

Specification for the book of courses

Study program		Communications and Information Technologies		
Module		System Engineering and Radio-Communications		
Type and level of studies		Master studies		
The name of the course		Radar Systems and Radiolocation		
Lecturer (for lectures)		Stanković Ž. Zoran, Maleš-Ilić P. Nataša		
Lecturer/associate (for exercises)		Eferica M. Predrag		
Lecturer/associate (for OFE)				
Number of ECTS	4	Course status (obligatory/elective)	Elective	
Prerequisites				
Course	Acquiring theoretical and practical knowledge about radar systems and radiolocation.			
Course outcomes	Knowledge of the theory and basic principles related to radar system architecture and radiolocation. Knowledge of technical and technological solutions applied in modern radar systems. Knowledge of technical specifics of SAR, meteorological and military radars.			
Course outline				
Theoretical teaching	The basic principles of radiolocation and radar architecture. Classification and application of modern radar systems. The radar equation. RCS. MTI and pulse Doppler radar. Detection of radar signals in noise. Processing of radar signals. Extraction of radar information. Radar clutter. RHI and PPI radar display. Tracking the target with a radar system. Other types of radar: SAR radars, weather radars, military radar systems, radar for smart (autonomous) vehicles. Radar equipment (transmitters, receivers, antennas).			
Practical teaching (exercises, OFE, study and research)	Auditory exercises involve solving problems in areas that are covered by the content of the subject.			
Textbooks/references				
1	J.Zatkalik, Radiolocation - first part, Nauka-Beograd, 2005.			
2	M. I. Skolnik, Introduction to radar systems, Mc Graw-Hill, 2001.			
3	B. Mahafza, Radar systems analysis and design using MATLAB, 3rd Edition, Chapman and Hall/CRC, 2013.			
4	M. Richards, W. Holm, J. Scheer, Principles of Modern Radar: Basic Principles, IET, 2010.			
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	1	0	0	0
Teaching methods	Lectures, auditory exercises, seminar work, consultations			
Grade (maximum number of points 100)				
Pre-exam duties		Points	Final exam	Points
Activity during lectures			Written exam	30
Exercises			Oral exam	30
Colloquia				
Projects		40		