



Subject card

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| Subject name and code | Material standards in production processes, PG_00059502 | | | | | | |
| Field of study | Management and Production Engineering | | | | | | |
| Date of commencement of studies | February 2023 | | Academic year of realisation of subject | | 2023/2024 | | |
| Education level | second-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 | 1 | | Language of instruction | | Polish Polish | | |
| Semester of study | 2 | | ECTS credits | | 3.0 | | |
| Learning profile | general academic profile | | Assessment form | | assessment | | |
| Conducting unit | Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Gabriel Strugała | | | | |
| | Teachers | | dr inż. Gabriel Strugała | | | | |
| 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 | Acquisition of theoretical and practical skills for using material standards in production processes. To know the components of standards, the purpose of using them in companies and to acquire the ability to verify the material compliance with standards. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K7_K05] is able to integrate the possessed knowledge from various scientific disciplines, and in the innovative implementation of engineering tasks also take into account system and non-technical aspects, including ethical ones | Purpose of using material standards in enterprises: To be aware of the role of standards in ensuring product consistency, quality and safety. To understand how standards affect the design, production, testing and quality control processes. | [SK5] Assessment of ability to solve problems that arise in practice |
| | [K7_U01] can obtain information from literature, databases and others sources, also in English or another foreign language recognized as the language of international communication in a given engineering discipline; is able to integrate the obtained information, interpret it, as well as draw conclusions and formulate and justify opinions. | Ability to interpret material standards: Analysis and interpretation of standards requirements for specific materials and production processes. Ability to translate the requirements of standards into practical steps in the production process. | [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information |
| | [K7_K01] is aware of the need to expand knowledge and verify the methods of solving problems by consulting experts | Ability to verify compliance of materials with standards: Development of quality control procedures based on standards. Use of testing and measurement techniques to assess compliance of materials with specified standards. | [SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills |
| | [K7_W01] knows and understands to a greater extent selected issues in the field of management and quality sciences and mechanical engineering, their location in the field of social sciences and engineering and technical sciences, as well as relationships with related disciplines, and sees the possibility of applying the knowledge in practice | It has theoretical and practical skills in material standards in production processes, which is key to effective quality management and ensuring that products comply with established standards. | [SW3] Assessment of knowledge contained in written work and projects |
| Subject contents | [K7_W03] has an orderly, theoretically founded knowledge related to selected areas of production engineering. | Knowledge of specific industry standards that are relevant to the production sector. Keeping abreast of updates and changes in standards and adapting production processes to new requirements. | [SW3] Assessment of knowledge contained in written work and projects |
| | Definition of the standard Features of a standard Different types of standards Standards and patents What are the benefits of standards Value of standards for the company Value of standards for society Value of standards for consumers Evaluation of compliance How standards are developed and how they are structured Why is it important to know about the standardisation process? How the standardisation process works Different ways to participate in standardisation How standards are structured Standards and other standardisation products How standards are numbered How standards are titled Standards support innovative research Standards support innovative products European context National context | | |
| Prerequisites and co-requisites | None | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | | 50.0% | 100.0% |

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| Recommended reading | Basic literature | <p>A world built on standards. A handbook for university students, Danish Standards Foundation 2015</p> <p>Act of 12 September 2002 on standardisation.</p> <p>Act of 13 April 2016 on conformity assessment and market surveillance systems</p> <p>Access in the PG standards reading room to current nom via https://www.pkn.pl/</p> |
| | Supplementary literature | None |
| | eResources addresses | <p>Adresy na platformie eNauczenie:</p> <p>Normy materiałowe w procesach produkcyjnych - Moodle ID: 35052 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=35052</p> |
| Example issues/ example questions/ tasks being completed | <p>Explain the factors to be considered when selecting materials for a specific engineering application.</p> <p>Plan the manufacturing process for a new component, considering material selection, manufacturing techniques and quality control.</p> <p>Conduct a strength analysis for a specific engineering component.</p> | |
| Work placement | Not applicable | |