



## Subject card

Subject name and code	Quality and Building Materials Management, PG_00035964						
Field of study	Chemical Technology						
Date of commencement of studies	October 2022	Academic year of realisation of subject				2023/2024	
Education level	first-cycle studies	Subject group				Obligatory subject group in the field of study	
Mode of study	Full-time studies	Mode of delivery				at the university	
Year of study	2	Language of instruction				Polish	
Semester of study	4	ECTS credits				2.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Process Engineering and Chemical Technology -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Marian Kamiński, prof. zw. PG				
	Teachers						
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	15.0	30
	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	30		5.0		15.0	50
Subject objectives	The student masters the information related to the introduction of quality management systems in a company with a chemical profile. The student anticipates the effects of the activities carried out and is prepared for the critical selection of the quality management system, its implementation, and also uses the knowledge learned to conduct the audit.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	K6_W05						
	K6_U06						
	K6_K02		Student updates knowledge and improves professional skills in the field of risk management systems, occupational safety and environmental protection. The student cooperates in a team in a professional manner, knows and observes the rules of professional ethics, is able to exchange information effectively and improve functioning in teams.			[SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness	
	K6_W04						

Subject contents	<p>History of Quality Management Systems.</p> <p>Discussing the Deming cycle and the risk-based approach.</p> <p>Principles of Good Manufacturing Practice</p> <p>Principles of Good Laboratory Practice</p> <p>Discussion of the assumptions of the ISO 9001: 2015 standard in relation to chemical production.</p> <p>Discussion of the assumptions of ISO 14001: 2015 in relation to chemical production</p> <p>Discussion of the assumptions of ISO 45001: 2018 in relation to chemical production</p> <p>Auditing techniques</p> <p>Audit plan, checklist and audit report.</p>														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="451 862 796 896">Subject passing criteria</th> <th data-bbox="799 862 1144 896">Passing threshold</th> <th data-bbox="1147 862 1490 896">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="451 900 796 929">presentation</td> <td data-bbox="799 900 1144 929">60.0%</td> <td data-bbox="1147 900 1490 929">40.0%</td> </tr> <tr> <td data-bbox="451 934 796 963">group work-report</td> <td data-bbox="799 934 1144 963">60.0%</td> <td data-bbox="1147 934 1490 963">27.0%</td> </tr> <tr> <td data-bbox="451 967 796 996">test</td> <td data-bbox="799 967 1144 996">60.0%</td> <td data-bbox="1147 967 1490 996">33.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	presentation	60.0%	40.0%	group work-report	60.0%	27.0%	test	60.0%	33.0%
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group work-report	60.0%	27.0%													
test	60.0%	33.0%													
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. A. Hamrol <i>Zarządzanie jakością z przykładami</i>, PWN, Warszawa, <b>2007</b>.</li> <li>2. B. Gajdzik, A. Wyciślik <i>Jakość, środowisko i bezpieczeństwo pracy w zarządzaniu przedsiębiorstwem</i>, Wyd. Pol. Śl., Gliwice, <b>2010</b>.</li> <li>3. B. Hancyk <i>ADR, REACH, CLP Niebezpieczne chemikalia Poradnik</i>, Atest, Kraków, <b>2012</b>.</li> <li>4. R. Wolniak, B. Skotnicka-Zasadzień <i>Zarządzanie jakością dla inżynierów</i>, Wyd. Pol. Śl., Gliwice, <b>2010</b>.</li> <li>5. ISO 9001:2015</li> <li>6. ISO 18001:2015</li> <li>7. ISO 45001:2018</li> <li>8. Crosby Ph., <i>Quality is still Free</i>, McGraw-Hill, New York <b>1996</b>.</li> </ol>													

	Supplementary literature	<p>1. Deming E.W., Out of the Crisis, Massachusetts Institute of Technology, Cambridge <b>1982</b>.</p> <p>2. Feigenbaum A.V., Total Quality Control, McGraw-Hill, Inc., New York <b>1991</b>.</p> <p>3. Juran J.M., Gryna Frank M., Jr., Jakość projektowanie analiza, Wydawnictwo Naukowo-Techniczne, Warszawa <b>1974</b>.</p> <p>4. Juran J.M., Juran`s Quality Control Handbook, McGraw-Hill, Inc., New York <b>1988</b>.</p> <p>5. Taguchi G., Elsayed E.A., Hsiang T., Quality Engineering in Production Systems, McGraw-Hill, Inc., New York <b>1989</b>.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p><b>The student answers the questions of the presentation presented at the seminar, examples of questions:</b></p> <ol style="list-style-type: none"> <li>1. Health and safety requirements and fire protection in chemical production.</li> <li>2. Basic legal acts in the field of waste management in the chemical industry</li> <li>3. Types of audits.</li> <li>4. Rules of the auditor's work.</li> </ol> <p><b>Student prepares a multimedia presentation, examples of topics:</b></p> <ol style="list-style-type: none"> <li>1. Planning of material needs in chemical production. MRP method.</li> <li>2. Principles of GLP Good Laboratory Practice according to the Regulation of the Minister of Health of May 22, 2013, Coll. 2013 item 665.</li> <li>3. Production according to the principles of Good Manufacturing Practice GMP according to the Regulation of the Minister of Health of March 18, 2019, Journal of Laws 2019 item 728</li> <li>4. Validation and verification of the process according to the principles of Good Manufacturing Practice GMP according to the Regulation of the Minister of Health of March 18, 2019, Journal of Laws 2019 item 728</li> <li>5. Supervision over the quality of cosmetic products according to the Act OJ 2018 item 2227</li> </ol> <p><b>The student prepares a report on the task entrusted to him while working in a group, examples of tasks:</b></p> <ol style="list-style-type: none"> <li>1. Audit plan</li> <li>2. List of control questions</li> <li>3. Audit report</li> </ol>	
Work placement	Not applicable	