\geq
Ω
\subset
_
α
\Box
Ν
0
٥
-
\supset
0
~
3
₹
7
₹
<
~
• •
Q
-
+
4

STUDY MODULE DESCRIPTION FORM						
		Code 1010702211010911730				
Field of study	Profile of study (general academic, practical)	Year /Semester				
Chemical Technology	general academic	1/1				
Elective path/specialty	Subject offered in:	Course (compulsory, elective)				
Polymer Technology	Polish	obligatory				
Cycle of study:	Form of study (full-time,part-time)					
Second-cycle studies	full-time					
No. of hours		No. of credits				
Lecture: - Classes: 60 Laboratory: -	Project/seminars:	- 2				
Status of the course in the study program (Basic, major, other) (university-wide, from another field)						
other	rsity-wide					
Education areas and fields of science and art		ECTS distribution (number and %)				
technical sciences		2 100%				
Technical sciences		2 100%				

Responsible for subject / lecturer:

mgr Urszula Pawałowska email: urszula.pawalowska@put.poznan.pl tel. 061 665 24 91 SJO PP

ul. Piotrowo 3a, 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	Knowledge	The already acquired language competence compatible with level B2 (CEFR)
2	Skills	The ability to use general and field specific vocabulary, and grammatical structures required on the first level of studies
3	Social competencies	The ability to work individually and in a group; the ability to use various sources of information and reference works.

Assumptions and objectives of the course:

- 1. Advancing students? language competence towards the level at least B2+ (CEFR).
- 2. Development of the ability to use academic and field specific language effectively in both receptive and productive language skills.
- 3. Improving the ability to understand field specific texts (familiarizing students with basic translation techniques).
- 4. Improving the ability to function effectively on an international market and on a daily basis.

Study outcomes and reference to the educational results for a field of study

Knowledge:

Skills:

- 1. Give a talk on field specific or popular science topic (in English), and discuss general and field specific issues using an appropriate linguistic and grammatical repertoire [K_U01, K_U06]
- $2. \ Express \ basic \ mathematical \ formulas \ and \ to \ interpret \ data \ presented \ on \ graphs/diagrams \\ \qquad \ [K_U02, \ K_U06]$
- 3. Conduct business correspondence in English [K_U03, K_U04]
- 4. Understand and analyze international, field specific literature [K_U02, K_U03]
- 5. The student is able to communicate effectively in a field specific/professional area, and to give a successful presentation in English. [K_U01]

Social competencies:

- 1. The student is able to recognize and understand cultural differences in a professional and private conversation, and in a different cultural environment. [K_K05]
- 2. Student understand the need for further education and improving the personal competence [K_K01]

Assessment methods of study outcomes

- ? Formative assessment: tests during academic year (written and oral), presentations
- ? Summative assessment: credit

Course description

- 1. Comparison of properties of glass and plastics
- 2.Metals? metallic bond, properties of metals, alloys, ways of hardening metals
- 3. Colloids? definition, phases, examples, emulsifiers, suspensions, solutions
- 4.Cells, batteries, kinds of electrodes and electrolytes, rechargeable batteries, fuel cells
- 5. Conductors and insulators? testing electrical conductivity of different substances
- 6. Properties of solids the structure of diamond and graphite, allotropic forms
- 7. Measurement of heat energy (combustion of ethanol and butane)
- 8.Properties of ethanol, comparison of a structure of methanol, propanol, butane, ways of manufacturing ethanol? comparison of the methods
- 9. Kinds of radiation, radioactive decay of elements, making use of radioactivity

Basic bibliography:

- 1. Rose Marie Gallagher, Paul Ingram Complete Chemistry Oxford University Press 2000
- 2. Maria Charmas English for Students of Chemistry M. C.Skłodowska University Press Lublin 2008

Additional bibliography:

- 1. Monika Korpak ??From Alchemy to Nanotechnology? Politechnika Krakowska 2008
- 2. Piotr Domański English in Science and Technology Wydawnictwa Naukowo-Techniczne Warszawa 1993

Result of average student's workload

Activity	Time (working hours)
1. Udział w ćwiczeniach	60
2. Konsultacje do ćwiczeń	15
3. Przygotowanie do ćwiczeń	45

Student's workload

Source of workload	hours	ECTS
Total workload	120	2
Contact hours	75	0
Practical activities	60	0