



Subject card

| | | | | | | | |
|---|--|--|-------------------------------------|------------|--|---------|-----|
| Subject name and code | Railways , PG_00044658 | | | | | | |
| Field of study | Transport | | | | | | |
| Date of commencement of studies | October 2020 | Academic year of realisation of subject | | | 2022/2023 | | |
| 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 | Department of Railway Engineering -> Faculty of Civil and Environmental Engineering | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. inż. Piotr Chrostowski | | | | | |
| | Teachers | mgr inż. Piotr Omieczynski dr hab. inż. Piotr Chrostowski | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 30.0 | 0.0 | 0.0 | 15.0 | 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 | 5.0 | | 25.0 | 75 | |
| Subject objectives | The aim of the course is to provide knowledge in the field of methodology of designing and assessing geometric systems of railways. The main aspects related to the representation of the railway track in the situational plan, vertical alignment and cross-sections are discussed. The methodology of designing the complex geometric systems and their dimensioning in the light of the relevant railway regulations is discussed. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [K6_U13] able to select tools and methods, carry out assessments and simple tests of transport infrastructure and means of transport to an extent required of the specialty / learning profile | The student is able to carry out the design process of the geometric layout of the railway track. Can assess its quality in terms of operational parameters. Can modify the designed system to improve its quality. The student knows the necessary parameters and their values allowed by the relevant industry regulations. | | | | | |
| | [K6_W18] has proficiency in transport infrastructure as appropriate for their specialty | The student knows the methodology of designing geometric layouts of the railway track. The student knows the quality assessment criteria in terms of operational parameters. The student knows the geometric elements used in railways, appropriate for the design of complex geometric layouts. The student knows the necessary parameters and their values allowed by the relevant industry regulations. | | | | | |

| | | | |
|--|--|--|-------------------------------|
| Subject contents | <p>Characteristics of railway lines, main technical and operational parameters Characteristics of the representation of a railway track in plan, profile (vertical) and cross-sections Reference systems and the method of identifying the position of the track axis in space geometric elements used in the design of railways and their characteristics dimensioning of geometric elements with regard to kinematic parameters methodology of shaping geometric systems in a horizontal alignment evaluation of geometric systems and their modifications</p> | | |
| Prerequisites and co-requisites | <p>The student knows the main elements of the railway infrastructure. The student understands the transport process in railway transportation system.</p> | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | project reports | 50.0% | 50.0% |
| | test | 50.0% | 50.0% |
| Recommended reading | Basic literature | Not applicable. | |
| | Supplementary literature | Not applicable. | |
| | eResources addresses | <p>Adresy na platformie eNauczanie: Drogi Szynowe, Kier. Transport Rok akademicki 2022-2023 - Moodle ID: 25902 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25902</p> | |
| Example issues/ example questions/ tasks being completed | <p>Sample questions: Characterize the basic elements of the railroad in a cross-section, Explain what the following processes are: adjustment of the track axis, modernization of the railway line, revitalization of the railway line, What is the inventory of the track axis in the global system (spatial reference system in a given country), List the basic geometric elements in the horizontal alignment and characterize the methodology of modeling the system based on the distribution of curvature.</p> | | |
| Work placement | Not applicable | | |