

Course title: Plasma Physics			
Lecturer: Radomir Kobilarov			
Required Course: elective			
Number of ECTS: 15			
Prerequisites: none			
Course Objective: Introduction to basic characteristics and properties of the plasma state of matter.			
Course Outcome: After completing the course and learned contents, students should have developed General skills: understanding and acceptance of the general physical laws of matter. Subject-specific skills: understanding of basic physical principles and laws related to the plasma state of matter			
Course Content: <i>Theoretical instruction</i> The term plasma. Criterion of plasma state. Elementary processes in the plasma. Electromagnetic radiation of plasma. Bremsstrahlung. Recombination radiation. Line spectra. Transport of radiation. General characteristics of plasma. The equilibrium state. The principle of detailed equilibrium. Saha equation. Reduction of energy of ionization. Plasma models. The model of local thermodynamic equilibrium. Stationary coronal model. <i>Practical instruction:</i> The exercises follow content of the theoretical instructions			
Reading List: 1. Б. Милић, Основе физике гасне плазме, Научна књига, Београд (1977). 2. H. R. Green, Plasma spectroscopy, McGraw Hill, London, (1964). 3. R. H. Huddlestone, S. L. Leonard (eds.), Plasma diagnostic techniques, Academic Press, New York (1965). 4. W. Lochte-Holtgreven (ed.), Plasma diagnostics, North-Holland, Amsterdam (1968). 5. S. C. Brown, Introduction to electrical discharges in gases, Jon Wiley & Sons Inc., New York (1996). 6. J. M. Meek and J. D. Craggs Eds., Electrical breakdown of gases, John Wiley & Sons, Chichester (1978). 7. J. A. Bittencourt, Fundamentals of plasma physics, Pergamon Press, Oxford (1986)			
Total hours:			10
Lectures: 5	Practicals:	Other:	Student research work:5
Methods of instruction: Lectures, exercises, preparation and presentation of the seminar.			
Assessment (maximum number of points 100)			
Requirements Active participation in practicals 15pts, Seminar work 25pts Oral exam 60pts			