



## *The Hebrew University of Jerusalem*

### *Syllabus*

# **EXPERIMENTAL DESIGN AND STATISTICAL ANALYSES - 73954**

*Last update 09-02-2014*

*HU Credits:* 4

*Degree/Cycle:* 2nd degree (Master)

*Responsible Department:* Nutritional Sciences - International Prog.

*Academic year:* 2

*Semester:* 1st Semester

*Teaching Languages:* English

*Campus:* Rehovot

*Course/Module Coordinator:* dr. Dan Ramon

*Coordinator Email:* [dnrmon@gmail.com](mailto:dnrmon@gmail.com)

*Coordinator Office Hours:* by appointment

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Teaching Staff:

Dr. Dan Ramon,  
Dr. hadas Don

Course/Module description:

Students will be taught a scientific approach to basic statistics and specific methods relevant to their field of study. The course will include experimental design, and analyzing and evaluation of statistics used in research.

Course/Module aims:

- To establish basic statistics skills for research students.
- To present basic concepts of ethics in statistics.
- To promote critical thinking in statistics.

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

- Apply statistical inference in their research field.
  - Use the basic principles of statistics.
- Analyze data with statistics tools

Attendance requirements(%):

Optional

Teaching arrangement and method of instruction: Frontal lectures and practical exercises.

Course/Module Content:

Brief review of statistical concepts  
Summary and presentation of numerical variables  
One sample t-test  
Paired sample t-test  
Two-sample t-tests  
One way analysis of variance  
Pair wise comparisons (Tukey-Kramer HSD, Fisher LSD)  
Two way analysis of variance  
Repeated measures analysis  
A brief review of more complex experimental designs  
Correlation coefficients

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*Simple linear regression*  
*Multiple linear regression*  
*Analysis of covariance*  
*Summary and presentation of categorical variables*  
*Analysis of contingency tables*

*Required Reading:*

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*Additional Reading Material:*

*Sokal RR & Rohlf FJ. Biometry: The Principles and Practices of Statistics in Biological Research, 3rd Edition, 1994.*

*Grading Scheme:*

*Additional information:*

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