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שיטות מחקר התנהגותיות בניהול – שיטות מתקדמות ברגרסיה
Behavioral Research Methods in Management – Advanced Regression

Course Section Details

Day	Hour	Lecturer	Email	Office
ג Tuesday	15:45-18:30	פרופ' עופר מינץ Prof. Ofer Mintz	ofermintz@tauex.tau.ac.il	2072

Teaching Assistant (TA): Dr. Einat Yaor (עינת יאור)
Email: einatyaor@gmail.com

Office Hours for Lecturer and TA: By appointment

Course Units
2 course unit (16 ECTS units)

Course Description
Statistically analyzing data is a core requirement for any business or academic. This course provides an introduction for how students should analyze empirical data, focusing on cross-sectional data. Lectures will be split into three parts: (i) theoretical and statistical overview of each model, (ii) class discussion on real-world cases and academic papers when those models are used, and (iii) running the models using statistical software. Software requirements: R (for free). Software recommendations: STATA (STATA is much easier to use for many of the models, but we will also use R since it is for free). Further, it is recommended to bring your laptops to the lecture so you can apply the statistical method while we discuss it.

Course Objectives

Upon completion of the course, the student will be able to:

1. Identify the appropriate statistical model with which to test a hypothesis or model.
2. Analyze the data using different statistical models
3. Interpret the results of different statistical models

Evaluation and Composition of Grade

Percentage	Assignment	Due Date	Group Size/Comments
10%	Class participation		Individual
30%	Mini class assignments	Throughout semester	Individual
60%	Final project – statistical analysis and report	31.6.2023	2 students

NOTE: NO FINAL EXAM

Students must attend ALL classes. Those absent from class without receiving permission in advance from one of the instructors may be removed from the course at the discretion of the instructors. (Students remain financially liable for the course even if they are removed.)

Course Assignments

Final Project Report: Design a thorough statistical analysis on a dataset that forces you to apply multiple statistical models taught in this course and then write a report summarizing your efforts.

The project report will require students to describe the hypothesis/es you are testing including a brief literature review and rationale, detail the various analysis and results you conducted, provide a brief discussion of the results, and describe some limitations and potential additional methods needed to further test the data. The report should be no longer than 10 pages (double-spaced, 12-point font), but reference a minimum of three scholarly articles.

Mini-class assignments: students will be responsible for submitting mini-assignments throughout the semester. These assignments include (i) THREE homework assignments that will be reports that include code and analysis and (ii) leading discussions about a student-selected paper that employs the statistical method we are discussing this week. The number discussion students are expected to lead will be for 2-3 papers, but will be dependent on the number of students in the class.

Grading Policy

In the 2008/9 academic year the Faculty instituted a grading policy for all graduate level courses that aims to maintain a certain level of the final course grade. Accordingly, the final

average grade for this course (which is a core course) will be in the range 78-82%. Additional information regarding this policy can be found on the Faculty website.

Evaluation of the Course by Student

Following completion of the course students will participate in a teaching survey to evaluate the instructor and the course, to provide feedback for the benefit of the students, the teachers and the university.

Course Site (Moodle)

The course site will be the primary tool to communicate messages and material to students. You should check the course site regularly for information on classes, assignments and exams, at the end of the course as well. Course material will be available on the course site. Please note that topics that are not covered in the course material but are discussed in class are considered integral to the course and may be tested in examinations.

Course Readings

Every week (except for the first week), students will be assigned at least one academic article or managerial report to read that involves the statistical model we discuss for the week. These readings and the links to access the articles will be provided closer to due date.

Further, as part of their mini-class assignments, students will be responsible for finding an article and leading a discussion on how the paper employs the statistical method we are discussing this week. The number of weeks students will be responsible for this task will depend on the class size, but is expected to be on 2-3 occasions.

Optional textbooks

Hair, Joseph F., William C. Black, Barry J. Babin, and Rolph E. Anderson (2018), *Multivariate Data Analysis*, 8th edition, Cengage Learning EMEA.
--- Better for first half of the semester

Wooldridge, Jeffrey M. (2019), *Introductory Econometrics: A Modern Approach*, 7th edition, Cengage Learning EMEA.
--- Better for second half of the semester

Chapman, Chris, and Elea McDonnell Feit (2019), *R for Marketing Research and Analytics*, 2nd edition, Springer.
--- Good for those wanting to use R, but a bit more complex and will require some knowledge of R before the semester

Course Outline*

Week	Date	Topic(s)	Assignments DUE
1	28.2	Course overview: Introduction and overview of different types of data, data challenges, and statistical methods	
2	7.3	No class: Purim	
3	14.3	Exploratory models 1: Correlations, PCA, and CFA	
4	21.3	Exploratory models 2: Factor and Cluster Analyses	
5	28.3	Continuous dependent variable models 1: ANOVA and MANOVA models	HW1 on exploratory models
6	4.4	Review session	
7	11.4	No class: Pesach	
8	18.4	Continuous dependent variable models 2: Regression models, focusing on main effects, understanding coefficients, and reading slopes	
9	25.4	No class: Yom Hazikaron	
10	2.5	Continuous dependent variable models 3: Continue on regression models, focusing on interaction and polynomial terms	
11	9.5	Continuous dependent variable models 4: Continue on regression models, focusing on diagnostics and overcoming challenges with regression models	HW2 on regression models
12	16.5	Binary dependent variable models: Logit and Probit models	
13	23.5	Choice and rank dependent variable models: Ordinal models and Multivariate Logit and Probit models	
14	30.5	Count and censored dependent variable models: Poisson, Negative Binomial, Tobit, and Hazard models	
15	6.6	Challenges with empirical models 1: Endogeneity and mediation methods, focusing on 2SLS and SUR models	
16	13.6	Challenges with empirical models 2 and REVIEW SESSION: Advanced endogeneity methods, focusing on latent instrumental variables, control function approach, and copulas models	HW3 on additional models
Final Project	31.6	**Projects due**	

*Subject to change