

Field of study		Chemical Engineering							
Mode of study		stationary	Level	first cycle					
Graduate's qualification		inżynier							
Area(s) of study		nauki techniczne							
Educational profile		general academic							
Module									
Course unit		Management in Engineering							
Code		ChEn_1A_S_C24a							
Field of specialisation									
Administering faculty		External Department							
ECTS		1,0	ECTS (forms)	1,0					
Form of course credit		credits	Language	english					
Electives		9	Elective group						
Form of instruction		Code	Semester	Hours	ECTS	Weight	Credit		
lecture		W	7	15	1,0	1,00	credits		
Leading teacher		Żebrowski Paweł (Pawel.Zebrowski@zut.edu.pl)							
Other teachers									
Prerequisites									
W-1	Basics of Management								
W-2	Mathematics								
W-3	Engineering								
Module/course unit objectives									
C-1	Consolidation of knowledge related to the management in engineering.								
C-2	Developing student's ability to recognize the basic concepts of management in engineering.								
C-3	Improving student's awareness of the need for continuous education and professional development.								
C-4	Project management of engineering projects in practice. Get to know and forming teams. Teams management. Workflow. Milestones. Risks and how to avoid them. Project planning and executing								
Course content divided into various forms of instruction						Number of hours			
T-W-1	Get to know and forming teams. Teams management. Workflow. Milestones. Risks and how to avoid them. Project planning and executing. Project management of engineering projects in practice.					15			
Student workload - forms of activity						Number of hours			
A-W-1	Classroom participation.					10			
A-W-2	Preparation to the lecture.					10			
A-W-3	Independent study of the subject matter of the classes.					5			
A-W-4	Participation in project classes.					5			
Teaching methods / tools									
M-1	Lecture								
Evaluation methods (F - progressive, P - final)									
S-1	F	Written test							
Designed learning outcomes			Reference to the learning outcomes designed for the fields of study	Reference to the learning outcomes defined for the particular areas of education	Reference to learning outcomes leading to the degree of "inżynier"	Course objectives	Course content	Teaching methods	Evaluation methods
Knowledge									
ChEn_1A_C24a_W01 Student has theory-based knowledge within the scope of management in engineering.			ChEn_1A_W16 ChEn_1A_W17	P6S_WG_TA11 P6S_WK_TA11	P6S_WG_IA11	C-1	T-W-1	M-1	S-1
Skills									
ChEn_1A_C24a_U01 Student can use the acquired knowledge to solve and evaluate selected problems in the field of management in engineering.			ChEn_1A_U05 ChEn_1A_U11 ChEn_1A_U12 ChEn_1A_U13	P6S_UU P6S_UW_TA12	P6S_UW_IA12	C-2	T-W-1	M-1	S-1
Other social / personal competences									



ChEn_1A_C24a_K01 Student is aware of the need for continuous education and professional development in the field of management in engineering.	ChEn_1A_K02 ChEn_1A_K06	P6S_KO		C-3	T-W-1	M-1	S-1
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Required reading

1. Paul S Chinowsky, James E Meredith, Strategic Corporate Management for Engineering, Oxford University Press, UK, 2000
2. Garold D. Oberlender,, Project Management for Engineering and Construction, McGraw-Hill International Editions, 2011
3. Karl Smith, P.K. Imbrie, Teamwork and Project Management (Basic Engineering Series and Tools), 2011
4. J. Park , T. P. Seager , P. S. C. Rao , M. Convertino , I. Linkov, , Integrating Risk and Resilience Approaches to Catastrophe Management in Engineering Systems, 2011

Supplementary reading

1. M.D. Singh, An interpretive structural modeling of knowledge management in engineering industries, MCB UP Limited, 2003
2. W. Hammer, D. Price, Occupational Safety Management and Engineering (5th Edition), 2011