COURSE DESCRIPTION CARD - SYLLABUS

Course name
Computer aided design

Course

Field of study
Aviation

Year/Semester
2/3

Area of study (specialization)

Profile of study
general academic

Level of study
First-cycle studies

Course offered in
Polish

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes
30

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
dr hab. inż. Piotr Krawiec prof. PP

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tel. 61 665 2242

Responsible for the course/lecturer:
dr inż. Konrad Waluś

email: konrad.walus@put.poznan.pl

tel. 61 665 2553

Prerequisites

The student starts this subject should be familiar with the rules of the classic construction notation. Skillfully use the Windows operating system. You also need skills to obtain information from the sources indicated and be ready to work as part of a team.

Course objective

Students learn methods of creating parts and integration in three-dimensional 3D space, acquiring the ability to perform 2D technical documentation and visualization of designed products. The use of messages from the general classic record of construction.

Course-related learning outcomes

Knowledge

1. has an ordered, theoretically founded knowledge in the field of engineering graphics and machine

construction: technical drawing, object projection, basic principles of engineering graphics, the use of CAD (Computer Aided Design) graphic programs in the construction of machines

Skills

1. is able to communicate using various techniques in the professional environment and other environments using the formal notation of construction, technical drawing, concepts and definitions of the scope of study

Social competences

1. is aware of the social role of a technical university graduate, in particular understands the need to formulate and provide the society, in an appropriate form, with information and opinions on engineering activities, technological achievements, as well as the achievements and traditions of the engineer profession

2. correctly identifies and resolves dilemmas related to the profession of an aerospace engineer

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Completing the lecture in writing at the last meeting. Completing the laboratory based on tasks from 2D and 3D modeling.

Programme content

CAD history, raster graphics, vector graphics, 3D graphics. Areas of application of CAD, CAM, CAE systems. The place of computer graphics in CIM. Practical knowledge of the possibilities of parameterization, adaptivity, variants in the context of CAD joining. During laboratory classes, the implementation of the production process in the 3D system by the preliminary design, 3D model, 2D documentation, assembly of the assembly, animation of the operation of the product.

PART - 66 (PRACTICE - 22.5 hours)

MODULE 7A. MAINTENANCE ACTIVITIES

7.14 Material handling

7.14.1 Sheet metal

Marking and calculation of bending play;

Working of sheet metal, including bending and forming;

Testing the operation of thin sheet [2]

Teaching methods

Lecture: multimedia presentation, illustrated with examples given with the projector's recommendation.
Laboratory exercises: multimedia presentation illustrated with examples given on the board and performing tasks given by the teacher - practical exercises

Bibliography

Basic

1. Krawiec Piotr (red.), Grafika komputerowa dla mechaników (wyd. VI rozszerzone i zmienione), wyd. Politechniki Poznańskiej, 2020.

2. Foley J., Dam A., Hughes J., Phillips R., Wprowadzenie do grafiki komputerowej, Warszawa, WNT 2001.

3. Kiciak P., Podstawy modelowania krzywych i powierzchni: zastosowania w grafice komputerowej, Warszawa, WNT 2000.

Additional

1. Krawiec Piotr (red.), Grafika komputerowa (wyd. V rozszerzone) wyd. Politechniki Poznańskiej, 2011.

2. Dudziak Marian, Krawiec Piotr, Wspomaganie projektowania i zapisu konstrukcji, Wydawnictwo PWSZ w Kaliszu, 2012.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	4,0
Classes requiring direct contact with the teacher	45	1,5
Student's own work (literature studies, preparation for laboratory classes / preparation for the test, preparation of the project) [1]	5	0,5

[1] delete or add other activities as appropriate