FIU | FLORIDA INTERNATIONAL UNIVERSITY

COURSE SYLLABUS
Longitudinal Data Analysis
PSY 5939 / PHC 6056
Spring 2013

PROFESSOR INFORMATION

Instructor:	Dr. Stefany Coxe	**Phone:**	(305) 348-1827
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COURSE DESCRIPTION

This course covers topics related to statistical analysis of longitudinal data, focusing on methods used in the social sciences and health research. Topics include repeated measures ANOVA, ANCOVA, mediation, multilevel modeling of longitudinal data, and latent growth modeling. You will be analyze, interpret, and write up results using these methods.

STATISTICAL BACKGROUND

We will cover a variety of topics in this course, but all of them build on a basic ANOVA and regression (general linear model) framework; you should have taken a graduate level course that covers ANOVA and regression in some detail. I do not expect you to have taken SEM or other advanced courses.

SOFTWARE

We will use SPSS / SAS the first part of the course. I expect you to be able to use one of these software packages (e.g., open datasets, transform variables, conduct simple analyses, etc.). I will teach specific procedures for this course.

We will use Mplus for latent growth models. I do not expect you to know anything about Mplus; I will cover everything you need to know about Mplus for this course.

BLACKBOARD

Course materials (such as lecture notes, computer code, and assignments) will be posted on Blackboard. You should print out lecture notes and other materials and bring them to class.

GRADING

COURSE REQUIREMENTS	Tentative due date	WEIGHT
2 wave data homework	January 28	15%
3 wave / mediation homework	February 11	15%
Multilevel modeling homework	February 25	15%
Growth modeling homework	March 18	15%
Final project on growth models	April 22	30%
Project presentation	April 8 & 15	10%
Total		**100%**

Letter Grade

Range	Letter Grade
A	>= 90
B	>= 80
C	>= 70
D	>= 60
F	< 60

HOMEWORK

Run some analyses, make some decisions, briefly present the results in tables/figures and text. One assignment for each major topic we cover.

FINAL PROJECT

This project should involve your own data and research questions. This will culminate in a short paper of the same form as a journal article – introduction, method, results, and discussion.
Intermediate deadlines for the final project include initial idea for project (very rough, including an actual dataset to be used – due February 25) and complete proposal (~1 page describing the dataset and the basic questions you are interested in – due March 18).

PRESENTATION

A short presentation about your final project. Though your paper should be nearly complete at this point, this should help you organize your thoughts. It will also be helpful for everyone to hear what sort of research other students are involved in.

Tentative Schedule of Classes

Date	Topics
Jan 7	Introduction, Regression review, SEM review, Longitudinal data issues / research ?s
Jan 14	Repeated measures ANOVA, ANCOVA / lagged regression, Difference scores
Jan 21	HOLIDAY – NO CLASS
Jan 28	Statistical mediation, Applications to interventions and design, Statistical tests
Feb 4	Longitudinal mediation – special issues, Multilevel models of change
Feb 11	Interpretation of multilevel models, Predictors of change, Model fit, Shortcomings
Feb 18	Mplus introduction, Latent growth models introduction
Feb 25	Shape of growth, Variance options, Model fit, Predictors of growth
Mar 4	Growth as a predictor, Time varying predictors, Missing data & planned missingness
Mar 11	SPRING BREAK – NO CLASS
Mar 18	Growth models code in Mplus, Growth models interpretation and writing
Mar 25	Growth mixture models
Apr 1	Intensive longitudinal designs
Apr 8	Presentations
Apr 15	Presentations
Apr22	FINALS WEEK – NO CLASS