

# Engineering Graphics and Fundamentals of Engineering Design - opis przedmiotu

| Informacje ogólne   |                                                             |
|---------------------|-------------------------------------------------------------|
| Nazwa przedmiotu    | Engineering Graphics and Fundamentals of Engineering Design |
| Kod przedmiotu      | 06.9-WM-ER-BHP-50_18                                        |
| Wydział             | <a href="#">Wydział Mechaniczny</a>                         |
| Kierunek            | WM - oferta ERASMUS                                         |
| Profil              | -                                                           |
| Rodzaj studiów      | Program Erasmus                                             |
| Semestr rozpoczęcia | semestr zimowy 2023/2024                                    |

| Informacje o przedmiocie        |                                                                          |
|---------------------------------|--------------------------------------------------------------------------|
| Semestr                         | 2                                                                        |
| Liczba punktów ECTS do zdobycia | 3                                                                        |
| Typ przedmiotu                  | obowiązkowy                                                              |
| Język nauczania                 | angielski                                                                |
| Sylabus opracował               | <ul style="list-style-type: none"><li>dr inż. Renata Kasperska</li></ul> |

| Formy zajęć  |                                         |                                        |                                            |                                           |                     |
|--------------|-----------------------------------------|----------------------------------------|--------------------------------------------|-------------------------------------------|---------------------|
| Forma zajęć  | Liczba godzin w semestrze (stacjonarne) | Liczba godzin w tygodniu (stacjonarne) | Liczba godzin w semestrze (niestacjonarne) | Liczba godzin w tygodniu (niestacjonarne) | Forma zaliczenia    |
| Laboratorium | 30                                      | 2                                      | -                                          | -                                         | Zaliczenie na ocenę |

## Cel przedmiotu

The aim of the course is to gain practical skills of the graphic presentation of machine elements and also the execution of engineering works projects using computer-aided design.

## Wymagania wstępne

Basis of technical drawing

## Zakres tematyczny

The lab provides the following issues:

Types of graphics and graphical notations used in engineering projects. Computer techniques in engineering graphics. A getting to know with the environment of computer-aided design system (CAD) as a tool supporting a graphical development of technical documentation and offers. Basic drawing tools. The shaping of objects geometry. Modifications objects. Types of lines and how to hatch. Layers, views and texts. Methods for the dimensioning of machine elements. Blocks and their attributes. Precision drawing and symbol libraries. Performing simple and complex technical drawings and diagrams. Elements of spatial modeling (simple solids and surfaces) and objects visualization.

## Metody kształcenia

Laboratory exercises using computer software (instructions prepared by the lecturer).

## Efekty uczenia się i metody weryfikacji osiągnięcia efektów uczenia się

| Opis efektu                                                                                                                                                                                                                                                                                                                                                                                                 | Symbole efektów | Metody weryfikacji                                                                                                            | Forma zajęć                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| The student is able to independently use a CAD system for modeling graphic engineering objects. He has the ability to draw geometrical objects using the functions of a computer program, can modify existing drawings, indicate different methods of writing objects in space and present a drawn object through its visualization. The student is able to develop technical documentation of the project. |                 | <ul style="list-style-type: none"><li>obserwacje i ocena umiejętności praktycznych studenta</li><li>praca kontrolna</li></ul> | <ul style="list-style-type: none"><li>Laboratorium</li></ul> |
| A student is able to define some basic concepts of engineering graphics and computer-aided design. He has got knowledge about the basic methods of graphic computer recording and reading of technical thought, knows computer techniques enabling the execution of basic engineering drawings.                                                                                                             |                 | <ul style="list-style-type: none"><li>praca kontrolna</li></ul>                                                               | <ul style="list-style-type: none"><li>Laboratorium</li></ul> |
| The student is aware of the impact of the incorrectly made project on the further production process and responsibility for the precise implementation of the model.                                                                                                                                                                                                                                        |                 | <ul style="list-style-type: none"><li>zaliczenie - ustne, opisowe, testowe i inne</li></ul>                                   | <ul style="list-style-type: none"><li>Laboratorium</li></ul> |

## Warunki zaliczenia

Performing laboratory exercises using CAD software.

## Literatura podstawowa

1. Madsen D.A., Madsen D.P.: Engineering Drawing & Design, Fifth Edition. Delmar Cengage Learning, NY United States 2011.
2. Najar N.A., Abdullah S., Fundamentals of Engineering Design, First Edition. JKERT Foundation, 2017.
3. Parvez M., Fundamentals of Engineering Drawing and Auto CAD, GALGOTIA Publications Pvt. Ltd., New Delhi 2005.

## Literatura uzupełniająca

1. Lamit L.G., Fundamentals of Engineering Graphics and Design, Publisher: West Group, 1996.
2. Mazur J., Kosiński K., Polakowski K., Grafika Inżynierska z wykorzystaniem metod CAD, Oficyna Wyd. Politechniki Warszawskiej, Warszawa 2004.
3. Suseł M., Makowski K.: Grafika inżynierska z zastosowaniem programu AutoCAD. Wyd. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2005.

## Uwagi

Other conditions for participation and crediting are set out in the Study Regulations.

Zmodyfikowane przez dr inż. Renata Kasperska (ostatnia modyfikacja: 06-06-2023 13:21)

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