POZNAN UNIVERSITY OF TECHNOLOGY

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Technical drawing [N1Bud1>RT2]

Course

Field of study	Year/Semester
Civil Engineering	1/2
Area of study (specialization)	Profile of study
–	general academic
Level of study	Course offered in
first-cycle	polish
Form of study	Requirements
part-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
0	20	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

2,00

Coordinators	Lecturers

Prerequisites

KNOWLEDGE: Basic knowledge of geometry and descriptive geometry. SKILLS: The ability to obtain information from the indicated sources. SOCIAL COMPETENCES: Awareness of the need to acquire and expand knowledge. Willingness to cooperate in a team.

Course objective

Acquiring the ability to create architectural and construction drawings and to read information on archival drawings. To acquaint students with the markings used in the plot or area development plans and the principles of making construction drawings. To acquaint students with the elements of computer graphics in a two-dimensional perspective (projections and sections). To acquaint students with the basics of creating construction and building documentation based on three-dimensional geometry supplemented with information about the represented object.

Course-related learning outcomes

Knowledge:
They can read architectural and construction drawings and prepare graphic documentation with the use of applicable markings and dimensions.
Uses information technologies, Internet resources and other sources to obtain information; is able to integrate and interpret the obtained information.

Skills:
They know the rules of technical drawing for creating and reading architectural and construction drawings.

Social competences:
They are able to define priorities in the implementation of tasks set by himself and others.
They are responsible for the reliability of the obtained results and for their interpretation.
They are aware of the need to improve professional and personal competences.
They are ready to critically evaluate his knowledge and received content, as well as to critically evaluate the results of his own work.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

LABORATORY:
Assessment is based on the assessment of independent work in the AutoCad / Revit environment. The student's task is to draw up a few simple drawings and one plan of a single-family house.
Drawings are assessed in context of:
• completeness,
• correct application of the standard rules of technical drawing,
• appropriate selection and use of CAD environment tools (including layers, blocks, etc.),
• correct presentation of structural and architectural elements,
• legibility, consistency and aesthetics.
The knowledge and the ability to use in practice the tools presented during the course are also assessed.
The total number of points for the drawings is 10.
The student is obliged to deliver all the drawings by the date indicated by the teacher, but not later than three days before the last class.
The theoretical knowledge and acquired skills are verified by a test that takes place during the last class. The date may be changed by the teacher.
The total number of points for the drawings is 5.
The final grade is issued on the basis of the points obtained together with the assessed drawings and a test according to the following point thresholds : 100%-91% - 5,0; 90%-81% - 4,5; 80%-71% - 4,0; 70%-61% - 3,5; 60%-51% - 3,0.

Programme content

LABORATORY:
Students work in a computer laboratory using CAD software (eg AutoCad, Revit). The following issues are discussed and practiced:
• Create basic objects: line, polyline, point, circle, ring, arc, area, ellipse, rectangle, polygon.
• Object Editing: Modify toolbar - erase, copy, mirror, offset, array, move, rotate, scale, trim, extend.
• Dimensioning: dimension tools - linear, normal, coordinates, radius, diameter, angular, reference line, center mark, base, serial.
• Layers: hide, lock in viewports, lock, color, linetype, lineweight.
• Object snap modes: end, symmetry, center, point, quadrant, intersection, extension, perpendicular, tangent, near, apparent, parallel.
• Text input.
• Hatch: selection of hatch area and pattern, hatch preview, scale.

Teaching methods

Exercise method
Demonstration method
Design method

Bibliography

Basic:
1. PN-ISO 6707-1:2008 Budownictwo. Terminologia. Terminy ogólne

2. PN-EN ISO 5457:2002 Dokumentacja techniczna wyrobu. Wymiary i układ arkuszy rysunkowych
3. PN-EN ISO 128-23;2002 Rysunek techniczny. Ogólne zasady przedstawiania. Część 23: Linie na rysunkach budowlanych
4. PN-EN ISO 3098-0:2002 Dokumentacja techniczna wyrobu. Pismo. Część 0: Zasady ogólne
5. PN-B01030:2000 Rysunek budowlany. Oznaczenia graficzne materiałów budowlanych
6. PN-B-01025:2004 Rysunek budowlany. Oznaczenia graficzne na rysunkach architektonicznobudowlanych
7. PN-ISO 7518:1998 Rysunek techniczny. Rysunki budowlane. Uproszczone przedstawianie rozbiórki i przebudowy
8. PN-B-01029:2000 Rysunek budowlany. Zasady wymiarowania na rysunkach architektonicznobudowlanych
9. PN-ISO 129:1996 Rysunek techniczny. Wymiarowanie. Zasady ogólne. Definicje. Metody wykonania i oznaczenia specjalne.
10. Rysunek techniczny budowlany - E. Miśniakiewicz, W. Skowroński, Warszawa, Arkady 200711. Rysunek techniczny w budownictwie - J. Bieniasz, B.Januszewski, M.Piekarski, Oficyna Wydawnicza Politechniki Rzeszowskiej, Rzeszów 2009

Additional:
1. PN-EN ISO 5455:1998 Rysunek techniczny. Podziałki
2. PN-ISO 128-30:2006 Rysunek techniczny. Zasady ogólne przedstawiania. Część 30: Wymagania podstawowe dotyczące rzutów
3. PN-EN ISO 5456-1,2,3:2002 Rysunek techniczny. Metody rzutowania

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	20	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00