

**PHYSICAL CHEMISTRY I
2016-2017**

Bachelor Degree:	Chemistry	702G
Course title:	Physical Chemistry I	427
Year/Semester:	Second/annual	ECTS Credits: 12

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CONTENTS

UNIT1. Fundamental concepts in Chemical Thermodynamics
 UNIT2. Phase equilibria in one-component systems
 UNIT3. Thermodynamics of non-electrolyte solutions
 UNIT4. Thermodynamics of chemical equilibrium
 UNIT5. The basics of Quantum Mechanics
 UNIT6. Quantum Mechanics of some simple systems
 UNIT7. Angular momentum
 UNIT8. Hydrogen atom and hydrogen-like atoms
 UNIT9. Approximate methods in Quantum Mechanics
 UNIT10. Polyelectronic atoms
 UNIT11. The chemical bonding and molecular structure
 UNIT12. Fundamental concepts in Statistical Thermodynamics

LABORATORY PRACTICE AND CLASSROOM COMPUTERS

Experimentation in Chemical Thermodynamics
 Using Computational Chemistry for the study of molecular and simple biomolecular systems

REFERENCES

Title
Physical chemistry, Peter Atkins and Julio de Paula
Physical chemistry, Ira N. Levine
Physical chemistry: thermodynamics, Horia Metiu.
Quantum chemistry, Ira N. Levine
Statistical mechanics : a concise introduction for chemists, B. Widom

EVALUATION SYSTEM

Written exam – 70 %
Laboratory reports – 10%
Computational laboratory reports – 10%
Attitude evaluation– 10%