



Subject card

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| Subject name and code | Descriptive Geometry , PG_00043984 | | | | | | |
| Field of study | Civil Engineering | | | | | | |
| Date of commencement of studies | October 2022 | Academic year of realisation of subject | | | 2022/2023 | | |
| Education level | first-cycle studies | Subject group | | | | | |
| Mode of study | Full-time studies | Mode of delivery | | | at the university | | |
| Year of study | 1 | Language of instruction | | | Polish | | |
| Semester of study | 1 | ECTS credits | | | 4.0 | | |
| 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. Bożena Kotarska-Lewandowska | | | | | |
| | Teachers | dr inż. Bożena Kotarska-Lewandowska dr inż. Angela Andrzejewska dr inż. Dawid Bruski prof. dr hab. inż. Jacek Chróścielewski dr inż. arch. Romanika Okraszewska | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 15.0 | 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 | | 50.0 | | 100 |
| Subject objectives | The aim of the course is to equip the student in: - knowledge of orthogonal, topographic and axonometric projections; - skills of solving spatial problems in engineering practice. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| Subject contents | Orthographic projection, planes of reference. Invariants of parallel projections. Representation of geometric elements in the Monge projection, transformation, auxiliary views. Belonging and parallelism of points, lines and planes. Determination of common elements: piercing points, edges between planes. Operating on polyhedrons: piercing points, intersection lines and development of polyhedrons surfaces. Parameters and construction of ellipse, parabola and hyperbola. Surfaces: sphere, conics and cylinder. Intersection of surfaces and planes, intersection of surfaces. Topographic projection. Representation of points, lines and planes. Basic constructions: belonging and parallelism of geometric elements, intersection of elements. Edge and normal view of a plane. Topographic surfaces. Determination of embankment and cut planes along roads and squares. Axonometric projection. Plane of reference and property of axonometric projection. Orthogonal projection. Determination of shortenings of true lengths on orthographic axes. Oblique axonometric projection. Application of presented projection methods: construction of roofs and earth work along roads. Basic rules of perspective projection, one-point perspective. | | | | | | |
| Prerequisites and co-requisites | No requirements. | | | | | | |
| Assessment methods and criteria | Subject passing criteria | | Passing threshold | | Percentage of the final grade | | |
| | Drawing exercises | | 0.0% | | 40.0% | | |
| | Test | | 40.0% | | 50.0% | | |
| | Project | | 0.0% | | 10.0% | | |
| Recommended reading | Basic literature | | 1. KOTARSKA-LEWANDOWSKA B., CHRÓŚCIELEWSKI J. (red.praca zbiorowa): Materiały pomocnicze do wykładów i ćwiczeń z Geometrii Wykreślnej. Wersja elektroniczna do pobrania z portalu pg.edu.pl/ enauczanie 2. KOTARSKA-LEWANDOWSKA B.: Geometria wykreślna. Zadania testowe. Wersja elektroniczna do pobrania z portalu pbc. 3. GROCHOWSKI B.: Elementy geometrii wykreślnej. PWN, Warszawa 2002. 4. OTTO F., OTTO E.: Podręcznik geometrii wykreślnej. PWN, Warszawa 1998. 5. JANKOWSKI W.: Geometria wykreślna. Wydawnictwo Politechniki Poznańskiej, Poznań1999. | | | | |

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| | Supplementary literature | 6. BIELIŃSKI A.: Geometria wykreślna. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2005. 7. BŁACH A.: Inżynierska geometria wykreślna (podstawy i zastosowania). Wydawnictwo Politechniki Śląskiej Gliwice 2006. 8. BIELIŃSKI A.: Ćwiczenia z geometrii wykreślnej. Oficyna Wydawnicza Politechniki Warszawskiej 2002. |
| | eResources addresses | |
| Example issues/ example questions/ tasks being completed | Determination of embankment and cut planes along roads and squares. | |
| Work placement | Not applicable | |