

Title Chemistry (Chemia)	Code 1010401111010710603
Field EDUCATION IN TECHNOLOGY AND INFORMATICS	Year / Semester 1 / 1
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: 2 Projects / seminars: -	Number of credits 4
	Language polish

Lecturer:

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Status of the course in the study program:

Core course of the study for Education in Technology and Informatics, Faculty of Technical Physics.

Assumptions and objectives of the course:

To familiarize students with the basic concepts and phenomena in chemistry. The student will have an opportunity to check experimentally the basic chemical laws, also to learn, in a practical way, the measuring apparatus and techniques.

Contents of the course (course description):

Elements of atomic structure. Periodic table of elements.
Solutions
The First Law of thermodynamics - the principle of conservation of energy
The Second law of thermodynamics, thermochemistry.
Phase equilibria - component systems.
Phase equilibria - multicomponent systems.
The equilibrium chemical reaction, Physical chemistry of solutions
The rates of chemical reactions.
Reaction dynamics.
Fundamentals of electrochemistry. Corrosion.
Colloids.
Adsorption

Introductory courses and the required pre-knowledge:

Basic knowledge of chemistry

Courses form and teaching methods:

Lectures with multimedia presentations.
Individual work with students.
Laboratory exercises are completed by students in two persons groups.

Form and terms of complete the course - requirements and assessment methods:

Lectures - final test. Laboratories - points for the execution of exercises and written report. To obtain the credit necessary to score 45 points.

Basic Bibliography:

1. L. Jones, P. Atkins, Chemia ogólna, PWN, W-wa 2006
2. P. Atkins, Podstawy Chemii Fizycznej, PWN, W-wa 1999
3. L. Sobczyk, A. Kiszka, Chemia fizyczna dla przyrodników PWN W-wa 1977
4. A. Lewandowski, St. Magas, Wiadomości do ćwiczeń laboratoryjnych z chemii fizycznej, WPP, Poznań 1994 (skrypt nr 1765).
5. Instrukcje do ćwiczeń laboratoryjnych z chemii.

Additional Bibliography:

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