



# *The Hebrew University of Jerusalem*

## *Syllabus*

### *General Chemistry For Medicine & Dentistry Stu. - 69134*

*Last update 31-10-2024*

*HU Credits: 4.5*

*Degree/Cycle: 1st degree (Bachelor)*

*Responsible Department: Chemistry*

*Academic year: 0*

*Semester: 1st Semester*

*Teaching Languages: Hebrew*

*Campus: E. Safra*

*Course/Module Coordinator: Moran Frenkel-Pinter*

*Coordinator Email: [moran.fp@mail.huji.ac.il](mailto:moran.fp@mail.huji.ac.il)*

*Coordinator Office Hours: By request*

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Teaching Staff:

Dr. Moran Frenkel-Pinter,  
Ms. Tehila Matas,  
Ms. Roni Cohen,  
Mr. Or Cohen

Course/Module description:

The course will deal with basic concepts in Chemistry: from atoms to molecules to chemical reactions.

Course/Module aims:

A general introduction to basic concepts in chemistry that would allow to-be physicists to communicate with chemists.

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

1. Understand basic concepts in Chemistry.
2. Describe the atomic structure and the chemical bonding in molecules.
3. To identify and classify chemical reactions.

Attendance requirements(%):

None

Teaching arrangement and method of instruction: Lectures and Exercises

Course/Module Content:

1. Introduction, basic concepts, orders of magnitude, measuring units and units conversion.
2. Atomic structure, atomic orbitals, electronic configurations, isotopes.
3. Periodic table of elements and its characteristics.
4. The chemical bond, Lewis structures, ionic bonding, Covalent bonding.
5. Molecules, organic molecules, functional groups, polymers.
6. Stoichiometry, The mole concept, Writing and balancing chemical equations, the

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*limiting factor, concentration in solution.*

*7. Chemical equilibrium, Le Chatelier principle.*

*8. titrations, chemical reactions in solution.*

*9. Oxidation reduction reactions.*

*10. States of matter and intermolecular forces.*

*Required Reading:*

*Please make sure to have a periodic table of the type Sargent Welch*

*Knowledge in logarithms rules is mandatory*

*Additional Reading Material:*

*General Chemistry / Hill & Pettrucci, 4 th Ed., Pearson Prentice Hall, 2005*

*Chemical Principles The Quest for Insight/Atkins and Jones, 4th edition, 2008*

*Grading Scheme:*

*Written Exam % 85*

*Mid-terms exams 15 %*

*Additional information:*