



## **Course Title: STATISTICS FOR MANAGERS**

**Course Number: 098740**

**Number of credit points: 2**

Mini-Semester: 1 of the Academic Year: 2020 - 2021

Time: Friday 9:00 - 12:30

**Course Instructor: Dr. Nadia Bordo**

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Meeting times for students: by appointment

### **Syllabus:**

#### **Course Background:**

Statistical analyses are needed in various fields: management, medicine, psychology, sociology. In everyday life we encounter interesting questions that require statistical analysis. Few examples are: understanding poles that are reported in the media, or understanding the meaning of a relationship found between air pollution and ER visits due to respiratory problems. Managers also deal with statistical issues in the process of decision making, for example predicting customer loyalty based on advertising, price and quality. In this course we will introduce some of the basic statistical methods, we will clarify concepts such as "statistical error", "sampling error", "bias", and stress how to avoid wrong interpretations.

#### **Course Content & Scope:**

Types of data, descriptive statistics, principles of statistical inference, inference on proportions and means of normal variables, analysis of variance, linear regression, multivariate regression.

#### **Teaching Methods:**

Lectures, discussions, recitations, home assignments.

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### **Readings (Recommended):**

1. שיטות בסיסיות בסטטיסטיקה ויישומיהן, מאת אילה כהן, הוצאת מכלול.
2. Herkenhoff, L. and Fogli, J. Applied Statistics for Business and Management using Microsoft Excel. Springer New York, 2013.
3. Groebner, D., F., Shannon, P., W., Fry, P., C. and Smith, K. D. Business statistics, 8<sup>th</sup> Edition. Prentice Hall, 2008.
4. Fraser, C. Business Statistics for Competitive Advantage with Excel 2013. 3rd ed. Springer New York, 2013.

### **Student Assessment:**

Weekly team assignments are to be submitted via Moodle.

The final grade will be determined as follows: Final exam 85%, Homework 15%.

### **Course Plan**

Descriptive Statistics and Summary Statistics – measures of central tendency and variability, graphical ways of presenting data.

The normal distribution. Sampling distribution of the mean.

Inference on one mean – z test and t test for the mean of one population, confidence interval for the mean.

Inference on two means – tests of hypotheses on two means and confidence intervals on two means.

Inference on proportions – tests of hypotheses and confidence intervals for the proportions of one and two populations. Chi square tests for independence.

One-Way Anova – comparing several independent means.

Two-Way Anova – extension of one-way Anova to include the effect of two independent variables.

Linear regression, correlation and inference on linear regression.

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*This is a general topics schedule, minor changes may occur from week to week subject to course progress.*

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