

Subject card

Maritime, Aerial and Satellite Radio Communications, PG 00047509								
Electronics and Telecommunications								
October 2023	vear of		2024/	2025				
		realisation of subject			2024/2023			
Education level second-cycle studies		Subject group			Optional subject group			
					Subject group related to scientific research in the field of study			
Full-time studies		Mode of delivery			at the university			
2		Language of instruction			Polish			
4		ECTS credits			1.0			
general academic profile		Assessment form			assessment			
Department of Radiocommunication Systems and Networks -> Faculty of Electronics, Telecommunications and Informatics								
Subject supervisor		dr hab. inż. Sławomir Ambroziak						
Teachers		dr hab. inż. Sławomir Ambroziak						
Lesson type	Lecture	Tutorial	Laboratory		t	Seminar	SUM	
Number of study hours	0.0	0.0	0.0	0.0		15.0	15	
E-learning hours included: 0.0								
Learning activity			Participation in consultation hours		Self-study		SUM	
Number of study hours	15	1.0			9.0		25	
The aim of the course is to familiarize students with the selected maritime, aeronautical and satellite radio communication systems.								
Course out	Subject outcome			Method of verification				
critical evaluation of received		Knowledge of typical technical solutions used in modern radio communication systems.			[SK2] Assessment of progress of work			
pursuit their own lifelong education and influence others in this aspect, also by means of advanced information and communication technologies (ICT), and communicate on specialist issues with diverse recipients, appropriately justify points of view, hold debates, present, assess and discuss different opinions and points of view, as well as use specialist terminology related to the field of study in communication [K7_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of advanced technical systems, devices and facilities typical for the field of		Knowledge of typical technical solutions used in modern radio communication systems. Knowledge of marine, aviation and satellite radiocommunications.			[SU2] Assessment of ability to analyse information [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject			
	Electronics and Telect October 2023 second-cycle studies Full-time studies 2 4 general academic production and Informatics Subject supervisor Teachers Lesson type Number of study hours E-learning hours included the study hours The aim of the course communication syste Course out [K7_K02] is ready to critical evaluation of content and to acknow importance of knowle solving cognitive and problems [K7_U10] can individed pursuit their own lifely education and influent this aspect, also by radvanced information communication technical systems, appropriately points of view, hold communication technical systems, as terminology related the study in communication and viferent opinions and viferent opinions of view, hold communication technical systems, appropriately points of view, hold communication technical systems, appropriately points of view, hold communication technical systems and view, as well as use terminology related the study in communication technical systems of the function apply experience relamintenance of advaluging technical systems of the function apply experience relamintenance of advaluging technical systems of the function apply experience relamintenance of advaluging technical systems of the function apply experience relamintenance of advaluging technical systems of the function apply experience relamintenance of advaluging technical systems of the function apply experience relamintenance of advaluging technical systems of the function apply experience relamintenance of advaluging and in the studies, gained in the studies, gained in the studies, gained in the studies of the function application appli	Electronics and Telecommunications October 2023 second-cycle studies Full-time studies 2 4 general academic profile Department of Radiocommunication and Informatics Subject supervisor Teachers Lesson type Lecture Number of study hours E-learning hours included: 0.0 Learning activity Participation in classes including plan Number of study hours The aim of the course is to familiarize communication systems. Course outcome [K7_K02] is ready to provide critical evaluation of received content and to acknowledge in solving cognitive and practical problems [K7_U10] can individually plan and pursuit their own lifelong education and influence others in this aspect, also by means of advanced information and communication technologies (ICT), and communicate on specialist issues with diverse recipients, appropriately justify points of view, hold debates, present, assess and discuss recipients, appropriately justify points of view, hold debates, present, assess and discuss different opinions and points of view, as well as apply experience related to the field of study in communication [K7_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of advanced technical systems, devices and	Electronics and Telecommunications October 2023 Academic y realisation Subject gro Full-time studies Full-time studies ECTS cred general academic profile Department of Radiocommunication and Informatics Subject supervisor Teachers Department of Radiocommunication and Informatics Subject supervisor Teachers Lesson type Lecture Tutorial Number of study hours E-learning hours included: 0.0 Learning activity Participation in didactic classes included in study plan Number of study hours The aim of the course is to familiarize students with communication systems. Course outcome Knowledge of solutions used content and to acknowledge the importance of knowledge in solving cognitive and practical problems [K7_K02] is ready to provide content and to acknowledge the importance of knowledge in solving cognitive and practical problems [K7_U10] can individually plan and pursuit their own lifelong education and influence others in this aspect, also by means of advanced information and communication technologies (ICT), and communicate on specialist issues with diverse recipients, appropriately justify points of view, hold debates, present, assess and discuss different opinions and points of view, as well as use specialist terminology related to the field of study in communication [K7_U09] carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply texperience related to the field of study in communication and candifical systems, deficed of studies, gained in the professional	Electronics and Telecommunications October 2023 Academic year of realisation of subject second-cycle studies Subject group Full-time studies Mode of delivery Language of instruction ECTS credits general academic profile Assessment form Department of Radiocommunication Systems and Networks -> Faind Informatics Subject supervisor Teachers dr hab. inż. Sławomir Ambrot dr hab. inż.	Academic year of realisation of subject second-cycle studies Mode of delivery Language of instruction ECTS credits general academic profile Department of Radiocommunication Systems and Networks -> Faculty of and Informatics Subject supervisor Teachers Department of Radiocommunication Grachers Assessment form Department of Radiocommunication Systems and Networks -> Faculty of and Informatics Subject supervisor Teachers Department of Radiocommunication Teachers Assessment form Department of Radiocommunication Systems and Networks -> Faculty of and Informatics Subject supervisor Teachers Department of Radiocommunication Teachers Department of Radiocom	Electronics and Telecommunications October 2023 Academic year of realisation of subject second-cycle studies Subject group Option Subject Full-time studies Mode of delivery Language of instruction ECTS credits 1.0 general academic profile Assessment form assess: Department of Radiocommunication Systems and Networks -> Faculty of Electronal Informatics Subject supervisor Teachers dr hab. inż. Sławomir Ambroziak Lesson type Lecture Tutorial Laboratory Project Number of study hours Number of study hours Number of study hours The aim of the course is to familiarize students with the selected maritime, aeron communication systems. Course outcome [K7_K02] is ready to provide critical evaluation of received content and to acknowledge in in solving cognitive and practical problems K7_U10] can individually plan and pursuit their own lifelong education and influence others in this aspect, also by means of advanced information and communication technologies (ICT), and communicate on specialist issues with diverse recipients, appropriately justify points of view, hold debates, present, assess and discuss different opinions and points of view, as well as use specialist terminology related to the field of study in communication Knowledge of trypical technical solutions used in modern radio communication systems. Knowledge of typical technical solutions used in modern radio communication systems. Knowledge of typical technical solutions used in modern radio communication systems. Knowledge of typical technical solutions used in modern radio communication of existing technical solutions and assess these solutions, as well as aspet, systems, devices and facilities typical for the field of study in communication and facilities typical for the field of the maintenance of advanced technical systems, devices and facilities typical for the field of studies, gained in the professional	Electronics and Telecommunications Cotober 2023	

