



Subject card

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| Subject name and code | Engineering Graphics , PG_00018822 | | | | | | |
| Field of study | Chemistry in Construction Engineering | | | | | | |
| Date of commencement of studies | October 2020 | Academic year of realisation of subject | | | 2021/2022 | | |
| 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 | 2 | Language of instruction | | | Polish | | |
| Semester of study | 3 | ECTS credits | | | 2.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Department of Chemical Apparatus and Theory of Machines -> Faculty of Chemistry | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Michał Ryms | | | | |
| | Teachers | | dr inż. Michał Ryms | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 0.0 | 0.0 | 30.0 | 0.0 | 0.0 | 30 |
| | E-learning hours included: 0.0 | | | | | | |
| | Adresy na platformie eNauczenie: GRAFIKA INŻYNIERSKA - 2021 - Moodle ID: 15106 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=15106 | | | | | | |
| 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 | 4.0 | | 16.0 | | 50 |
| Subject objectives | Mastering the use of technical drawing as a tool in the engineer's work. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | | Student is familiar with basic dimensioning guidelines and how to prepare technical drawings (working and assembly drawings). He is able to use computer-aided 2D and 3D design software at a basic level, allowing to prepare simple technical documentation. Student can also create simple construction diagrams with the help of such programs. | | | [SK4] Assessment of communication skills, including language correctness | | |
| | | Student is able recreate spatial elements on a drawing plane, using orthogonal and axonometric, as well as crosssection projections. He's familiar with basic dimensioning guidelines and how to prepare technical drawings (working and assembly drawings). He is able to use computer-aided 2D and 3D design software at a basic level, allowing to prepare simple technical documentation. Student can also create simple construction diagrams with the help of such programs. | | | [SU1] Assessment of task fulfilment | | |
| | K6_U02 | | | | [SU1] Assessment of task fulfilment | | |

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| Subject contents | <p>Program Content: Over the course of lectures, student familiarizes himself with methods of spatial element recreation in a the drawing plane, theory of engineering design recording and methods of computer-aided systems designing. The scope of program includes, in particular:</p> <ul style="list-style-type: none"> - Introduction to the subject (formats, lines, scales, technical writing), - Methods of imaging three-dimensional objects on a drawing plane (object projections, finding the missing projection and isometric projections, cross-sections, revolved sections with dimensioning guidelines), - Working and assembly drawings preparation, - Disjoint connection drawings (screw joints, pipe threaded connections, bolts, fittings and elbows, thread protections against dismantling), - Drawings of permanent joints (welded, soldered and riveted joints), - Drawings of selected elements from heating and plumbing installation and armature (with emphasis on tanks, piping, valves, sight glasses, liquid level gauges and measuring points – different examples from construction industry). - Full installations projects (drawings). <p>The course provides a gradual and fluent transition from drawing on paper to drawing in the CAD (Computer Aided Design) environment, in particular, with use of Autodesk AutoCAD software.</p> | | |
| Prerequisites and co-requisites | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Midterm colloquium | 60.0% | 70.0% |
| | Project | 60.0% | 30.0% |
| Recommended reading | Basic literature | <ol style="list-style-type: none"> 1. T. Dobrzański, Rysunek techniczny maszynowy, Wyd. WNT 2013, 2. W.M. Lewandowski, Maszynoznawstwo chemiczne, Gdańsk 1998, 3. M. Kochanowski, Zapis konstrukcji z geometrią wykreślną, Wyd. PG 2002, 4. K. Paprocki, Zasady zapisu konstrukcji, OWPW, Warszawa 2000, 5. A. Pikoń, AutoCAD 2011 PL - Pierwsze kroki, Wyd. Helion 2011 6. M. Rogulski, Autocad dla studentów, Wyd. Witkom, 2011 | |
| | Supplementary literature | websites materials, programs instructions | |
| | eResources addresses | GRAFIKA INŻYNIERSKA - 2021 - Moodle ID: 15106 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=15106 | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |