



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Descriptive geometry [S1BZ1E>GW]

Course

Field of study

Sustainable Building Engineering

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

english

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

15

Projects/seminars

0

Number of credit points

2,00

Coordinators

dr Piotr Rejmenciak

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Lecturers

dr Piotr Rejmenciak

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Prerequisites

Basic knowledge of geometry at the Polish high school level. Ability to use a pencil, a compass and a ruler.

Course objective

1. Developing the ability of spatial vision. 2. To acquaint the student with methods that enable geometric problems to solve some problems in the field of technical sciences using only drawing instruments and a paper sheet.

Course-related learning outcomes

Knowledge:

have advanced knowledge of the principles of descriptive geometry and technical drawing, recording and reading architectural drawings, construction maps and geodetic maps, as well as the methods of preparing the maps both traditionally.

Skills:

can imagine a spatial object based on its flat image and draw its axonometric projection.

Social competences:

take responsibility for the accuracy and reliability of work results and their interpretation

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

lectures: test during last classes;

exercises: 2 x test + 2 x project.

Programme content

1. Projection of a point, a line and a plane on two perpendicular viewports.
2. Roof construction as an application of intersections of polyhedrons.
3. Intersections and developments of polyhedrons.
4. Conical constructions. Intersections and developments cones and cylinders.
6. Axonometry.

Teaching methods

lectures: a lecture with a multimedia presentation supplemented by examples given on a blackboard and presentation of the issues discussed;

exercises: tasks drawn on the board, individual drawing of tasks by students under the tutor's supervision.

Bibliography

Basic

1. C. Łapińska, Descriptive Geometry, Oficyna Wydawnicza Politechniki Warszawskiej, 2016;
2. M.C. Hawk, Theory And Problems Of Descriptive Geometry: Schaum's Outline Series, Literary Licensing, LLC;
3. W. Jankowski, Geometria wykreślna, Wydawnictwo Politechniki Poznańskiej, 1999;
4. J. Korczak, Cz. Prętki, Przekroje i rozwinięcia powierzchni walcowych i stożkowych, Wydawnictwo Politechniki Poznańskiej, 2007;
5. B. Grochowski, Geometria wykreślna z perspektywą stosowaną, Wydawnictwo Naukowe PWN, 2010.

Additional

1. F. Otto, Zbiór zadań z geometrii wykreślnej, PWN, Warszawa 1963;
2. Z. Lewandowski, Geometria wykreślna, PWN, Warszawa 1977.

Breakdown of average student's workload

| | Hours | ECTS |
|---|-------|------|
| Total workload | 60 | 2,00 |
| Classes requiring direct contact with the teacher | 30 | 1,00 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 30 | 1,00 |