

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Electronics		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Engineering Education and Sustainable Development		
Lecturer (for lectures)		Bojkov S. Vanče		
Lecturer/associate (for exercises)				
Lecturer/associate (for OFE)				
Number of ECTS		3	Course status (obligatory/elective)	Elective
Prerequisites	No conitions			
Course objectives	The objective of the course is to present a dynamic development of ecological problems and sustainable development in the modern world, as well as their impact on the theory and practice of engineering professions; to enable students to acquire new knowledge in the field of education for engineers, engineering, engineering ethics and sustainable development; to encourage understanding of their interdependence and help students to master the principles of sustainable development and recognize the importance of ethics and education for engineers in technology and society.			
Course outcomes	The expected outcomes include knowledge on principles on which the concept of sustainability is based, the implementation of moral norms in the formation of critical evaluation of strategies for the protection of environment and sustainable development in the specifc spacial, social and cultural conditions in which engineering acting is done.			
Course outline				
Theoretical teaching	The origin of the term and the historical development of the idea of education. Education of engineers in Serbia. The concept of contemporary society. Technological changes, knowledge and new materials. Engineering, engineering ethics and the relevance of ethics in technics and society. Sustainable development. Philosophy, principles and practice of the sustainable development. Visions and approaches to sustainable development. The role of the interantional community in the formation of 'planetar' politics of sustainable development policy. World forums and strategic documents on establishing priorities, aims and the policy of sustainable development on both global and local levels. Sustainable development as an alternative to traditional political and economical paradigm. The role of technology in the sustainable development. Sustainable development and the technology changes. Dependence on technological changes, the failure of techonological improvements and the failure of adopting alternative technologies. Preventive engineering and sustainable development. Instruments for ecological politics. European programs, funds and projects. Ecological consequences and scientific technological revolutions.			
Practical teaching (exercises, OFE, study and research)				
Textbooks/references				
1	Deletić, S./Pejčić M. (2007): Society and sustainable development, Niš, Faculty of Electrical Engineering			
2	Djukanovic, M. (1996): Environment and sustainable development, Belgrade, Elit			
3	Djordjevic D.B./Tasić, M. (2015): Work, techniques and ethich in the era of globalization, Faculty of Mechanical Engineering, Niš			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	0	0	0	0
Teaching methods	Interactive forms of teaching, analysis of case studies,			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures	10	Written exam	20	

Exercises		Oral exam	20
Colloquia	40		
Projects	10		