



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

RESEARCH METHODS AND TECHNIQUES APPLIED IN ARCHITECTURE FOR PHD THESIS

### Course

Proposed by Discipline

Architecture and Urban Planning

Type of studies

Doctoral School

Form of study

full-time

Year/Semester

II/4

Course offered in

English

Requirements

elective

### Number of hours

Lecture

4

Tutorials

Projects/seminars

### Number of credit points

1

### Lecturers

Responsible for the course/lecturer:

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Faculty of Architecture

Poznan University of Technology

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Responsible for the course/lecturer:

### Prerequisites

Knowledge: student knows the basic issues of architecture and urban planning as well as landscape architecture; has knowledge required for the understanding of social, economic, legal and other determinants outside the engineering field of architectural designing and urban planning.

Skills: student can acquire information from field specific literature, data bases and other properly selected sources in English, can integrate the acquired information, interpret the said information, as well as draw conclusions and come up with opinions supported with satisfactory reason.

Social competencies: student understands the need for lifelong learning, is aware of the social role of the architect and urban planner and their liability for affecting decisions.



### Course objective

Acquiring knowledge and gaining skills regarding research needs and objectives in the area of Architecture and urban planning in the context of a doctoral dissertation. Overview the basics of the scientific workshop. Explanation of the principal notions used in research methodology. Presentation of the relationship between practice and theories in Architectural research, the significance of generalizations conducted on the basis of direct observations. Discussion the essential requirements for doctoral dissertations in the discipline of Architecture and urban planning, and the relation between theory and design technology.

### Course-related learning outcomes

#### Knowledge

A PhD student who graduated from doctoral school knows and understands:

- 1) global achievements, covering theoretical foundations as well as general and selected specific issues that are relevant to scientific disciplines studied at the doctoral school, to the extent that enables revision of existing paradigms, [P8S\_WG/SzD\_W01]
- 2) scientific research methodology in disciplines represented at the doctoral school, [P8S\_WG/SzD\_W03]
- 3) fundamental dilemmas of the contemporary civilization, [P8S\_WK/SzD\_W05]
- 4) economic, legal, ethical and other vital conditions related to scientific activity. [P8S\_WK/SzD\_W06]

#### Skills

A PhD student who graduated from doctoral school can:

- 1) use the knowledge from different branches of science to creatively identify, formulate and to innovatively solve complex problems or to execute research tasks, [P8S\_UW/SzD\_U01]
- 2) transfer the results of scientific activity to the economic and social sphere. [P8S\_UW/SzD\_U03]

#### Social competences

A PhD student who graduated from doctoral school is ready to:

- 1) critically assess the achievements within a given scientific discipline, [P8S\_KK/SzD\_K01]
- 2) fulfilling the social obligations of researchers and creators. [P8S\_KO/SzD\_K04]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

PQF code	Methods for verification of learning outcomes	Assessment criteria
W01, W03, W05, W06	Discussion related to the topic of the lecture Written research study related to the topic of the lecture	Completeness and relevance of knowledge
U01, U03	Written research study related to the topic of the lecture	Substantive, structural and editorial correctness of the research study
K01, K04	Written research study related to the topic of the lecture	Critical approach to the topic and awareness of social responsibility



## Programme content

1. Scientific research in Architecture (The aims of research in Architecture, Scientific research and its types, Methodology of research works, selection of tools, techniques, and strategy).
2. Research process planning (Basic steps in research process planning, Completing the research team, Research financing, Implementation of research results).
3. Requirements for doctoral dissertations (Scientific problem and research questions, Scientific hypothesis, Originality of the obtained research results).
4. Research methods applied in Architecture (The method based on interpretative research, Experimental research, Modeling and simulative research, Qualitative and quantitative research in Architecture, Case studies, Heuristic and forecasting methods).

## Teaching methods

Lecture: multimedia presentation including illustrations and examples.

## Bibliography

### Basic

1. Ammon, S. (2016). Explaining understanding, understanding knowledge. In S. Grimm, C. Baumberger, S. Ammon (Eds.), Explaining understanding: New perspectives from epistemology and philosophy of science, pp. 92–110. Routledge.
2. Bonenberg, W., Kapliński, O. (2017) Knowledge is the key to innovation in architectural design. *Procedia Engineering*, Vol.208, pp.2-7.
3. Bonenberg, W., Kapliński, O. (2018) The Architect and the Paradigms of Sustainable Development: A Review of Dilemmas. *Sustainability*, Vol.10(1).
4. Radder, H. (Ed.). (2003). *The philosophy of scientific experimentation*. Pittsburgh: University of Pittsburgh Press.
5. Walliman, N. (2011) *Research Methods: The Basics*. New York. Routledge.

### Additional

1. Bonenberg, W. (2015) The Trickle-up Fashion Effect in Forecasting New Trends in Architecture. *Procedia Manufacturing*, 2015, Vol.3, pp.1611-1617. Springer.
2. Buchanan, R. (1998). *The study of design: Doctoral education and research in a new field of inquiry*, *Doctoral Education in Design 1998: Proceedings of the Ohio Conference*. Ohio.
3. Buchanan, R. (2001). Design research and the new learning. *Design Issues* 17(4) pp.3-23.
4. de Bruijn, W. (2012) Thesis-Building: Architecture, Alchemy and the Constructive Moment(s) of a Doctoral Dissertation. *Footprint: Delft Architecture Theory Journal*, 10/11, pp.165-182.



5. Durling, D., Friedman, K. (2000). Doctoral education in design: Foundations for the future. Staffordshire: Staffordshire University Press.
6. Grubbauer, M., Steets, S. (Eds. 2014). The making of architects: knowledge production and legitimation in education and professional practice. Architectural Theory Review 19(1).
7. Hauptmann, D., Schrijver, L. (2012). Architecture culture and the question of knowledge: Doctoral research today. Footprint: Delft Architecture Theory Journal, 10/11, pp.1-4.
8. Margolin, V. (2010) Doctoral Education in Design: Problems and Prospects Design Issues, 2010, Vol.26(3), pp.70-78.
9. Pitt, J. (2008). Design criteria in architecture. In P. E. Vermaas, P. Kroes, A. Light, & S. A. Moore (Eds.), Philosophy and design: from engineering to architecture (pp. 317–327). Dordrecht: Springer.
10. Schwab, M. (Ed.). (2014). Experimental systems: future knowledge in artistic research. Leuven: Leuven University Press.

#### Breakdown of average student's workload

	Hours	ECTS
Total workload	24	1.0
Classes requiring direct contact with the teacher	8	0.5
Student's own work (literature studies, preparation for tutorials, project preparation) <sup>1</sup>	16	0.5

<sup>1</sup> delete or add other activities as appropriate