האוניברסיטה העברית בירושלים THE HEBREW UNIVERSITY OF JERUSALEM



The Hebrew University of Jerusalem

Syllabus

SELECTED CHAPTERS IN ADVANCED ORGANIC CHEMISTRY - 69633

Last update 04-01-2014

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Chemistry

<u>Academic year:</u> 1

Semester: 2nd Semester

Teaching Languages: Hebrew

<u>Campus:</u> E. Safra

Course/Module Coordinator: Dr. Raed Abu-Reziq

Coordinator Email: Raed.Abu-Reziq@mail.huji.ac.il

Coordinator Office Hours: Thursday 12:00-13:00

<u> Teaching Staff:</u>

Dr. Raed Abu-Reziq

Course/Module description:

Basic principles of organic synthesis. Modern methods in organic synthesis. Asymmetric synthesis. The use of organometallic compounds in organic synthesis.

Course/Module aims:

The course focuses on study the principles of organic synthesis and asymmetric synthesis.

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

- To develop skills in designing synthetic routes for complex organic molecules.
- To describe stereoselective organic reactions.
- To explain asymmetric organic reactions.
- To describe modern synthetic methods.

Attendance requirements(%):

Attendance is not obligatory

Teaching arrangement and method of instruction: Lecture

Course/Module Content:

Design of organic synthesis, retro-synthetic analysis, chemoselectivity, regionselectivity, stereoselectivity, protecting groups, multicomponent reactions, domino reactions, microwave synthesis, green solvents like water and ionic liquids, heterogenization of organic reagents, asymmetric synthesis, organometallic compounds in organic synthesis.

Required Reading:

1. Organic Chemistry, 2nd edition by J. Clayden, N. Greevs and S. Warren, Oxford University Press, 2012.

- 2. Advanced Organic Chemistry, Part B: Reactions and Synthesis, 5th edition by F.
- A. Carey and R. J. Sundberg, 2008.
- 3. Organic Synthesis: Strategy and Control, P. Wyatt and S. Warren, 2007.

Additional Reading Material:

<u>Course/Module evaluation:</u> End of year written/oral examination 100 % Presentation 0 % Participation in Tutorials 0 % Project work 0 % Assignments 0 % Reports 0 % Research project 0 % Quizzes 0 % Other 0 %

Additional information: