DESCRIPTION OF THE COURSE OF STUDY

Course code	**0531.6.CHEM1.B/C.FIZ**	
Name of the course in	Polish	**Fizyka**
	English	**Physics**

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	**Chemistry**
1.2. Mode of study	**Stationary**
1.3. Level of study	**Bachelor degree**
1.4. Profile of study*	
1.5. Person/s preparing the course description	Dr hab. inż. Paweł Mochalski, prof. UJK, dr Sławomir Wąsik
1.6. Contact	pawel.mochalski@ujk.edu.pl, slawomir.wasik@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	**English/Polish**
2.2. Prerequisites*	**-**

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes		**Lectures 30h** **Laboratory 30h**
3.2. Place of classes		**Institute of Chemistry, Institute of Physics**
3.3. Form of assessment		**Exam - test**
3.4. Teaching methods		**PowerPoint presentations, videos, experiments,**
3.5. Bibliography	**Required reading**	David Halliday, Robert Resnick, Jearl Walker, *Principles of Physics*, John Wiley & Sons Inc, 2020, ISBN-13: 9781119454014
	Further reading	Feynman Richard P., Leighton Robert B. Sands Matthew, *Feynman Lectures on Physics*, Addison Wesley, 2005, ISBN-13: 978-0805390452

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives ***(including form of classes)***

Lectures

C1. To provide introduction to the principles and methods of physics.

Laboratories

C2.To familiarize with the art of performing experiments, data analysis, reports preparation.

4.2. Detailed syllabus ***(including form of classes)***

Lecture

Physical quantities, SI, kinematics, classical mechanics, forces, work, energy, power, momentum, gravity, thermal physics, waves, optics, light, electromagnetic spectrum, vibrations and sound, electricity and magnetism, electric current, electric circuits, nuclear physics, fundamental interactions

Laboratories

Students are required to do a series of experiments in a laboratory, process data, prepare reports.

4.3 Intended learning outcomes

Code	**A student, who passed the course**	**Relation to learning outcomes**
within the scope of **KNOWLEDGE:**		
W01	Student knows principles and methods of physics that helps to explain chemical processes. Student is able to describe physical phenomena and processes using physical quantities and principles	CHEM1A _W02
within the scope of **ABILITIES:**		
U01	Student is able to interpret data oand results btained during experiments and draw conclusions	CHEM1A _U01
U02	Student is able to analyse experimental data using basic statistical methods	CHEM1A _U11

U03	Student is able to plan simple experiments, perform measurements on the basis of instructions and literature. Students gains teamwork skills	CHEM1A _U14
within the scope of **SOCIAL COMPETENCE:**		
K01	Student is able to perform environment and climate action	CHEM1A _K02

Teaching outcomes *(code)*	**Exam oral /written***			**Test***			**Group work***			**Report**		
	Form of classes			***Form of classes***			***Form of classes***			***Form of classes***		
	L	*C*	*...*	*L*	*C*	*...*	*L*	*C*	*...*	*L*	*C*	*...*
W01	+				+						+	
U01					+			+			+	
U02	+				+			+			+	
U03								+			+	
K01	+							+				

****delete as appropriate***

4.5. Criteria of assessment of the intended learning outcomes		
Form of classes	**Grade**	**Criterion of assessment**
Lecture (L) * (including e-learning)	**3**	Final exam percentage score of 51-60
	3,5	Final exam percentage score of 61-70
	4	Final exam percentage score of 71-80
	4,5	Final exam percentage score of 81-90
	5	Final exam percentage score of 91-100
Laboratories	**3**	Average note of 3.0 from colloquium and reports
	3,5	Average note of 3.5 from colloquium and reports
	4	Average note of 4.0 from colloquium and reports
	4,5	Average note of 4.5 from colloquium and reports
	5	Average note of 5.0 from colloquium and reports

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	**Student's workload**	
	Full-time studies	**Extramural studies**
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	***60***	
*Participation in lectures**	***30***	
*Participation in classes, seminars, laboratories**	***30***	
*Preparation in the exam/final test**		
*Others**		
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	***65***	
*Preparation for the lecture**		
*Preparation for the classes, seminars, laboratories**	***35***	
*Preparation for the exam/test**	***30***	
*Gathering materials for the project/Internet query**		
Preparation of multimedia presentation		
*Others**		
TOTAL NUMBER OF HOURS	***125***	
ECTS credits for the course of study	***5***	

****delete as appropriate***

Accepted for execution *(date and legible signatures of the teachers running the course in the given academic year)*

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