



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Fundamentals of civil engineering [S1Arch1E>PB]

### Course

Field of study  
Architecture

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  
0

Projects/seminars  
0

### Number of credit points

1,00

### Coordinators

dr inż. arch. Adam Siniński  
adam.siniński@put.poznan.pl

### Lecturers

mgr inż. arch. Jędrzej Suchocki  
jedrzej.suchocki@put.poznan.pl

### Prerequisites

Student should have basic knowledge of the basics of civil engineering, basic technologies and materials used in construction (civil engineering and materials); 2 Student knows the basic methods, techniques, tools and materials used in the development of simple tasks in the field of free-hand technical drawing; Student is able to obtain information from literature, databases and other properly selected sources, including the English language. They are able to integrate information, interpret it and draw conclusions as well as formulate and justify opinions. to draw conclusions and to formulate and justify opinions; Student has self-education skills; Student is able to use hand drawing techniques appropriate to the realisation of technical drawings; Student understands the need for lifelong learning; can inspire and organize process of learning other people; Student can think and act in an entrepreneurial, creative and innovative manner; Student is able to think and act analytically;

## Course objective

To acquaint the student with basic information about the course. Acquainting with fundamental tools and techniques used in architectural design. Acquainting with the context of architectural design seen as a synergy of knowledge, rules of art in construction and legislation. Providing basic information about codes used in architectural design. Acquainting with fundamentals of analyzing geoinformation data and standards for drafting site plans. Providing basic information about standards for drafting of technical drawings. Providing basic information about the right way of using normative signs and symbols on technical drawings. Acquainting with rules of dimensioning of elements on technical drawings. Providing basic information about standards of performing the architectural practice. Acquainting with rules of Savoir-vivre and interpersonal communication in professional life.

## Course-related learning outcomes

Knowledge:

Student knows and understands:

B.W4. mathematics, space geometry, statics, material strength, shaping, construction and dimensioning of structures, to the extent necessary to formulate and solve tasks in the field of architectural and urban design;

B.W5. issues of construction, construction technologies and installations, construction and building physics, covering key issues in architectural, urban and planning design as well as issues related to fire protection of buildings;

B.W7. ways of communicating the idea of architectural, urban and planning projects and their development;

B.W9. principles of occupational health and safety.

Skills:

Student can:

B.U4. develop solutions for individual building systems and elements in terms of technology, construction and materials;

B.U6. properly apply standards and legal regulations in the field of architectural and urban design.

Social competences:

Student is capable of:

B.S1. formulating opinions on the achievements of architecture and town planning, their determinants and other aspects of the architect's activity, as well as providing information and opinions;

B.S2. reliable self-assessment, formulating constructive criticism regarding architectural and urban planning activities.

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

A prerequisite for passing is obtaining a positive mark from the final test consisting of 10-15 questions and drawing task. To pass the course the student is required to achieve at least 60% of the 100% possible points. The colloquium is given in the last lecture of the semester.

Summative Evaluation: - grading scale adopted: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0.

## Programme content

The lectures will cover topics such as:

- Introduction;
- Planning work & resources;
- Working with maps & creating site plans;
- Architectural drawings - typology & general rules;
- Signs & symbols on architectural drawings;
- Dimensions on architectural drawings;
- Ethics & interpersonal communication in professional life.

## Course topics

Lecture #1: Introduction

Lecture #2: Planning work & resources

Lecture #3: Working with maps & creating site plans  
Lecture #4: Architectural drawings - typology & general rules  
Lecture #5: Signs & symbols on architectural drawings  
Lecture #6: Dimensions on architectural drawings  
Lecture #7: Ethics & interpersonal communication in professional life  
Lecture #8: The colloquium. Credit for the semester.

## Teaching methods

Lectures.

- Lecture with multimedia presentation
- Lecture with slideshows of photos from construction projects,
- eLearning Moodle (a system for supporting the teaching process and distance learning)

## Bibliography

Basic

1. Markiewicz P., Budownictwo ogólne dla architektów, Archi-Plus, Warszawa 2018
2. Żeńczykowski W., Budownictwo ogólne 2/1, Arkady, Warszawa 1981
3. Żeńczykowski W., Budownictwo ogólne 2/2, Arkady, Warszawa 1981
4. Żeńczykowski W., Budownictwo ogólne 3/1, Arkady, Warszawa 1987
5. Żeńczykowski W., Budownictwo ogólne 3/2, Arkady, Warszawa 1987

Legislation:

1. Building Law Act of 7 July 1994.
2. Regulation of The Minister of Infrastructure Of 12 April 2002 On Technical Conditions, Which Should Correspond To The Buildings And Their Location.
3. Minister of Economic Development and Technology, Construction and the Maritime Economy concerning the scope and form of construction plans.

