

COURSE DESCRIPTION CARD

Bialystok University of Technology Faculty of Engineering Management									
Field of study	Management						Degree level and programme type	first degree/ second degree	
Specialisation/ diploma path	-						Study profile	-	
Course name	Theory of Constraints						Course code	IS-FM-00108W	
							Course type	elective	
Forms and number of hours of educational activities	L	C	LC	P	SW	FW	S	Semester	winter
		30						No. of ECTS credits	6
Entry requirements	—								
Course objectives	The aim of the course is to familiarize students with Goldratt's Theory of Constraints approach to planning and managing the production process. Acquisition by students of the ability to identify a constraint in any area of the enterprise and to solve problems through appropriate constraint management.								
Course content	The concept of the Theory of Constraints (TOC). Logical Thinking Tools. Methods of identifying bottlenecks. Constraints management. Creative problem solving. Removal of the sources of problems in the enterprise. Improving the production process. Throughput accounting (TA).								
Teaching methods	case studies, discussion, simulation games, team work, multimedia presentation, project method								
Assessment method	evaluation of project, evaluation of work in the classroom, evaluation of homework								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
	Knowledge: the graduate knows and understands							-	
LO1	the concept of constraint management in the enterprise							-	
LO2	the differences between the bottleneck and the limitation of the production system							-	
	Skills: the graduate is able to							-	
LO3	carry out logical analyses of production processes and identify their limitations							-	
LO4	analyse and adjust the implemented production processes to the changing environmental conditions							-	
	Social competence: the graduate is ready to							-	
LO5	communicate freely with the scientific and business community							-	
LO6	work in an interdisciplinary and international team in solving engineering problems							-	
Symbol of learning outcome	Methods of assessing the learning outcomes							Type of tuition during which the outcome is assessed	

LO1	evaluation of project, evaluation of work in the classroom, evaluation of homework	C	
LO2	evaluation of project, evaluation of work in the classroom, evaluation of homework	C	
LO3	evaluation of project, evaluation of work in the classroom, evaluation of homework	C	
LO4	evaluation of project, evaluation of work in the classroom, evaluation of homework	C	
LO5	evaluation of project, evaluation of work in the classroom, evaluation of homework	C	
LO6	evaluation of project, evaluation of work in the classroom, evaluation of homework	C	
Student workload (in hours)		No. of hours	
Calculation	participation in classes	30	
	preparation for classes	25	
	work on homework's	35	
	individual work on case studies	35	
	team work on preparing a project	20	
	consultations attendance	5	
	TOTAL:	150	
Quantitative indicators		HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation		35	1,4
Student workload – practical activities		150	6
Basic references	<ol style="list-style-type: none"> 1. Cox III J.F., Schleier J.G., Theory of Constraints Handbook, McGraw-Hill, Nowy Jork 2010. 2. Goldratt E.M., What is this thing called theory of constraints and how should it be implemented?, Great Barrington, North River Press, 1990. 3. Nagarkatte U., Theory of constraints: creative problem solving, Boca Raton: CRC/Taylor & Francis, 2018. 4. Stein R.E., The theory of constraints: applications in quality and manufacturing, Boca Raton: CRC/Taylor & Francis, 2009. 		
Supplementary references	<ol style="list-style-type: none"> 1. Klapholz R., The cash machine-using the theory of constraints for sales management: a business novel, Great Barrington: North River Press, 2004. 		
Organisational unit conducting the course	Department of Production Management	Date of issuing the programme	
Author of the programme	Patrycja Rogowska, MSc, Eng.	02/28/2022	

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar