GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

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|---|---|---|---|---|---|---|---|
| Subject name and code | Manufacturing Engineering II, PG_00060460 | | | | | | |
| Field of study | Mechanical and Naval Engineering | | | | | | |
| Date of commencement of studies | October 2023 | | Academic year of realisation of subject | 2024/2025 | | | |
| Education level | first-cycle studies | | Subject group | Obligatory subject group in the field of study | | | |
| Mode of study | Part-time studies | | Mode of delivery | at the university | | | |
| Year of study | 2 | | Language of instruction | Polish | | | |
| Semester of study | 3 | | ECTS credits | 5.0 | | | |
| Learning profile | general academic profile | | Assessment form | assessment | | | |
| Conducting unit | Zakład Technologii Materiałów Konstrukcyjnych i Spajania -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr hab. inż. Jacek Tomków | | | | |
| | Teachers | | | | | | |

| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|---|
| | Number of study hours | 18.0 | 0.0 | 18.0 | 0.0 | 0.0 | 36 |
| | 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 | 36 | 8.0 | 81.0 | 125 |

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| Subject objectives | Presenting basic manufacturing techniques, especially issues related to casting, metal forming and welding engineering. |

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K6_U04] is able to perform a critical analysis of the existing technical solutions, present the specification of the technology of manufacturing basic construction elements of machines and engineering assemblies | The student is able to prepare and modify technological documentation. | [SU4] Assessment of ability to use methods and tools |
| [K6_U15] is able to select appropriate measuring tools and techniques for qualitative verification of manufactured or in-service machinery and ship parts, is able to make basic measurements using basic measuring tools for qualitative verification of machinery and ship parts | The student is able to apply appropriate research techniques. | [SU1] Assessment of task fulfilment |
| [K6_U08] is able to design a technological manufacturing process for typical elements of machines or devices, using analytical and numerical calculating tools | The student is able to modify a manufacturing technology with appropriate parameters. | [SU3] Assessment of ability to use knowledge gained from the subject |
| [K6_U09] is able to plan the manufacturing, assembly and quality control processes of typical constructions and mechanical devices, estimating their costs | The student is able to propose a manufacturing technology with appropriate parameters. | [SU3] Assessment of ability to use knowledge gained from the subject |
| [K6_W16] has a knowledge of technologies for the manufacture of machine parts, is able to select the appropriate manufacturing process for a given mechanical component, has the ability to use tool catalogues to select tools and processing parameters | The student is able to propose appropriate manufacturing methods depending on the element being produced. The student is able to select the basic tools used in a given method as well as the necessary equipment. | [SW1] Assessment of factual knowledge |

**Subject contents**

Metallurgy, steelmaking processes, casting methods, metal forming, strain hardening, metal forming methods, weldability, construction of a welded joint, welding methods.

**Prerequisites and co-requisites**

**Assessment methods and criteria**

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| Laboratories | 51.0% | 49.0% |
| Lectures | 51.0% | 51.0% |

**Recommended reading**

Basic literature

1. Robert Skoblik, Lech Wilczewski. TECHNOLOGIA METALI Laboratorium, Wydawnictwo Politechniki Gdańskiej, 2006.

2. Jan Pilarczyk . Poradnik inżyniera Tom 1 Spawalnictwo, Wydawnictwo Naukowe PWN, 2022.

3. Jan Pilarczyk. Poradnik inżyniera Tom 2 Spawalnictwo, Wydawnictwo Naukowe PWN, 2022.

4. Włodzimierz Walczak i inni. Spawalnictwo ćwiczenia laboratoryjne, Wydawnictwo Politechniki Gdańskiej, 2000.

Supplementary literature

1. Erbel S., Kuczyński K., Marciniak Z.: Obróbka plastyczna .Warszawa. PWN 1986.

2. Romanowski W.P.: Poradnik obróbki plastycznej na zimno. Warszawa: WNT 1976.

3. Klimpel A.: Technologia spawania i cięcia metali. Wyd. Politechniki Śląskiej, Gliwice 1997.

eResources addresses

Adresy na platformie eNauczanie:

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|---|---|
| Example issues/ example questions/ tasks being completed | Metal forming methods, welding methods, casting methods. |
| Work placement | Not applicable |