



Subject card

Subject name and code	Maritime, Aerial and Satellite Radio Communications, PG_00048373						
Field of study	Electronics and Telecommunications						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			1.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Radiocommunication Systems and Networks -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Sławomir Ambroziak					
	Teachers	dr hab. inż. Sławomir Ambroziak					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	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 and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours		Self-study		SUM
	Number of study hours	15	1.0		9.0		25
Subject objectives	The aim of the course is to familiarize students with the selected maritime, aeronautical and satellite radio communication systems.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_K02] is ready to provide critical evaluation of received content and to acknowledge the importance of knowledge in solving cognitive and practical problems	Knowledge of typical technical solutions used in modern radio communication systems.			[SK2] Assessment of progress of work		
	[K7_U10] can individually plan and pursue 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 typical technical solutions used in modern radio communication systems.			[SU2] Assessment of ability to analyse information		
	[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 studies, gained in the professional engineering environment	Knowledge of marine, aviation and satellite radiocommunications.			[SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information		

Subject contents	<p>1. GMDSS system, maritime Earth radio communication systems in A1, A2 and A4 regions, functionality descriptions, exploitation properties, exemplary solutions.</p> <p>2. INMARSAT in GMDSS – A3 region and others system, functionality descriptions, exploitation properties, exemplary solutions.</p> <p>3. Selected systems of aerial radio communications, system's and functionality descriptions, exploitation properties, exemplary solutions.</p> <p>4. 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.</p> <p>5. Review and practical properties of selected GEO solutions.</p> <p>6. Review and practical properties of selected MEO solutions.</p> <p>7. Review and practical properties of selected LEO solutions.</p>																	
Prerequisites and co-requisites																		
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="454 801 794 831">Subject passing criteria</th> <th data-bbox="799 801 1139 831">Passing threshold</th> <th data-bbox="1144 801 1482 831">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="454 837 794 866">Oral presentation</td> <td data-bbox="799 837 1139 866">50.0%</td> <td data-bbox="1144 837 1482 866">25.0%</td> </tr> <tr> <td data-bbox="454 873 794 902">Presentation content</td> <td data-bbox="799 873 1139 902">50.0%</td> <td data-bbox="1144 873 1482 902">25.0%</td> </tr> <tr> <td data-bbox="454 909 794 938">Participation in discussion</td> <td data-bbox="799 909 1139 938">50.0%</td> <td data-bbox="1144 909 1482 938">25.0%</td> </tr> <tr> <td data-bbox="454 945 794 974">Proper terminology</td> <td data-bbox="799 945 1139 974">50.0%</td> <td data-bbox="1144 945 1482 974">25.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Oral presentation	50.0%	25.0%	Presentation content	50.0%	25.0%	Participation in discussion	50.0%	25.0%	Proper terminology	50.0%	25.0%
Subject passing criteria	Passing threshold	Percentage of the final grade																
Oral presentation	50.0%	25.0%																
Presentation content	50.0%	25.0%																
Participation in discussion	50.0%	25.0%																
Proper terminology	50.0%	25.0%																
Recommended reading	Basic literature	1. Ippolito L.J.: Satellite Communications Systems Engineering. 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																	