GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Maritime, Aerial and Satellite Radio Communications, PG_00047509		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
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	4	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_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
[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 typical technical solutions used in modern radio communication systems.	[SU2] Assessment of ability to analyse information
[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

Subject contents	1. GMDSS system, maritime Earth radio communication systems in A1, A2 and A4 regions, functionality descriptions, exploitation properties, exemplary solutions. 2. INMARSAT in GMDSS – A3 region and others system, functionality descriptions, exploitation properties, exemplary solutions. 3. Selected systems of aerial radio communications, system's and functionality descriptions, exploitation properties, exemplary solutions. 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. 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
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 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