Executive MBA
Fall 2021
MGMT 900 – Business Research and Statistics

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Location (Time): Altunizade Campus (Monday to Thursday) and
Exam Location (Time): TBA
Zoom Link: TBA

Course Overview and Objectives

One of the success factors in professional life is the ability to understand, describe, and analyze data and make decisions based on the analysis. The main objective of this course is to provide a basic understanding of important statistical concepts and tools that can be used to assist with problems arising in various business settings.

This course will help you

- Present data in a clear and meaningful way,
- Understand basic descriptive and inferential statistics,
- Learn about the statistical models of causality,
- Derive sound conclusions and make better decisions based on data and analyses,
- Identify dubious data, analyses, and conclusions, and
- Develop "Fermi" estimates

We focus on applications of statistics in many business functions such as finance, marketing, human resources, and operations. We study through small cases some of which rely on real or *real-like* data sets. Although we review mathematical concepts and tools for building theory, we rely on examples and practical exercises to strengthen our understanding of tools. We will also utilize computer based analyses, using mainly Excel spreadsheets. Each class will be a mix of lecture and discussion of mini-cases and exercises. We will utilize some basic functions of Excel. Finally, we will discuss how statistics is misused by various groups that have stake in the outcome of conclusions in social as well as in business settings. You are advised (but not required) to bring computers for in-class software practice and examples.

Course Material (distributed as a course pack):

- Class notes/slides
- "MBA Fundamentals: Statistics" by Paul W. Thurman (the main textbook)
- Courses will also be recorded and made available for subsequent viewing
- Papers to be provided.

Future Reading Material:

Linear regression supplements:

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For nontechnical and "managerial" introduction to topics, our textbook "MBA Essentials: Statistics" is a great one with its simple language.

I also recommend the following webpage

https://www.restore.ac.uk/srme/www/fac/soc/wie/research-new/srme/

which contains quite informative chapters on regression

I can also recommend the following articles for further topics

Regression Analysis, by Bernd Skiera, Jochen Reiner, and Sönke Albers (in the Coursepack)

Interpreting Multiple Linear Regression: A Guidebook of Variable Importance, by Nathans, Oswald, Nimon (in the Coursepack)

Popular Statistics Books:

Levitt, Steven D. and Stephen Dubner, "Freakonomics: A Rogue Economist Explores the Hidden Side of Everything", Harper Prennial, 2009.

Taleb, Nassim "Fooled by Randomness: The Hidden Role of Chance in the Markets and in Life" Texere, New York, NY, 2001.

Whelan, Charles, "Naked Statistics: Stripping the Dread from Data", W. W. Norton & Company, 2014.

Estimation:

Hubbard, Douglas W. "How to Measure Anything: Finding the Values of "Intangibles" in Business", Wiley, Hoboken, NJ, 2010.

Santos, Aaron. "How many Licks: Or how to estimate damn near anything?", Running Press, Philadelphia, PA, 2009.

Weinstein, L. and John A. Adam "Guesstimation: Solving the World's Problems on the Back of a Cocktail Napkin", Princeton University Press, Princeton, NJ, 2008.

Weinstein, L. "Guesstimation 2.0: Solving the World's Problems on the Back of a Napkin", Priceton University Press, Princeton, NJ, 2012.

Misuse of Statistics and Visuals:

Best, Joel "Damned Lies and Statistics: Untangling Numbers from the Media, Politicians, and Activists" University of California Press, Berkeley, CA, 2001.

Huff, D. "How to Lie with Statistics" WW Norton, 1993 (revised edition, originally 1954).

Tufte, Edward "The Visual Display of Quantitative Information" 2nd ed. Graphic Press, Chesire, CT, 2001. [Also check out http://www.edwardtufte.com]

Grading*:

Attendance (Individual)	10%
Assignments (Group)	20%
Project (Group)	20%
Final exam (Individual)	50%

*In case a grade item (except Attendance) is not completed, the percentage will be moved to the Final Exam. Make sure to write your name to the sign in sheet. Those who attend online will be recorded via zoom meetings.

Group assignments: Contain small (or large) problem sets that need to be solved during the classes. Some will be open ended and the purpose of the assignments is to help you for initiation for the basic material that will be covered in the course and practice for the exam. The assignments will be completed and submitted as a group.

Project: Each group will prepare a very short presentation (10 minutes) on an application of the statistical methods in business problems. Further guidelines will be provided during the course. Important: Make sure you start reading the assigned papers beforehand.

Exam: The exam will contain mainly problem solving and essay type questions. It will be held in-class with closed books and notes. A formula sheet will be provided in the exam. The exam location and time will be determined after further consultations. The alternatives are: Oct 15, 16, and 17. The most likely location is Tuzla Campus.

Course Schedule: This schedule is subject to change. The actual material covered will be dictated by the progress and interest in the class.

Day 1	**Date/Time:**	**Monday, 9:00 – 16:00**
	Topics:	Fermi Estimation Sampling Descriptive Statistics
	Readings:	Chapter 1 from "MBA Fundamentals Statistics" Additional Material in the Course-pack
Day 2	**Date/Time:**	**Tuesday, 9:00 – 16:00**

	Topic:	Introduction to Distributions Estimating Population Mean
	Reading:	Chapters 3, 4, 5, 6 from "MBA Fundamentals Statistics"
Day 3	**Date/Time:**	**Wednesday, 9:00 – 16:00**
	Topic:	Introduction to Regression Multiple Regression
	Readings:	Chapters 9 and 10 from "MBA Fundamentals Statistics"
Day 4	**Date/Time:**	**Thursday, 9:00 – 13:00* Subject to change**
	Topic:	Project presentation Exam recitation
	Readings:	Material in the Course-pack
FINAL EXAM	**Date/Time:** **Location:**	**TBA**