GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

| | | | |
|---|---|---|---|
| Subject name and code | Rocket Science, E:41049W0 | | |
| Field of study | Space and Satellite Technologies | | |
| Date of commencement of studies | February 2025 | Academic year of realisation of subject | 2024/2025 |
| Education level | second-cycle studies | Subject group | |
| Mode of study | Full-time studies | Mode of delivery | at the university |
| Year of study | 1 | Language of instruction | English |
| Semester of study | 1 | ECTS credits | 3.0 |
| Learning profile | | Assessment form | assessment |
| Conducting unit | Department Of Geoinformatics -> Faculty Of Electronics Telecommunications And Informatics -> Wydziały Politechniki Gdańskiej | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. inż. Zbigniew Łubniewski | |
| | Teachers | dr hab. inż. Zbigniew Łubniewski | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 15.0 | 0.0 | 0.0 | 30.0 | 0.0 | 45 |

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 | 45 | 10.0 | 20.0 | 75 |

**Subject objectives**

Knowledge and understanding (extension, consolidation and understanding of knowledge)
- The student knows the construction of rockets
- The student has knowledge of mechanics, in particular, the knowledge necessary to understand the basic phenomena physical phenomena occurring in external ballistics objects related to rocket technology.
- The student has knowledge of how to take measurements on rockets and estimate the obtained results.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| K7_W04 | Student can design rocket functions and plan its mission | [SW1] Assessment of factual knowledge |
| K7_U09 | The student knows the tools of the field of study and the subject of rocket science | [SU4] Assessment of ability to use methods and tools |
| [K7_K04] Can show resourcefulness and ingenuity in dealing with professional tasks. | The student demonstrates an entrepreneurial spirit | [SK2] Assessment of progress of work |
| [K7_K81] is able to cooperate in international team at her/his own university, during work placement and during study abroad | Student współpracuje z kolegami z zagranicy | [SK1] Assessment of group work skills |
| [K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language | The student communicates in English and prepares all projects and reports in English. | [SK4] Assessment of communication skills, including language correctness |

**Subject contents**

Rocket Science Fundamentals; Nozzle; Rocket equation; Propulsive; Rocket engines; Orbits; Rocket dynamic and motions; Payload

**Prerequisites and co-requisites**

Basic engineering knowledge

**Assessment methods and criteria**

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| test | 56.0% | 100.0% |

**Recommended reading**

| | |
|---|---|
| Basic literature | - |

| | | |
|---|---|---|
| | Supplementary literature | - |
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | - | |
| Work placement | Not applicable | |

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