

DESCRIPTION OF THE COURSE OF STUDY

Course code	0533-2FIZ-C9-FAIM	
Name of the course in	Polish	Fizyka atomowa
	English	Atomic physics

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

1.1. Field of study	physics
1.2. Mode of study	Full-time
1.3. Level of study	2 nd degree
1.4. Profile of study	General academic
1.5. Person/s preparing the course description	Prof. dr hab. Marek Pajek
1.6. Contact	m.pajek@ujk.kielce.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites	Introduction to quantum mechanics and atomic physics

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	30 hrs of lectures	
3.2. Place of classes	Courses in the UJK teaching rooms of the Faculty of Exact and Natural Science	
3.3. Form of assessment	homework	
3.4. Teaching methods	lecture	
3.5. Bibliography	Required reading	W. Demtröder, <i>Atoms, Molecules and Photons</i> , Springer 2018
	Further reading	I.V. Hertel and C.-P. Schultz, <i>Atoms, Molecules and Optical Physics 1: Atoms and Spectroscopy</i> , Springer 2015.

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives (including form of classes)
Knowledge (lectures and laboratories) C1. Knowledge of selected topics in atomic physics C2. Experimental atomic physics

4.2. Detailed syllabus (including form of classes)
Lectures: multielectron atoms, highly charged ions, QED effects, Rydberg atoms, atomic collisions, radiation of atoms

4.3. Education outcomes in the discipline		
Code	A student, who passed the course	Relation to learning outcomes
within the scope of KNOWLEDGE:		
W01	has knowledge of selected topics in atomic physics	SD_W01 SD_W02 SD_W07
W02	Has knowledge of experimental atomic physics	SD_W01 SD_W02 SD_W07

4.4. Methods of assessment of the intended learning outcomes																					
Teaching outcomes (code)	Method of assessment (+/-)																				
	Oral answer			Project			Self-study			Group work			Exam								
	Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes		
	L	C	P	L	C	P	L	C	P	L	C	P	L	C	P	L	C	P	L	C	P
W01																					
W02																					

4.5. Criteria of assessment of the intended learning outcomes		
Form of classes	Grade	Criterion of assessment
lecture (L)	3	at least 50% and not more than 60% of the total number of available points
	3,5	more than 60% and not more than 70% of the total number of available points
	4	more than 70% and not more than 80% of the total number of available points
	4,5	more than 80% and not more than 90% of the total number of available points
	5	more than 90% of the total number of available points

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

Category	Student's workload	
	Full-time studies	Extramural studies
<i>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</i>		
<i>Participation in lectures</i>	30	
<i>Participation in laboratories/project</i>		
<i>Preparation for the exam</i>		
<i>Others</i>		
<i>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</i>		
<i>Preparation for the lecture</i>	20	
<i>Preparation for the laboratories</i>		
<i>Preparation for the exam</i>		
<i>Gathering materials for the project</i>		
<i>Preparation of multimedia presentation</i>		
<i>Others*</i>	5	
TOTAL NUMBER OF HOURS	55	
ECTS credits for the course of study	3	

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

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