GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Innovation in production engineering, PG_00055051		
Field of study	Management and Production Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
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	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Zakład Technologii Maszyn i Automatyzacji Produkcji -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Aleksandra Wiśniewska	
	Teachers	dr inż. Aleksandra Wiśniewska	

Lesson types and methods of instruction							
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	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	2.0	8.0	25

Subject objectives	The aim of the course is to familiarize the student with a wide range of issues in the field of entrepreneurship and innovation. In the era of rapid scientific and technical progress, constant and unpredictable changes, intuitive forecasting is insufficient. Development is stimulated by the emergence and development of new technologies. An important task for future engineers working in the areas of manufacturing is to follow trends in the development of technologies useful for the construction and production of innovative products with innovative technologies.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U02] has the ability of self-learning and expanding knowledge in a specialized field of engineering production	The student understands the need to specialize in selected areas of production engineering in order to improve qualifications and innovation potential.	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
	[K6_U04] is able to develop documentation in the area of preparation, implementation and control of production processes in Polish and in a foreign language considered basic for scientific fields, is able to identify and formulate the basic objectives of quality management in the product life cycle, is able to use information and communication techniques appropriate to the implementation of tasks typical in engineering activities including preparation, production and supervision of the manufacturing process	The student is able to prepare analyzes, reports, procedures and instructions, applying the rules of visualization and standardization, and using the trade vocabulary freely in Polish and English.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
	[K6_W06] has knowledge of the life cycle of products and mechanical devices and systems, in the field of machine parts manufacturing techniques, as well as the possibilities and trends in the development of machines and production devices and process control	The student is able to determine the development potential of the product, using the methods and tools for analyzing the quality function deployment, analyzing market needs and defining the directions of development of machines and devices and methods of process control.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
	[K6_K01] feels the need for self-realization by learning throughout life, is looking for modern and innovative solutions in their actions, is able to think creatively and act in an entrepreneurial way	The student knows the elements of the theory of needs and is able to plan his satisfaction and his own development by applying the principles and tools of continuous improvement to the process of self-development and building his professional career.	[SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice [SK3] Assessment of ability to organize work
Subject contents	Selected concepts of the entrepreneur and entrepreneurship. Entrepreneur's Law in Poland. Principles of functioning of companies from the SME sector in Poland. Own business or full-time work. Start-ups. Procedure for starting the own business. Procedure for obtaining funds for starting own business. Types of innovation and companies innovativeness. Innovation strategies. Strategy of the blue ocean. Benchmarking strategy. Industry 4.0. Sources of financing innovation and business development in Poland. Institutions supporting innovative companies. Parks and incubators of entrepreneurship. Legal aspects of innovative activity of enterprises.		
Prerequisites and co-requisites	Basic knowledge in economics and / or management		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	writen test	60.0%	100.0%

Recommended reading	Basic literature	Sołtysik Mariusz, Projektowanie strategii innowacji., PWE 2021 Jelonek Dorota , Moczała Aleksander, Metody i techniki projektowania innowacji., PWE 2021 Skowron-Grabowska Beata, Łańcuchy wartości w zarządzaniu organizacjami. Wyzwania innowacyjno-kryzysowe, PWE 2021 Kraśnicka Teresa , Gładysz Bartłomiej , Kucińska, Doskonalenie organizacji i procesów innowacyjnych., PWE 2020 Łobejko Stanisław , Plinta Dariusz , Sosnowska Alicja, Strategie i modelowanie rozwoju produktów innowacyjnych ., PWE 2019 Sońta-Drączkowska Ewa, Zarządzanie projektami we wdrażaniu innowacji (okładka twarda) PWE 2018 B. Glinka, S. Gudkova, Przedsiębiorczość, Wolters Kluwer, Warszawa 2011. K. Matusiak, Rozwój systemów wsparcia przedsiębiorczości przesłanki, polityka i instytucje. Wydawnictwo Instytutu Technologii Eksploatacji PIB, Radom-Łódź 2006. T. Kraśnicka, Koncepcje rozwoju przedsiębiorczości ekonomicznej i pozaekonomicznej. Wydawnictwo AE Katowice 2002.
	Supplementary literature	J.Cieślik: Przedsiębiorczość dla ambitnych. Jak uruchomić własny biznes Wydawnictwa Akademickie i Profesjonalne, Wyd. 2, 2008. Szymańska Elżbieta , Innowacyjne przedsiębiorstwo usługowe., PWE 2021. Sobiecki (red.), Podstawy przedsiębiorczości w pytaniach i odpowiedziach, Difin, Warszawa 2003. A. Cuervo, D. Ribeiro, S. Roig (eds.), Entrepreneurship. Concepts, theory and Perspective. Springer 2007. Ryszard Knosala, Innowacje w zarządzaniu i inżynierii produkcji. T. 1., Oficyna Wydawnicza Polskiego Towarzystwa Zarządzania Produkcją 2016
	eResources addresses	Adresy na platformie eNauczanie: Innowacje w inżynierii produkcji, ZiIP, Ist., sem.02, 2022/2023 - Moodle ID: 24307 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=24307
Example issues/ example questions/ tasks being completed	1. List at least 3 external sources of investment financing in the company. 2. List and discuss entrepreneurial strategies of innovative enterprises. How to protect the position of an innovation leader on the market? 3. Discuss the differences between start-ups and other newly established firms.	
Work placement	Not applicable	

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