



Subject card

Subject name and code	MODERN CONCEPTS OF PRODUCTION MANAGEMENT, PG_00070708						
Field of study							
Date of commencement of studies	October 2026		Academic year of realisation of subject			2028/2029	
Education level	first-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	3		Language of instruction			English	
Semester of study	6		ECTS credits			7.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department of Management Engineering and Quality -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ewa Marjańska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	60.0	0.0	0.0	0.0	75
	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	75		3.0		97.0	175
Subject objectives	preparation of students to formulate and implement innovative production management concepts based on knowledge of contemporary methods and approaches to managing production processes, while fostering attitudes of creativity and entrepreneurship in designing organisational solutions within the production environment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W07] knows and understands advanced methods for analyzing the management process in technical, legal, economic, financial, and social contexts.		knows and understands contemporary production management concepts and methods, as well as the interrelationships between technological, organisational, and logistical processes, and is able to explain their impact on the efficiency and flexibility of production systems.		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U05] designs innovative solutions for complex management processes by utilizing appropriate methods and techniques.		is able to design the implementation of innovative production management processes, selecting methods that ensure high efficiency of production operations.		[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task		
	[K6_K03] is prepared to critically assess the knowledge they possess, which is necessary for solving cognitive and practical problems, and to supplement any gaps with opinions from external experts.		is ready to critically assess proposed production management solutions by confronting them with current knowledge, best practices, and expert opinions, while demonstrating creativity and entrepreneurial thinking in designing organisational improvements.		[SK1] Assessment of group work skills [SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice		

Subject contents	Course content – lecture		
	<p><b>Lean manufacturing</b></p> <ol style="list-style-type: none"> <li>1. Basic concepts related to Lean Manufacturing</li> <li>2. Problem solving</li> <li>3. 5S - engaging in the perception and elimination of waste</li> <li>4. Gemba Walk - identifying problems in processes</li> <li>5. Standardization of work</li> <li>6. Milk run - organization of supplying stations with materials</li> <li>7. Poka-yoke - right the first time</li> <li>8. SMED - shortening changeover times</li> <li>9. Kamishibai - layered standards auditing</li> <li>10. One point lesson - communication of changes in processes</li> </ol> <p><b>Quick Response manufacturing</b></p> <ol style="list-style-type: none"> <li>1. VUCA world</li> <li>2. Quick Response Manufacturing pillars</li> <li>3. White and gray times</li> <li>4. Construction of MCT maps</li> <li>5. Creating cells based on FTMS</li> <li>6. Quick Response Office Center</li> <li>7. Quick Response Cell</li> </ol>		
	Course content – exercises		
	<p><b>Lean manufacturing</b></p> <ol style="list-style-type: none"> <li>1. Basic concepts related to Lean Manufacturing</li> <li>2. Problem solving</li> <li>3. 5S - engaging in the perception and elimination of waste</li> <li>4. Gemba Walk - identifying problems in processes</li> <li>5. Standardization of work</li> <li>6. Milk run - organization of supplying stations with materials</li> <li>7. Poka-yoke - right the first time</li> <li>8. SMED - shortening changeover times</li> <li>9. Kamishibai - layered standards auditing</li> <li>10. One point lesson - communication of changes in processes</li> </ol> <p><b>Quick Response manufacturing</b></p> <ol style="list-style-type: none"> <li>1. VUCA world</li> <li>2. Quick Response Manufacturing pillars</li> <li>3. White and gray times</li> <li>4. Construction of MCT maps</li> <li>5. Creating cells based on FTMS</li> <li>6. Quick Response Office Center</li> <li>7. Quick Response Cell</li> </ol>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria		Passing threshold
	Team projects		60.0%
	Problem-based tests with open-ended and closed-ended questions assessing the understanding of mechanisms and underlying conditions.		40.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. Czerska J, Podstawowe narzędzia Lean Manufacturing, LeanQ Team, 2014</li> <li>2. Czerska J, Doskonalenie strumienia wartości, wyd 2, LeanQ Team, 2014</li> <li>3. Czerska J (red.) Poradnik Młodego Lean Lidera, Lean Education, 2019</li> <li>4. Rajan Suri Zyskaj na Czasie, Wyd MT Biznes 2017</li> <li>5. Knosala R., Inżynieria Produkcji, Kompendium Wiedzy, Wyd. PWE Warszawa 2017</li> <li>6. Szatkowski K., Nowoczesne zarządzanie produkcją, Wyd. PWN Warszawa 2014</li> </ol>	
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Pająk E., Zarządzanie produkcją, Wyd PWN Warszawa 2021</li> <li>2. Rajan Suri Przewodnik po MCT, Wyd 4Results, QRM Institute Polska</li> </ol>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> <li>• Discuss the construction of the MCT map</li> <li>• Discuss the 4 pillars of QRM</li> <li>• Build a QRoc based on selected FTMS</li> <li>• Use the Lean Management tool in relation to the given problem in the form of a case study</li> </ul>		
Practical activities within the subject	Not applicable		

Document generated electronically. Does not require a seal or signature.