



Subject card

Subject name and code	Elements of nautics and coastal zone management, PG_00053471						
Field of study	Spatial Development						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2025/2026		
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	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Urban Design and Regional Planning -> Faculty of Architecture -> Wydział Politechniki Gdańskie]						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Miłosz Marciniak				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	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	30		6.0		39.0	75
Subject objectives	To acquaint students with environmental, technical, technological and economic conditions and determinants of the location and operation of maritime and coastal infrastructure and issues of urbanization of the coastal zone.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications		has in-depth knowledge of spatial management, is able to explain the environmental conditions and determination of the location and operation of maritime and coastal infrastructure. Has the ability to combine facts and information obtained in various subjects		[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects		
	[K7_K01] critically evaluates the received content, understands the importance of knowledge in solving cognitive and practical problems, evaluates the risks and can assess the consequences of the activities carried, undertakes in-depth reflection on scientific, ethical and social issues related to the work of urban planner and planner		understands and describes the factors and mechanisms of development of sea areas, is able to communicate in the environment of various coastal zone users; understands and knows how to analyze phenomena and processes occurring in the marine environment and human impact on this environment		[SK5] Assessment of ability to solve problems that arise in practice [SK2] Assessment of progress of work		
	[K7_W01] has in-depth and expanded knowledge of spatial development, urban planning and spatial planning, including activities used in the process of revitalization of degraded areas and ecological design		can use the known methods to develop non-standard analyzes in the field of spatial management, can describe and explain functional and spatial conflicts in the exploitation and use of the coastal zone; can develop scenarios for the operation of boundary structures		[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation		

Subject contents	<p>1. Elements of nautics. Types of ships, ship traffic and parameters, shipping routes. The effect of bathymetry on the speed and size of the ship. Unlimited and restricted water bodies. The impact of bottom sediment on the size of the ship's navigation reserve. Water supply under the keel of the ship. Functional division of water bodies (fairways and approach fairways, traffic separation zones (signage, directions), roads, anchorages, training grounds, disposal sites, areas of special protection (e.g. spawning grounds, underwater reserves). Marine traffic monitoring and monitoring systems (VTS, AIS). Operational needs of ships provided by the port (fuels, collection of pollutants, material supplies, fire protection). Impact of hydrometeorological conditions on the operation of ships and ports (very strong winds, mists, snowfall, heavy rainfall, frosts). Impact of sea waves and offshore hydrotechnical constructions. Storm accumulations and their effects on the coastal zone and hydrotechnical constructions. Icing of the ship and port, drilling and production platforms, terminals and reloading buoys. Icing on ships and in ports. Navigational seasonality (reloading peaks in ports, congestion). Impact of drifting sea ice on stationary and floating oil platforms as well as transmission installations and pipelines located on the bottom. Chemical and biological properties of sea water and their impact on ship and port operation - corrosion, overgrowth. Selected issues of maritime transport geography in the Baltic Sea region. Transport corridors and motorways of the sea.</p> <p>2. Economy in the coastal zone. Forms of using the coastal zone (overview and characteristics, location conditions): transport (water transport, submarine pipelines) and communication (submarine cables). Exploitation of living resources (fishing, aquaculture), exploitation of fossil resources (mining of aggregates, energy resources and mineral raw materials), recreational (from walks and sunbathing to sport fishing), tourist (seasonal and year-round), use of renewable energy resources of the coastal zone (wind farms, tidal and wave power plants, solar energy), industrial and transport activities on land, defense functions, agriculture and forest management, areas under legal nature protection. Functional and spatial conflicts in the exploitation and use of the coastal zone.</p>		
Prerequisites and co-requisites	Ability to cause-effect-thinking, analysis and synthesis; knowledge on natural, social and economic determinants of spatial management gathered at previous stages of study; geographical knowledge obtained at earlier stages of education.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exercise 3	100.0%	20.0%
	exercise 5	100.0%	20.0%
	exercise 4	100.0%	20.0%
	exercise 1	100.0%	20.0%
	exercise 2	100.0%	20.0%
Recommended reading	Basic literature		
	Zaucha J. (red.), Studium uwarunkowań zagospodarowania przestrzennego polskich obszarów morskich wraz z analizami przestrzennymi. Instytut Morski, Gdańsk, 2015.		
	Miształ K. (red.), Organizacja i funkcjonowanie portów morskich. Wyd. Uniwersytetu Gdańskiego, 2010.		
	Plan zagospodarowania przestrzennego obszarów morskich w skali 1:200000		
	Zaucha J., Planowanie przestrzenne obszarów morskich. Polskie uwarunkowania i plan pilotażowy. IM, Gdańsk, 2009		
	Portowy plan gospodarowania odpadami oraz pozostałościami ładunkowymi ze statków (Gdańsk, Gdynia, Szczecin, Ustka. Łeba, Władysławowo)		
	Projekty zagospodarowania przestrzennego wód portowych (Gdańsk, Gdynia, Władysławowo, Hel, Elbląg, Szczecin, Kołobrzeg, Ustka, Darłowo)		

	Supplementary literature	<p>Dyrektywy UE, ustawy i rozporządzenia, ekspertyzy i raporty dotyczące obszarów przybrzeżnych wykonane na potrzeby KPZK</p> <p>Studium uwarunkowań do planu zagospodarowania przestrzennego polskich obszarów morskich Zalewu Szczecińskiego, Szczecin 2017.</p> <p>Studium uwarunkowań do planu zagospodarowania przestrzennego Ławicy Środkowej.</p> <p>Pilotażowy plan zagospodarowania przestrzennego zachodniej części Zatoki Gdańskiej wraz z Prognozą.</p> <p>Studium nad problemami oceny skutków środowiskowo-przestrzennych eksploatacji gazu z łupków w województwie pomorskim i przyległych obszarach morskich. Problemy Ocen Środowiskowych, 2012.</p> <p>Plan zagospodarowania przestrzennego województwa pomorskiego.</p> <p>Plan zagospodarowania przestrzennego województwa zachodniopomorskiego</p> <p>Międzynarodowa konwencja o zapobieganiu zanieczyszczaniu morza przez statki - konwencja MARPOL 73/78 (Dz. U. z 2005 r. poz. 1679) i jej załączniki</p> <p>Ustawa z dnia 16 marca 1995 r. o zapobieganiu zanieczyszczaniu morza przez statki (Dz.U. 1995 Nr 47 poz. 243) wraz z ostatnimi zmianami</p> <p>Bolałek J., Ochrona środowiska morskiego od teorii do praktyki. Wyd. Uniwersytetu Gdańskiego, 2016.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>Ship types, types and parameters.</p> <p>Technical depths of water basins</p> <p>Functional division of sea areas. Restricted waters - definition, causes and types of limitations.</p> <p>Scope of competences and activities of the Maritime Office</p> <p>Scope of competences and activities of seaport managements</p> <p>Port equipment and installations for the collection, management and disposal of waste from ships.</p> <p>Functional and spatial conflicts in the use of the coastal zone related to the exploitation of living resources in the sea.</p> <p>Location factors and environmental constraints in the use of the coastal zone of the sea for recreational purposes.</p> <p>Recreational infrastructure and its impact on the Polish Baltic coast.</p>	
Work placement	Not applicable	