

EPRS9360 (CRN 18215)
Advanced Item Response Theory
Spring 2015

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Office Hours: Please e-mail for an appointment

Course Requirements

Class Schedule: COE 409
Thurs. 4:30-7:00

Texts: van der Linden, W. & Hambleton, R. K. (1997).
Handbook of modern item response theory. New
York: Springer-Verlag New York Inc. (Optional)

Reading list of books and articles will be
provided.

Prerequisite: EPRS9350 (Introduction to Item Response Theory)
or equivalent is required at minimum. However,
students are encouraged to take the following
courses prior to this class: EPRS8550 (Quant
III), EPRS9330 (Advanced Measurement Theory).
Please see the instructor if there is any question
regarding equivalence of courses.

Participation Students are expected to read assigned reading
materials prior to the class and actively
participate in discussion. They are also
expected to present assigned materials.

Grades: This class is considered to be a seminar. The
grade will be based on two components:
1. Class Participation, and
2. Project.
Students are expected to produce an A-quality
project and they will work with the instructor
to achieve the goal. Class participation
includes article presentations and discussions.

Project: The project is a major component of this class.
Due to various needs of students at this advanced
level, the project will be tailor-made to fit
each student's desired outcome. The project

will include but not limited to:

- Preparing a dissertation prospectus
- Preparing a conference proposal or paper
- Conducting a data analysis
- Creating a computer program
- Exploring further topics in IRT

Academic Honesty: Please see the section of the general catalog which describes the university policy on academic honesty. The policy provides descriptions of what violates the policy and of what penalties may be imposed for violations. Departmental policy authorizes professors to assign failing grades for any work which does not meet the standards of academic honesty. Any violation of academic honesty can result in a failing grade in a course.

Note: The last day to withdraw and receive a "W" is March 3, 2015.

Course Description

Extends EPRS9530 (Introduction to Item Response Theory) to differential item functioning, multidimensional models and applications.

Course Rationale

Modern test construction is rapidly becoming an IRT phenomenon and IRT methodologies continue to grow to meet the demand of modern testing situations such as large-scale testing using a variety of testing formats for a diverse population. This course provides students an opportunity to expand the knowledge base acquired in the previous introductory IRT class to the higher level so that they can conduct their own IRT research in practical and current testing situations.

Course Goals

The student will develop an understanding of:

- (1) multidimensional IRT models.
- (2) polytomous IRT models.
- (3) current research in IRT including differential item functioning.

Schedule

Date	Description
1/15	Introduction
1/22	Learning R for IRT
1/29	Measurement Equivalence (Wald, Logistic regression, IRTLR)
2/5	SAS for IRT: Part I. Basics
2/12	Running DFIT (BILOG-MG3, DIFCUT) SAS for IRT: Part II. IML
2/19	Polytomous Data Analysis (IRTPRO, Parscale)
2/26	More IRT
3/5	SAS for IRT: Part III. Macros
3/12	Guest Speaker
3/19	Spring Break - No Class
3/26	Guest Speaker
4/2	Individual Project
4/9	Individual Project
4/16	Project Presentation 1
4/23	Project Presentation 2
4/28	Final Project Due Tue 11:59PM

Note: The course syllabus provides a general plan for the course; deviation may be necessary.