Study program	Level of studies	Third cycle
	Title of the study program	Science and mathematics education

COURSE

Course title	**Selected Chapters in General and Modern Physics I**

Course ID	Semester	Course status	ECTS credits	Contact hours
PTH671	I	Elective	7	45

Lecturers	Lecturer in charge	Prof. dr. Elvedin Hasović
	Other lecturers	

Course aims	Deepening knowledge about selected topics in general and modern physics.

CONTENT

#	Teaching units	Contact hours L	Contact hours E/S	Contact hours C
	- Kinematics and dynamics of rotational motion. The two-body problem. - Gravitational field. Energy and work. Conservation laws. - Harmonic oscillations. Mechanical and electromagnetic waves. Sound. - Interference, diffraction and polarization of light. - Molecular-kinetic theory of gases and corresponding applications. - Black body radiation. Semi-classic theory of radiation. Braking radiation.. Synchrotron radiation. - Quantum nature of electromagnetic radiation - Special theory of relativity	30	15	

LITERATURE

1. R. P. Feynman, R. B. Leighton, M. Sand, *The Feynman Lectures on Physics*, Vol. 1, 2. ed. Addison-Wesley (2005).
2. R. A. Serway, C.J. Moses, and C.A. Moyer, Modern physics, 3. ed. Thomson (2005).
3. P.A. Tipler and G. Mosca, Physics for scientists and engineers, 5. ed. W.H. Freeman and Company (2004).

ASSESSMENT OF LEARNING

	Assessment method	Points	Threshold
1.	Tests	30	16
2.	Seminar papers	30	17
3	Final exam	40	22
4.			
	Total	100	55