Codes:

1. PN-B-01025:2004 Construction drawings - Graphical designations on architectural and construction drawings
2. PN-B-01027:2002 Graphical designations for the landscape drawing practice
3. PN-B-01029:2000 Construction drawings -- Principle of dimension on architectural drawings
4. PN-B-01030:2000 Building and civil engineering drawings - Graphical symbols of building materials
5. PN-B-01040:1994 Construction drawing for building - General principles
6. PN-N-01603:1986 Technical drawings - Folding of sheets
7. PN-N-01614:1982 Technical drawings - Dimensioning - General principles 5
8. PN-ISO 1803:2001 Building construction - Tolerances - Expression of dimensional accuracy - Principles and terminology
9. PN-ISO 3880-1:1999 Building construction - Stairs - Vocabulary
10. PN-ISO 6707-1:2008 Building and civil engineering - Vocabulary - Part 1: General terms
11. PN-ISO 6707-2:2000 Building and civil engineering - Vocabulary - Part 2: Contract terms
12. PN-ISO 7518:2011 Technical drawings - Construction drawings - Simplified representation of demolition and rebuilding
13. PN-ISO 9229:2005 Thermal insulation — Vocabulary.
14. PN-ISO 9699:2003 Performance standards in building - Checklist for briefing - Contents of brief for building design
15. PN-ISO 9836:2015 Performance standards in building - Definition and calculation of area and space indicators
16. PN-EN ISO 128-1:2020 Technical product documentation (TPD)- General principles of representation Part 1: Introduction and fundamental requirements
17. PN-EN ISO 128-3:2021-01 Technical product documentation - General principles of representation - Part 3: Views, sections and cuts
18. PN-EN ISO 128-20:2002 Technical drawings - General principles of presentation - Part 20: Basic conventions for lines
19. PN-EN ISO 128-21:2006 Technical drawings - General principles of presentation - Part 21: Preparation of lines by CAD systems
20. PN-EN ISO 128-22:2003 Technical drawings - General principles of presentation - Part 22: Basic conventions and applications for leader lines and reference lines
21. PN-EN ISO 5455:1998 Technical drawings - Scales
22. PN-EN ISO 3098-1:2002 Technical product documentation -- Lettering -- Part 1: General requirements

23. PN-EN ISO 3098-2:2002 Technical product documentation - Lettering - Part 2: Latin alphabet, numeral and marks
24. PN-EN ISO 3098-5:2002 Technical product documentation - Lettering - Part 5: CAD lettering of the Latin alphabet, numerals and marks
25. PN-EN ISO 4157-1:2001 Construction drawings — Designation systems — Part 1: Buildings and parts of buildings 6
26. PN-EN ISO 4157-2:2001 Construction drawings — Designation systems — Part 2: Room names and numbers
27. PN-EN ISO 4157-3:2001 Construction drawings — Designation systems — Part 3: Room identifiers
28. PN-EN ISO 5457:2002 Technical product documentation - Sizes and layout of drawing sheets
29. PN-EN ISO 5456-1:2002 Technical drawings - Projection methods - Part 1: Synopsis
30. PN-EN ISO 5456-2:2002 Technical drawings - Projection methods - Part 2: Orthographic representations
31. PN-EN ISO 5456-3:2002 Technical drawings - Projection methods - Part 3: Axonometric representations
32. PN-EN ISO 7200:2007 Technical product documentation - Data fields in title blocks and document headers
33. PN-EN ISO 7345:1998 Thermal performance of buildings and building components — Physical quantities and definitions
34. PN-EN ISO 7519:1999 Construction drawings - General principles of presentation for general arrangement and assembly drawings
35. PN-EN ISO 8560:2019 Technical drawings- Construction drawings - Representation of modular sizes, lines and grids
36. PN-EN ISO 11091:2001 Construction drawings — Landscape drawing practice

#### Additional

1. Markiewicz Przemysław, Budownictwo ogólne dla architektów, Archi-Plus, Warszawa 2018
2. Littlefield D."Metric Handbook: Planning and Design Data", 4th Edition, New York : Routledge, London 2012
3. Scientific papers: eg. Zeszyty Naukowe Politechniki Poznańskiej.
4. Polish magazines: Architektura Murator, Architektura&Biznes, Zawód Architekt
5. Foreign magazines: Detail

#### Breakdown of average student's workload

|   | Hours | ECTS |
|---|-------|------|
| Total workload  | 25    | 1,00 |
| Classes requiring direct contact with the teacher   | 15    | 0,50 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 10    | 0,50 |