

**Name of the module: Organic Chemistry 1<sup>th</sup> year Medicine**

**Number of module 0.471.8.1003**

BGU Credits: 4.0

ECTS credits:

Academic year: 1<sup>st</sup> year medicine

Semester: First semester

Hours of instruction: twice a week

Lectures 40 hours

Practicing 20 hours

Location of instruction: twice a week lectures will take place in the Deichmann Building for Health Professions.

Specific classroom numbers are indicated in the schedule.

Language of instruction: Lectures will be given in Hebrew.

Cycle: MD

Position: Obligatory module intended for 1<sup>st</sup> year medical students, as part of their basic teaching.

Field of Education: Chemistry.

Responsible department: Clinical Biochemistry and Pharmacology.

General prerequisites: General Chemistry.

Grading scale: Successful passing of multiple-choice and open questions examination with a score of 65 or higher.

Course Description:

Aims of the module: The goal of the Organic Chemistry module is to introduce and teach basic principles in organic chemistry.

Objectives of the module: Objectives are to enable students to classify functional groups and to have basic understanding of organic chemistry (nomenclature, reactions, properties etc.).

Learning outcomes of the module: On successful completion of the course, the student should be able to classify and recognize the following functional groups from different aspects:

- Alkenes - conformational analysis, structural isomerism and nomenclature, alkyl groups.
- Alkenes- structure and bonding, nomenclature, E-Z notation, hydrogenation, relative stabilities. Alkynes- structure and bonding, relative stabilities, double and triple bonds in rings. Reactions.
- Stereochemistry- chirality, enantiomerism, R-S notation, diastereomerism, optical resolution.
- Ring systems- strain, stereochemistry of cyclohexane, conformational analysis of cyclohexane and its substituted derivatives.
- Resonance and aromatic system: Nomenclature, reactions and physicochemical properties.
- Alkyl halides, substitution reactions of alkyl halides- SN 2 and SN 1 mechanisms. Elimination reactions- E1 and E2 mechanisms.
- Nomenclature, reactions, physicochemical properties etc., of alcohols, phenols, carbonyls, sulfur groups, carboxylic acids and amines.

Attendance regulation: Attendance to the oral lectures is obligatory.

Teaching arrangement and method of instruction: Instruction in the module is based on frontal oral lectures, frontal training, workbook exercises and molecular 3D models. Mid-term Exams and final exam.

Lecturers: Dr. Shimon Ben-Shabat  
and Dr. Orna Almog

Contact details:

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Module evaluation: at the end of the semester the students will evaluate the module, in order to draw conclusions, and for the university's internal needs

Confirmation: 2012-13 (academic year)

Last update: 2016

Assessment:

Students will be assessed in the module only by passing exam with a score of 65 or higher.

Work and assignments: Students are required to take active part in the training meetings, and solve the workbook exercises at home.

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:

Students are required to study and review the lectures at home.

Module Content\ schedule and outlines: the content and structure of the module, including detailed subjects, and their order.

Required reading: Students are expected to read the lectures as presented as ppt presentations in Highlearn. In addition they should go over the workbook exercises and if necessary to read the relevant chapter in the chemistry book for the next lecture.

Additional literature:

1. "Organic Chemistry", R.J. Fessenden & J.S. Fessenden.
2. "Organic Chemistry", R.T. Morrison and R.N. Boyd.

\*All learning material will be available to the students on the module's website (high-learn)/ library/ electronic documents available to BGU students

