

Title Contemporary Physics (Fizyka współczesna)	Code 1010402211010410663
Field TECHNICAL PHYSICS	Year / Semester 1 / 1
Specjalty -	Course core
Hours Lectures: 2 Classes: 2 Laboratory: - Projects / seminars: -	Number of credits 4
	Language polish

Lecturer:

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Status of the course in the study program:

Core course of the study for Technical Physics, Faculty of Technical Physics.

Assumptions and objectives of the course:

The course is intended to provide the student with some fundamental concepts of the contemporary physics

Contents of the course (course description):

Classical electrodynamics (Maxwell's tensor, retarded potentials, dipole radiation). Special theory of relativity. General theory of relativity (spacetime of GTR, Einstein's equation, Schwarzschild solution, geodetic precession, black holes, gravitational waves). GPS and theory of relativity. Dirac's equation. Feynman diagrams

Introductory courses and the required pre-knowledge:

The knowledge of physics (the core course), quantum mechanics and mathematics (the core course)

Courses form and teaching methods:

lecture + classes .

Form and terms of complete the course - requirements and assessment methods:

Written examination.

Basic Bibliography:

1. D. J. Griffiths, Podstawy elektrodynamiki PWN W-wa 2009
2. L. D. Landau, E. M. Lifszyc, Teoria pola PWN 2009
3. B. F. Schutz, Wstęp do ogólnej teorii względności PWN W-wa 1995
4. A.L. Fetter, J.D. Walecka, Kwantowa teoria układów wielu cząstek PWN W-wa 1988

Additional Bibliography:

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