

Title Fundamentals of radiation protection (Ochrona radiologiczna)	Code 1010401251010710712
Field TECHNICAL PHYSICS	Year / Semester 3 / 5
Specialty -	Course core
Hours Lectures: 1 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 2
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:

Theoretical and practical analysis of basic problem of using radioactive isotopes and ionizing radiation, recognizing of principles and standards concerning with radiation protection, applications and using of ionizing radiation sources.

Contents of the course (course description):

Radioactive decay, ionizing radiation, detection of ionizing radiation, radiation absorption, physical and biological effects of ionizing radiation. Lab technical and medical applications of ionizing radiation. Measurement and calculation of ionization doses, radiation barrier. Basic elements of the international and polish atomic law.

Introductory courses and the required pre-knowledge:

Basic knowledge of atomic and nuclear physics and physical chemistry.

Courses form and teaching methods:

Lecture illustrated by schemes and photos, Isotopes Laboratory. Radiation protection micro-project. Internet discussion grope (por_z_z_gorskim@googlegroups.com).

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

Evaluation of student?s preparation and elaboration of their experimental data. Evaluation of the project.

Basic Bibliography:

1. J. Sobkowski: Chemia jądrowa, PWN 1981
2. W. Szymański: Chemia jądrowa, PWN 1996
3. S. Magas: Technika izotopowa, WPP 1994
4. M. Bryszewska i inni: Biofizyka dla biologów, PWN 1997

5. W. Scharf: Akceleratory biomedyczne, PWN 1994
6. Bezpieczeństwo jądrowe i ochrona radiologiczna - Prawo Atomowe, przepisy wykonawcze i przepisy związane, Warszawa 1991
7. PN-69/J-80001: Materiały i sprzęt ochronny przed promieniowaniem X i gama (Obliczanie osłon stałych).
8. W. Gorączko: Radiochemia i ochrona radiologiczna. WPP 2003
9. J. Sobkowski, M. Jelińska-Kazimierczuk: Chemia Jądrowa. Wydawnictwo Adamantan 2006

Additional Bibliography:

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