

## Advanced Statistics

(2 credit PhD level class – open to MA students with permission)

by Levente (Levi) Littvay

Time of Class: Fridays at 11:00 to 3:10 (with lunch break) Course start February 20.

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Office Hours: Tuesday 3:15-4:00 or at an agreed time.

(Appointment is always required 24 hours before meeting. Email me or call me.)

### Course Description:

This course is specifically designed to deal with research problems scholars have in their own research. It extends current knowledge to deal with the specific problems they face in their theses and dissertations. Since many students come to me with statistical problems I have a good idea about the types of analytical issues encountered at the CEU. There are reoccurring themes. The course will be discussing these and specifically applying them to Your research. (Actually, you will be applying them to your research.) Common problems include issues encountered in comparative research such as non-independent observations, autocorrelation, time-series data, cross-national surveys, etc. but we can also address issues related to concept formation (construct validity with confirmatory factoring), unusual dependent and independent variables (nominal, ordinal, count, etc.), non-parametric statistics and missing data. The pace and content of the course will solely depend on the demands of the participants; research agenda.

### Enrollment requirement:

Permission (talk to the instructor before you enroll). Course is open to MA students who completed Multivariate Statistics I and are enrolled in Multivariate Statistics II. Audit of Multivariate Statistics is highly recommended for interested PhD students (unless they completed it in semesters prior or had equivalent training).

### Course Assessment:

20% Participation

80% Final Paper

Final grade is conditioned on the submission of the final paper to a ranked journal for publication.

### Course Outline:

Introduction of Advanced Statistical Topics (3-4 weeks)

Application of Advanced Statistics Topics

### Learning outcome:

In the first 3-4 weeks participants of this course will gain general knowledge on the statistical procedures commonly used in the social sciences. Upon completion of the 3-4 weeks student should have a wide array of knowledge on applicable statistical procedures that (at the minimum) should help them with appropriate model selection for specific research projects. This is helpful as the most difficult step in seeking out the appropriate models for specific studies is the selection of the appropriate model. Once this step is tackled, reading up on and applying any specific method is a strait forward procedure. In the rest of the course we will work towards finding appropriate statistical models for research questions brought by the participants of the class and we will be workshopping the application of these procedures and applying them to the specific research projects. Upon completion of the course participants should know how to specifically apply the topics selected for in depth workshopping.