

Syllabus

STATISTICAL THINKING IN PSYCHOLOGY - 51102

Last update 06-09-2016

<u>HU Credits:</u> 6

Responsible Department: psychology

<u>Academic year:</u> 0

<u>Semester:</u> Yearly

Teaching Languages: Hebrew

<u>Campus:</u> Mt. Scopus

Course/Module Coordinator: Yoni Pertzov, PhD

Coordinator Email: pertzov@gmail.com

<u>Coordinator Office Hours:</u> First Semester Sunday, 13:00-14:00. Second Semester Sunday, 10:30-11:15

<u>Teaching Staff:</u> Dr. Yoni Pertzov Ms. Haggar Cohen Mr. Itzhcak Fradkin Ms. *Mr. Asher Strauss Ms. oryah lancry Mr.*

Course/Module description:

The course focuses on statistical ideas and reasoning, describing research data and Laying the foundations for statistical modeling.

Course/Module aims:

To introduce to the students ideas and analysis tools from statistical theory, probability and statistical inference.

Learning outcomes - On successful completion of this module, students should be able to:

1.Describe distributions with numbers.

- 2.Display distributions with Graphs.
- 3.Outline the empirical reality that is portrayed from the data.
- 4. Describe relationships: scatterplots and Correlation.
- 5.Build probability models.
- 6.Calculate sampling distributions.
- 7. Estimate population parameters.
- 8.Perform inference from sample to population

Attendance requirements(%):

Teaching arrangement and method of instruction: 1.Lectures 2.Practice sessions. 3.Practice Questions

Course/Module Content:

A) Introduction to statistics

a. Measurement scales, presentation methods and distributions

b. Measures of central tendency and dispersion.

c. Standardized Scores, Percentiles and Percentile Ranks. Joint distribution: Scatter plot and correlation

B) Probability theory

a. Simple experiments. Sample space. Statistical events.

b. Probabilities of events and joint events. c. Conditional probabilities. Independence of events. Sequences of events. d. Bays formula C) Inference statistics a. Sampling Distribution. The Normal Distribution. b. Statistical inference and Inference by confidence intervals. c. Hypothesis testing. d. Critical perspective on significance tests. e. T tests Distribution. 7. Joint distribution: Scatter plot and correlation. Probability 8.Simple experiments. 9.Sample space. 10.Events. 11.Probabilities. 12.Conditional probabilities. 13.Independence of events. 14.Sequences of events. 15. Bernuili Trials 16.The Binomial Distribution. 17. The Distribution of a Random variable 18.Sampling Distribution. 19.Significance tests 20.Hypothesis testing 21.Confidence intervals

Required Reading:

<u>Additional Reading Material:</u> Hays, W.L. (1981) statistics (4th ed) New-York: holt, Rinehart & Winston.

Course/Module evaluation: End of year written/oral examination 80 % Presentation 0 % Participation in Tutorials 0 % Project work 0 % Assignments 20 % Reports 0 % Research project 0 % Quizzes 0 % Other 0 % Additional information: