# University of Texas at Austin

# Department of Educational Psychology

# EDP 384—Hierarchical Linear Modeling

| EDP 384—Hierarchical Linear Modeling | |
|---|---|
| Fall 2017 | |
| *Instructor*: Keenan Pituch, Ph.D. | *Meeting Times*: T, TH: 12:30 – 2:00 |
| *Office*:     SZB 538C | *Meeting Rooms*: SZB 432 |
| *Phone*:     (512) 471-0672 | *Office Hours*: M&W: 9:30 to 11:00; other times by appointment |
| | *E-Mail*:     kpituch@austin.utexas.edu |

## I.   Course Description

The course provides an introduction to the basic concepts and applications of hierarchical linear models.  The course will cover applications in organizational analysis (e.g., school effects research), growth curve modeling, and meta-analysis, as well as introduce models for dichotomous outcomes.  The general objective of the course is that students will be able to understand when and why hierarchical linear models should be used and effectively apply them to a wide variety of situations.  During the course, students will be asked to do the following:

□    explain conditions that prompt use of a multilevel analysis,

□    specify an appropriate analysis model given research questions and various study designs,

□    conduct analyses using the HLM software program,

□    interpret analysis results correctly, and

□    communicate analysis results effectively in writing.

During lectures, emphasis will be placed on understanding statistical concepts, specifying analysis models, and interpreting results.  Software instruction will also be provided so that students will learn to use the HLM program to analyze data from multilevel designs.

## II. Textbook

Raudenbush, S. W. and Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

## III. Requirements

1. In-class exam over unit I
2. In-class exam over unit II
3. In-class exam over unit III
4. In-class exam over unit IV

## IV. Grading Scale

The grade you receive for this course will be based on the percent of points you obtain on the four tests, with each assessment comprising 25% of the course grade. The average score on these assessments will be used to determine your course grade based on the lower limits of the following scale:

| | |
|---|---|
| A | 93-100% |
| A- | 90-92% |
| B+ | 87-89% |
| B | 83-86% |
| B- | 80-82% |
| C+ | 77-79% |
| C | 73-76% |
| C- | 70-72% |
| D | 66-69% |
| F | < 66% |

# V. Course Schedule and Policies

## A. Tentative Course Schedule

| Date | Unit | Readings |
|---|---|---|
| August 31 | Introduction | Pituch, Ch. 1; R & B, Ch. 1 |
| September 5, 7 | Basic Concepts | Pituch, Ch. 2; R & B, pp. 38-42, 56-58, 63-64 |
| September 12, 14 | Continued | |
| September 19, 21 | **Test 1 (19th)** and Two Level Models | Ch. 4 |
| September 26, 28 | Two-Level Models | Ch. 4 |
| October 3, 5 | Centering and Use of Software | |
| October 10, 12 | Assumptions | Ch. 9 |
| October 17, 19 | Other Applications | Ch. 5 |
| October 24, 26 | **Test 2 (24th)** Growth Curve Modeling | On-line materials |
| October 31, November 2 | Linear Models and Nonlinear Models | |
| November, 7, 9 | Intensive Longitudinal Models (ILM) | |
| November 14, 16 | ILM and **Test 3 (16th)** | |
| November 21, 23 | Binary outcomes (*Thanksgiving* on 23rd) | On-line materials |
| November 28, 30 | Binary outcomes | Ch. 10, pp. 291-309 |
| December 5, 7 | Binary outcomes and **Test 4 (7th)** | |

## B. Policies

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity and responsibility.  Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.  If they certify your needs, I will work with you to make appropriate arrangements.

A student who misses an examination, work assignment, or other project due to the observance of a religious holy day will be given an opportunity to complete the work missed within a reasonable time after the absence, provided that he or she has properly notified the instructor.  It is the policy of the University of Texas at Austin that the student must notify the instructor at least fourteen days prior to the classes scheduled on dates he or she will be absent to observe a religious holy day.  For religious holy days that fall with the first two weeks of the semester, the notice should be given on the first day of the semester.  The student will not be penalized for these excused absences, but the instructor may appropriately respond if the student fails to complete satisfactorily the missed assignment or examination within a reasonable time after the excused absence.