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Subject contents	GMDSS system, maritime Earth radio communication systems in A1, A2 and A4 regions, functionality descriptions, exploitation properties, exemplary solutions.						
	INMARSAT in GMDSS – A3 region and others system, functionality descriptions, exploitation properties, exemplary solutions.						
	 Selected systems of aerial radio communications, system's and functionality descriptions, exploitation properties, exemplary solutions. 						
	Introduction to satellite radio communications, satellite orbits and practical solutions, geostationary (GEO), medium (MEO) and low (LEO) orbit solutions, usefulness aspects for radio communication services.						
	5. Review and practical properties of selected GEO solutions.6. Review and practical properties of selected MEO solutions.7. Review and practical properties of selected LEO solutions.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade				
	Proper terminology	50.0%	25.0%				
	Participation in discussion	50.0%	25.0%				
	Presentation content	50.0%	25.0%				
	Oral presentation	50.0%	25.0%				
Recommended reading	Basic literature	1. Ippolito L.J.: Satellite Communications Systems Engimeering. Wiley , 2008. ISBN: 978-0-470-72527-6 2. Ohmori S., Wakana H., Kawase S.: Mobile Satellite Communications. Artech House Publishers, 1998, ISBN: 0-89006-843-7					
	Supplementary literature	Tri T. Ha,: Digital Satellite Communication, McGraw-Hill, 1990					
	eResources addresses	Adresy na platformie eNauczanie:					
Example issues/ example questions/ tasks being completed	Lack						
Work placement	Not applicable						

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