Course title: Nuclear Energy

Lecturer: Miodrag Krmar

Required Course: elective

Number of ECTS: 15

Prerequisites: none

Course Objective

To introduce students in area of nuclear energetic.

Course Outcome

After successfully finished course, students should have developed:

- General abilities: Students learn about theory in the area of nuclear energy
- Subject specific abilities: Certain technologies will be covered in detail so that this knowledge can later be applied in practice

Course Content

Basic properties of nucleus, nuclear reactions. Heavy nuclei fission mechanism. Interactions of neutrons with matter. Difusion, moderation and thermalization of neutrons.
Nuclear reactior, basic types and nuclear fuel. Dynamic and expolatation of nuclear reactor.
Nuclear power station. Thermodynamic processes of nuclear powe station. Radiation protection, safety and fuel storage.
Thermonuclear processes.

Reading List

1. D. Popović: Nuklearna energetika, Naučna knjiga, Beograd (1978)
2. A. Klimov: Nuclear Physics and Nuclear Reactors,Mir Publishers, Moscow (1975)
3. J. Lewins: Nuclear Reactor Kinetics and Control, Pergamon Press, Oxford (1978)
4. V. N. Oraevskii: Yadernaya Energetika, Naukova Dumka, Kiev (1978)

Total hours:		10	
Lectures: 5	Practicals:	Other:	Student research work: 5

Methods of instruction:

Lectures and preparation and presentation of seminar work

Assessment (maximum number of points 100)

Requirements

Active participation in lectures 10 pts, Active participation in practicals 10 pts , Seminar work 30 pts
Oral exam 60pts