

## Longitudinal Analysis Workshop Description



### Summer School 'Applied Psychometrics in Education and Psychology'

**Instructor:** Dr. Theodore Walls

**Workshop Title:** Analyzing Periodic and Intensive Longitudinal Data

#### Course Description

The workshop covers three important areas in the analysis of longitudinal data: simulation and programming, longitudinal designs, and methods for the analysis of change. The objective of the course is to ensure that graduate students working on research involving longitudinal data have both the baseline conceptual skills and hands-on experience needed to pursue development of applied models in their work. Modeling frameworks include analysis of difference and change scores, repeated measures ANOVA, cross-lagged regression, time series and the family of random coefficient models, including hierarchical linear models, multi-level models, growth curve models, etc. Recently emerging models focused on intensive longitudinal data are also considered.

#### Software and Prerequisites

The workshop will utilize a range of software packages, such as R, SAS, LISREL, and MPlus. The workshop will be taught as a seminar and will be project-based. Prerequisites include at least one semester of graduate multivariate statistics or the instructor's permission.

#### Learning Objectives

- Understand different longitudinal designs
- Appreciate a range of descriptive and inferential modeling frameworks
- Experience hands-on modeling toward developing baseline competencies
- Gain exposure to advanced modeling of *intensive longitudinal data*, its challenges and opportunities
- Understand and appreciate a literature and community tackling longitudinal data as a field.