GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Innovation and Product Planning, PG_00068469		
Field of study	Engineering Management		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	5.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department Of Management Engineering And Quality -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Anna Lis	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	8.0	32.0	0.0	0.0	0.0	40

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	40	5.0	80.0	125

Subject objectives

Provide the knowledge and develop the skills necessary to identify, design and implement innovative products, taking into account market strategies, customer needs and the product life cycle.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K02] is prepared to make competent and ethical decisions to create and maintain economic, social, and environmental values, demonstrating entrepreneurial actions.	Is ready to make competent and ethical decisions to design product innovations, acting in accordance with economic, social and environmental values	[SK5] Assessment of ability to solve problems that arise in practice
[K6_W04] possesses advanced knowledge of the principles of creative and entrepreneurial activity, enabling the identification and implementation of innovative ideas while ensuring compliance with copyright protection requirements.	has advanced knowledge of the principles of creative thinking to identify and implement innovative ideas while maintaining copyright protection requirements.	[SW1] Assessment of factual knowledge
[K6_U05] designs innovative solutions for complex management processes by utilizing appropriate methods and techniques.	can design innovative solutions and products using appropriate methods and techniques	[SU4] Assessment of ability to use methods and tools

Subject contents

Lecture: Introductory lecture , Definitions of innovation and new products, Types of innovation and new products, Models of innovation, Models of new product development, Full product life cycle, Strategies for innovation, Sources of innovation, Project management in new product planning and development, Selected concepts of innovation and product planning, Methods for generating innovation ideas, Intellectual property protection, Testing new products.

Exercises: Identification of market opportunities, Analysis of macro and micro environment, Analysis of innovation potential, Selection of innovation strategy, Design of innovation using selected creative thinking methods (brainstorming, morphological method, QFD House of Quality) and innovation concepts (Design Thinking, Disruptive Innovation, Blue Ocean Strategy), Design of innovation process, Project management, Protection of intellectual property, Testing, Marketing and distribution.

Prerequisites and co-requisites	no requirements	
Assessment methods and criteria		

Subject passing criteria	Passing threshold	Percentage of the final grade
Exam	60.0%	50.0%
Case study	60.0%	25.0%
Exercise report	60.0%	25.0%

Recommended reading	Basic literature	Brown, T. (2009). Change by design: How design thinking creates new alternatives for business and society. *Collins Business*. Christensen, C. M. (2015). *The innovator's dilemma: when new technologies cause great firms to fail*. Harvard Business Review Press. Kim, W. C., & Mauborgne, R. (2011). Blue ocean strategy. *Harvard business review*. Kim, W. C., & Mauborgne, R. A. (2014). *Blue ocean strategy, expanded edition: How to create uncontested market space and make the competition irrelevant*. Harvard Business Review Press. Kubiszewska, K., Łopatowska, J., & Lis, A. (2025). Praktyczne wyzwania edukacji menedżerskiej. Zbiór caseów dydaktycznych. Pomykalski, A. (2001). *Zarządzanie innowacjami*, PWE, Warszawa. Wirkus, M., & Lis, A. (2012). Zarządzanie projektami badawczo-rozwojowymi. *Difin, Warszawa*. Wirkus, M., & Lis, A. (2015). Planowanie i rozwój nowych produktów. CeDeWu, Warszawa.
	Supplementary literature	Kaplan, R. S., Norton, D. P., Pniewski, K., Jarugowa, A., Polakowski, M., & Kabalski, P. (2001). *Strategiczna karta wyników: jak przełożyć strategię na działanie*, Wydawnictwo Naukowe PWN, Warszawa. Pomykalski, A. (1997). *Innowacje*. Wydaw. Politech. Łódzkiej. Porter, M. E. (2008). *Competitive advantage: Creating and sustaining superior performance*. Simon and Schuster. Porter, M. E., & Strategy, C. (1980). Techniques for analyzing industries and competitors. *Competitive Strategy. New York: Free*, *1*. Trott, P. (2008). *Innovation management and new product development* . Pearson education.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Please list and describe at least three innovation strategies. What is a disruptive innovation? What are the main steps in following the Design Thinking procedure?	
Work placement	Not applicable	