

## Introduction to Statistics

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Teaching assistants:

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Week	Subjects
1	Introduction – population, sample, variable, correlation, causality, research designs
2-3	Scales of measurement, transformations, aggregated scores, tables, charts, shapes of distributions
4-5	Sigma laws, central tendency indices: mean, median, mode, mid-range; effect of transformations
6-7	Dispersions indices: range, inter-quartiles range, variance, standard deviation; effect of transformations
8	Relative position measures: percentiles, Z score
9	The normal distribution
10-12	Correlation coefficients: Cramer, Spearman, Pearson; the effect of linear transformations
13	Summary: descriptive statistics
<b>Semester B</b>	
1-2	Sampling methods, the sampling distribution, random sample, central limit theorem
3-5	Hypothesis testing (one-tailed and two-tailed), type I & type II errors ( $\alpha, \beta$ ), power, effect size, a priori and a posteriori alpha, one sample Z test
6-7	One sample T test; biased (S) and unbiased estimation ( $\bar{x}$ $\hat{S}$ )
8-10	Independent and dependent samples t-test
11-12	One-way Analysis of Variance (ANOVA), Post-hoc tests
13	Summary: inferential statistics

Semester B	SPSS
1	Introduction to SPSS
2	Compute
3	Recode
4	If
5	Frequencies and Descriptives
6	Split file, Select cases
7	One sample t
8	Independent samples t
9	Paired samples t
10	Summary: t tests
11	Correlations
12	ANOVA
13	Summary

### Quizzes:

Quiz no:	Semester	Week	Date
1	A	6	7.12.2011
2	A	8	21.12.2011
3	A	10	4.1.2012
4	B	4	27.3.2012
5	B	7	1.5.2012
6	B	11	29.5.2012

### Final score:

10% (5×2%) - Mandatory attendance in recitations and lectures (at least 10 out of 13, each semester)

10% (3% Semester A+ 4% Semester B + 3% SPSS) - Weekly homework assignments: passing grade on at least 9 out of 12 assignments (each semester).

15% - Six quizzes (3 each semester). The quiz grade will be calculated as the average of the top 5 grades.

20% - Semester A exam.

20% - SPSS exam (semester B).

25% - Semester B final exam.

**Recommended Reading:**

Gravetter, F.J., & Wallnau, L.B. (2008). *Statistics for the Behavioral Sciences* (7th edition). Wadsworth, Thomson Learning.

Field, A. (2009). *Discovering Statistics Using SPSS* (third edition). London: Sage publications.

Disturbing the class by making noise or other disruptions *will not be tolerated*. It is an infringement of the rights of other students to learn, and a disciplinary offense at IDC Herzliya. The lecturer will instruct disrupting parties to leave the classroom immediately. A second offence will automatically be brought before the IDC Disciplinary Board, with significant academic consequences.