

COURSE DESCRIPTION CARD

Faculty of Electric Engineering									
Field of study	Electrical and Electronics Engineering						Degree level and programme type	Master's degree	
Specialization/ diploma path	-						Study profile	-	
Course name	Wireless Broadcasting Systems						Course code	IS-FEE-20005W	
							Course type	elective	
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	winter
	15		15					No. of ECTS credits	3
Entry requirements	-								
Course objectives	The principal objective of lectures is to cover the fundamentals digital television and radio systems and radiotransmitter structures.								
Course content	International organizations for radiocommunication: ITU, Radiocommunication Rule, elements of radiocommunication law. Structure of radiotransmitter. Digital television - DVB standard. Digital radio - DAB and DRM standards. Digital television in Europe. European standards for radio and television devices. Measurement of selected blocks of transmitter-receiver devices. Antennas and antenna arrays of transmitter systems and its parameters.								
Teaching methods	lecture, laboratory class								
Assessment method	lecture - oral exam laboratory class - evaluation of reports, verification of preparation for classes								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
L01	has knowledge about principles of basis radiotransmitters devices;								
L02	has knowledge about principles of DVB and DAB standards family;								
L03	obtain a skill of measurements electronic blocks with vector network analyzer;								
L04	obtain a skill of measurements of signals in radioelectronic blocks.								
L05									
Symbol of learning outcome	Methods of assessing the learning outcomes							Type of tuition during which the outcome is assessed	
L01	evaluating the homeworks and oral exam							L	
L02	evaluating the homeworks and oral exam							L	
L03	evaluating the student's reports							LC	
L04	evaluating the student's reports							LC	

L05		
Student workload (in hours)		No. of hours
Calculation	lecture and laboratory sessions attendance	30
	preparation for and participation in exams/tests	10
	preparation for laboratory classes	15
	elaboration of lab reports	20
	TOTAL:	75
Quantitative indicators		HOURS No. of ECTS credits
Student workload – activities that require direct teacher participation		32 1,5
Student workload – practical activities		58 2
Basic references	1. Hoeg W., Lauterbach T.: Digital Audio Broadcasting. Principles and Applications of Digital Radio. Wiley 2003. 2. Alencar M.: Digital Television Systems. Cambridge UP 2009. 3. ETSI EN 300 744 V1.6.1 Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television. 4. ETSI TS 102 366 V1.2.1 Digital Audio Compression (AC-3, Enhanced AC-3).	
Supplementary references	1. Kalivas G.: Digital Radio System Design. Wiley and Sons 2009.	
Organisational unit conducting the course	Department of Photonics, Electronics and Lighting Technology	Date of issuing the programme
Author of the programme	Ph.D., Maciej Sadowski	13.02.2020

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar