GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

| | | | |
|---|---|---|---|
| Subject name and code | WIND AND PARASEISMIC ENGINEERING, PG_00041320 | | |
| Field of study | Civil Engineering | | |
| Date of commencement of studies | February 2024 | Academic year of realisation of subject | 2024/2025 |
| Education level | second-cycle studies | Subject group | Optional subject group<br>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 |
| Semester of study | 2 | ECTS credits | 3.0 |
| Learning profile | general academic profile | Assessment form | assessment |
| Conducting unit | Katedra Wytrzymałości Materiałów -> Faculty of Civil and Environmental Engineering | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Bartosz Sobczyk | |
| | Teachers | mgr inż. Błażej Meronk<br>dr inż. Bartosz Sobczyk<br>dr inż. Tomasz Ferenc | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 15.0 | 0.0 | 0.0 | 15.0 | 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 | 5.0 | 40.0 | 75 |

**Subject objectives**

The students learn basics and selected topics of wind and Earthquake Engineering.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K7_W04] has knowledge on advanced strength of materials, modeling and optimisation of materials and constructions; has knowledge of fundamentals of Finite Element Method and general nonlinear analysis of engineering constructions and systems | The students learn basics and selected topics of wind and Earthquake Engineering. | [SW2] Assessment of knowledge contained in presentation<br>[SW1] Assessment of factual knowledge |
| [K7_W03] has knowledge of Continuum Mechanics, knows rules of static analysis, stability and dynamics of complex rod, shell and volume structures, both in linear and basic nonlinear regime | The students learn basics and selected topics of wind and Earthquake Engineering. | [SW2] Assessment of knowledge contained in presentation<br>[SW1] Assessment of factual knowledge |

**Subject contents**

Basics and selected topics of wind and Earthquake Engineering are presented.

**Prerequisites and co-requisites**

Structural Mechanics, Dynamics of Structures

**Assessment methods and criteria**

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| Presentation of wind or seisimic engineering aspects | 60.0% | 60.0% |
| Evaluation of student projects | 60.0% | 40.0% |

| | | |
|---|---|---|
| Recommended reading | Basic literature | 1. Rucka M., Wilde K.: Dynamika Budowli z przykładami w środowisku Matlab®. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2008.<br>2. Chmielewski T., Zembaty Z.: Podstawy dynamiki budowli. Arkady, 1998.<br>3. Flaga A.: Inżynieria wiatrowa. Podstawy i zastosowania, Arkady, 2008. |
| | Supplementary literature | 1. Chopra A.: Dynamics of structures. Theory and Applications to Earthquake Engineering, Prentice-Hall, 1995.<br>2. Simiu E., Scanlan R.: Wind Effects on Structures, John Wiley and Sons, 1996. |
| | eResources addresses | Adresy na platformie eNauczanie:<br>Inżynieria Wiatrowa i Parasejsmiczna 2024/2025 - Moodle ID: 41044<br>https://enauczanie.pg.edu.pl/moodle/course/view.php?id=41044 |
| Example issues/ example questions/ tasks being completed | | |
| Work placement | Not applicable | |

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