement, 2. Measuring Psychological attributes	Ch. 1 Ch. 2
Jan. 24	3. Testing and Society, 4. Basic Concepts in Measurement and Statistics	Ch. 3 Ch. 4
Jan. 31	5. Scales, Transformations, and Norms 6. Norm-Referenced Tests and Criterion-Referenced Test Take-Home Exam I (Covers Topics 1 - 6; Due 2/7)	Ch. 5 Handouts
Feb. 7	7. Reliability	Ch. 6
Feb. 14	8. Using and Interpreting Reliability	Ch. 7
Feb. 21	9. Validity of Measurement	Ch. 8
Feb. 28	10. Validity for Decisions	Ch. 9
Mar. 6	Review Session	
Mar. 13	<i>Spring Break</i>	
Mar. 20	Midterm Exam (Covers Topics 7 – 10)	
Mar. 27	11. Test Development; Item Writing, Attitude Scales	Ch. 11, Handouts
Apr. 3	12. Item Analysis, Take-Home Exam II (Covers Topics 11 - 12; Due 4/10)	Ch. 10
Apr. 10	13. Item Response Theory, 14. CAT	Ch.10, Handouts Ch. 12
Apr. 17	15. Ability Testing: Individual and Group Tests	Ch. 13-14
Apr. 24	16. Issues in Ability Testing; Bias and Fairness Review Session	Ch. 15
May. 1	Final Exam (Covers Topics 13 - 16)	

**** Religious holy days** sometimes conflict with class and examination schedules. You must notify your instructor of the issues prior to the classes scheduled on dates you will be absent to observe a religious holy day. If you have to miss an exam due to a religious holy day, it is your responsibility to re-schedule with the professor another time to take the exam. If you will have to miss submission of a homework assignment, due to the observance of a religious holy day, then it is your responsibility to schedule a time with the professor when the assignment will be submitted.