

Assessment and subject description

Óbuda University Kandó Kálmán Faculty of Electrical Engineering		Institute of Microelectronics and Technology		
Subject name and code: Physics II. KEXFI2ABNE				Credits: 4
Full-time, Spring Semester 2018-2019/II				
Course: Electrical engineering				
Responsible:	Dr. Katalin Gambár Ph.D associate professor	Teaching staff:	Dr. Katalin Gambár Ph.D	
Prerequisites:	KEXFI1ABNE			
Contact hours per week:	Lecture: 2	Class discussion: 1	Lab hours: 0	Tutorial: 0
Assessment and evaluation:	Test (problem solving), written exam			
Subject description				
<i>Aims:</i> to give stable foundation to the professional subjects and to help to understand the physical basis of the professional literature in the future works.				
<i>Topics to be covered:</i> atomic physics; physics of condensed matter; nuclear physics				
Topics			Week	Lessons
The theory of special relativity			1.	2+1
The theory of special relativity			2.	2+1
The theory of special relativity			3.	2+1
The boundary of the classical concepts :Black body radiation, photo effect			4.	2+1
Compton effect, wave-particle duality			5.	2+1
Classical models of atom (Rutherford's model, Bohr's model, quantum numbers, Pauli exclusion principle)			6.	2+1
Quantum mechanics :Heisenberg's uncertainty relation			7.	2+1
Quantum mechanics: Schrödinger equation, applications of Schrödinger equation			8.	2+1
Condensed matter physics :Hall effect Electronic band structure			9.	2+1
Brake test			10.	2+1
Nuclear physics : Nuclear force, models			11.	2+1
Summary			12.	2+1
Repair test			13.	2+1
			14.	2+1

Assessment and evaluation

Requirements of the signature: less than 30% missed classes, write one of the two tests minimum 50%.

Type of exam: written.

Evaluation: The final grade is made by adding the points from the test and the exam. Test - maximum 50 points, exam - maximum 50 points.

Summary of points: maximum points can be obtained by summation: $50+50 = 100$.

The levels for grades are

Evaluation	Points obtained
1	0 – 49
2	50 – 61
3	62 – 74
4	75 – 74
5	88 – 100

Suggested material

Alvin Hudson, Rex Nelson: University Physics

The Feynman Lectures on Physics.

Balázs-Sebestyén: Fizika OE KVK 2065 (in Hungarian).

Comment:

Minor shifts may occur, because lecturers take into account levels of understandings and ability of notes-taking of the students, and because lecturers show examples belong to the given chapters.