



Subject card

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| Subject name and code | , PG_00058771 | | | | | | |
| Field of study | Environmental Engineering | | | | | | |
| Date of commencement of studies | October 2022 | Academic year of realisation of subject | | | 2022/2023 | | |
| Education level | first-cycle studies | Subject group | | | Obligatory subject group 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 | | | 1.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Witold Tisler | | | | | |
| | Teachers | dr inż. Krzysztof Szarf dr inż. Witold Tisler | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 0.0 | 0.0 | 15.0 | 0.0 | 0.0 | 15 |
| 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 | 15 | 5.0 | | 8.0 | | 28 |
| Subject objectives | The course is designed to teach students the basics of working in AutoCAD. During the course, the most important functions of the program will be discussed, such as: drawing, modifying objects, hatching, or preparing a drawing for printing. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [K6_U07] can read architectural, construction and geodesy drawings, and can use the known computer programs to prepare a drawing part of technical documentation for the sanitary industry | The student can read a technical drawing from the construction or sanitary industry. The student can use AutoCAD to make a technical drawing. | | | [SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject | | |
| | [K6_U11] can use selected computer programs to support design, including CAD graphics programs | The student knows the principles of drawing up technical drawings. He knows the principles of descriptive geometry. He has the knowledge to enable correct execution of drawings in accordance with the above principles. He also has knowledge of making drawings in Autocad. | | | [SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools | | |
| | [K6_W15] knows the rules of descriptive geometry and technical drawing regarding the recording and reading of architectural drawings, construction and surveying drawings, as well as their preparation with the use of CAD | The student can prepare technical drawings using AutoCAD. | | | [SW3] Assessment of knowledge contained in written work and projects | | |

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| Subject contents | Learn AutoCAD by Autodesk. Using the program. Drawing basic graphic elements (line, circle, polyline, polygon, rectangle). Modifying objects (copying, moving, rotating, stretching, mirroring, trimming, extending, array, fitting, scaling, offset). Precise drawing (coordinates Cartesian and polar coordinates, global and local coordinates, characteristic points). Working with layers (line types, line thicknesses). Object properties. Hatching. Dimensioning. Texts. Blocks, blocks with attributes. Regions. physical features. Preparation of a drawing for printing (printer settings, printing from the model space and from the layout area, scale, visible and invisible layers, viewports). Basics of 3D drawing. Offset. Mirror. Lengthening. Trimming. Array. Polygon. Fit. Scaling. Precision drawing. Drawing modes. characteristic points. Drawing settings. Object modifications. Hatches. fillings. Object modifications. Drawing modifications. Drawing in layers. Dimensioning. Text. Blocks. Blocks with attributes. Preparing to print. Print parameter settings. Three-dimensional modeling. Edge, plane and solid modeling. | | |
| Prerequisites and co-requisites | Mastering the material of subjects from previous semesters: descriptive geometry and technical drawing. Knowledge of the principles of technical drawing. Knowledge of the Windows environment. Knowledge of the Polish language. | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | attendance | 100.0% | 20.0% |
| | Test | 50.0% | 80.0% |
| Recommended reading | Basic literature | | 1. AutoCAD manual. 2. http://knowledge.autodesk.com/support/autocad/learn-explore/ 3. Andrzej Pikoń: AutoCAD. Pierwsze kroki. Helion. 4. Andrzej Jaskólski: AutoCad. Kurs projektowania parametrycznego i nieparametrycznego w 2D i 3D. PWN. |
| | Supplementary literature | | any AutoCAD manual or book |
| | eResources addresses | | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | The final test consists in making two drawings, the first easier one in the middle of the semester and the second more difficult at the end of the semester. Sample pass: 1. Draw two lines 100 units long that intersect at an angle of 35 degrees2. Create a circular array centered at this point (the leader points to the point)3. Add dimensions to drawing4. Print the drawing to a .pdf file on an A4 sheet in the scale of 1:105. Copy this drawing from the paper in any way (the teacher presents a drawing with a simple object and measures time). The final grade is influenced by the presence and work in laboratory classes. | | |
| Work placement | Not applicable | | |