



Subject card

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| Subject name and code | Quality management in welding, PG_00055247 | | | | | | |
| Field of study | Management and Production Engineering | | | | | | |
| Date of commencement of studies | October 2022 | Academic year of realisation of subject | 2024/2025 | | | | |
| 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 | Polish | | | | |
| Semester of study | 5 | ECTS credits | 3.0 | | | | |
| Learning profile | general academic profile | Assessment form | assessment | | | | |
| Conducting unit | Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. inż. Grzegorz Rogalski | | | | | |
| | Teachers | | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 15.0 | 0.0 | 0.0 | 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 | 8.0 | | 37.0 | 75 | |
| Subject objectives | The aim of the course is to familiarize students and consolidate knowledge in the field of quality management systems and related standards, including quality and technological documentation. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K6_K02] is able to interact and work in a group, assuming different roles, can inspire and organize the learning process of others, properly identifies priorities for realization of a task specified by themselves or others | Based on the provided input data, the student is able to determine the right direction in creating a quality management system | [SK1] Assessment of group work skills [SK4] Assessment of communication skills, including language correctness |
| | [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 develop procedures related to the creation of a quality management system, including a system integrated with other systems, using the available tools. | [SU3] Assessment of ability to use knowledge gained from the subject |
| | [K6_W08] has basic management knowledge, including process and product quality management, and detailed knowledge of integrated and standardized quality, environmental, health and safety management systems | The student is able to make a proper assessment of the quality management system in relation to the requirements set for the company, including related systems, e.g. related to welding processes and OHS | [SW2] Assessment of knowledge contained in presentation |
| [K6_U03] is able to communicate using various techniques in the professional environment and other environments, has language skills enabling free communication in the field of technical sciences related thematically to management and production engineering | The student knows the proper nomenclature related to quality management systems and is able to clearly formulate his statements. Uses the technical nomenclature related to the field of study. | [SU5] Assessment of ability to present the results of task [SU3] Assessment of ability to use knowledge gained from the subject | |
| Subject contents | As part of the course, students will learn about quality management systems related to welding processes and the basics of the ISO 9001 system. A series of EN ISO 3834 standards will be discussed in detail. Attention will be paid to other systems that contain references to bonding processes in their structure. The methods of creating technical documentation under the applicable standards and regulations will be discussed. Attention will be paid to the practical aspects of the systems discussed. | | |
| Prerequisites and co-requisites | None | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Laboratory | 56.0% | 50.0% |
| | Lecture | 56.0% | 50.0% |

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| Recommended reading | Basic literature | <p>Czuchryj J.: Kontrola jakości prac spawalniczych, KaBe 2003</p> <p>Klimpel A.: Kontrola i zapewnienie jakości w spawalnictwie. Tom 1, Wydawnictwo Politechniki Śląskiej</p> <p>Szymański A. Kontrola i zapewnienie jakości w spawalnictwie. Tom 2, Wydawnictwo Politechniki Śląskiej</p> <p>Czuchryj J., Świergoł S.: Podstawy organizacji kontroli jakości w spawalnictwie, Instytut Spawalnictwa Gliwice, 2003</p> <p>Pilarczyk J.: Poradnik inżyniera Spawalnictwo Tom 1, Tom 2 Wydanie II, Wydawnictwo: Naukowe PWN, 2017</p> <p>EN ISO 3834-1, 2, 3, 4, 5: 2007</p> <p>EN ISO 9001:2015</p> <p>EN 1090-1, 2</p> |
| | Supplementary literature | Not require |
| | eResources addresses | |
| Example issues/ example questions/ tasks being completed | <ol style="list-style-type: none"> 1. Specify the standards related to quality management in welding processes, including the implementation for the production of steel structures 2. Explain the principle of PDCA 3. What is a quality management system and what elements it contains 4. Develop a process map in a manufacturing plant using welding processes 5. Enter the elements that should be included in the welding plan 6. List the basic variables important in the process of electric arc welding | |
| Work placement | Not applicable | |