

**DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

SUPERVISOR DECLARING/CONDUCTING COURSE: prof. Marzanna Jagiello
DEPARTMENT: Architecture
SCIENTIFIC DISCIPLINE: architecture and urban planning

COURSE CARD

Course name in Polish: Najnowsze kierunki badań w AU

Course name in English: The latest research directions in AU

Course language: English

The course is intended for all PhD students: YES / ~~NO~~

- ~~1) BASIC COURSE~~
- 2) SPECIALIST COURSE**
- ~~3) SEMINAR~~
- ~~4) HUMANISTIC COURSE~~
- ~~5) LANGUAGE~~
- ~~6) RESEARCH SKILLS~~

Subject code: AUQ100255W

* delete as applicable

	Lecture	Foreign language course	Seminar	Mixed forms
Number of hours of organized classes in university (ZZU)	30			
Grading	Exam	Exam	Oral presentation	Exam, inspection, evaluation classes

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. No prerequisites

COURSE OBJECTIVES

C1 Acquainting doctoral students with the latest research directions in the discipline of architecture and urban planning

PROGRAM CONTENTS

Form of classes		Number of hours
1	How do you identify the most topical research topics based on your understanding of the European Commission's Framework Programs?	2
2	Selected directions of scientific research in urban and spatial planning	2
3	Research Methods Design-Case Studies (MVRDV, FOA, PLOT, OMA)	2

**DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

4	Advanced methods of remote sensing for town planning, architectural and archaeological researchers	2
5	Research questions and the scope and methods of research - from the city scale to a case study of a single apartment	2
6	Social engineering methods in research on the functioning of buildings	2
7	Quantitative research in architecture, on the example of daylight simulation studies	2
8	Qualitative research in architecture, morphological studies on the example of studying trends in the architecture of transparent facades	2
9	Shaping double curved architectural covers	2
10	Urban and architectural heritage of socialism. Research and evaluation criteria	2
11	Introduction to research on bioclimatic architecture	2
12	Climate threats, sustainable development and recycling of architectural heritage	2
13	The online-offline continuum and its impact on urban land use	2
14	Spatial decision making as a social learning process	2
15	Contemporary directions and methods of urban landscape research	2
	Total hours	30

TEACHING TOOLS USED
N1. Lecture N2. Multimedia presentation N3. Problem discussion N4. own work

ACHIEVED SUBJECT LEARNING OUTCOMES		
Type of learning outcome	Code of learning outcome	Assessment of learning outcome
Knowledge	P8S_WG	Problem discussion
Knowledge	P8S_WK	Problem discussion

PRIMARY AND SECONDARY LITERATURE
<p><u>PRIMARY LITERATURE:</u></p> <p>[1] Sławińska J., Widera B., Nurty w architekturze współczesnej – kłopoty z wyodrębnieniem, Architectus, 1-2/2001, 89–95.</p> <p>[2] Niezabitowska E.D. Danuta, Metody i techniki badawcze w architekturze, Wydawnictwo Politechniki Śląskiej Gliwice 2014; http://delibra.bg.polsl.pl/Content/24334/BCPS_26334_2014_Metody-i-techniki-badawcze.pdf</p> <p>[3] Brzezicki, Marcin, The architectural design of light-permeable facades – a summary of recent trends and observations, Technical Transactions 2019 Vol. 116, iss. 12 5--30, DOI: 10.4467/2353737XCT.19.120.11445</p>

- [4] Brzezicki, Marcin, An Evaluation of Annual Luminous Exposure from Daylight in a Museum Room with a Translucent Ceiling, *Buildings* 2021, 11(5), 193 <https://doi.org/10.3390/buildings11050193>
- [5] Baborska-Narozny, M., Szulgowska-Zgrzywa, M., Mokrzecka, M., Chmielewska, A., Fidorow-Kaprawy, N., Stefanowicz, E., ... Laska, M. (2020). Climate justice: air quality and transitions from solid fuel heating. *Buildings and Cities*, 1(1), 120–140. DOI: <http://doi.org/10.5334/bc.23>
- [6] Baborska-Narozny, M. (2017). Building performance evaluation—Understanding the benefits and risks for the stakeholders involved. Lessons for Poland based on the UK experience. *Architectus*, 1(49), 47–61. DOI: <https://doi.org/10.5277/arc170104>
- [7] Hart, S., *Ecoarchitecture: The Work of Ken Yeang*, John Wiley & Sons Inc, 2011, ISBN: 9780470721407
- [8] Almusaed A., *Biophilic and Bioclimatic Architecture: Analytical Therapy for the Next Generation of Passive Sustainable Architecture*, Springer Science & Business Media, 2010
- [9] Košir M., *Climate Adaptability of Buildings: Bioclimatic Design in the Light of Climate Change* Springer, 2019
- [10] https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en
- [11] <https://cordis.europa.eu/>
- [12] Adriaenssens S., Block P., Veenendaal D. and Williams Ch., *Shell Structures for Architecture: Form Finding and Optimization*. Routledge, 2014.
- [13] Burry M. and Burry J., *The New Mathematics of Architecture*. Thames & Hudson, 2010.
- [14] Pottmann H., Asperl A., Hofer M., and Kilian A., *Architectural Geometry*. Daril Bentley (ed). Bentley Institute Press 2007.
- [15] Jiang C., Tang C., Tomiči M., Wallner J., Pottmann H., *Interactive Modeling of Architectural Freeform Structures: Combining Geometry with Fabrication and Statics*. In: Block P., Knippers J., Mitra N., Wang W. (eds) *Advances in Architectural Geometry 2014*. Springer, 2015. https://doi.org/10.1007/978-3-319-11418-7_7
- [16] Block Ph. and Ochsendorf J., Thrust Network Analysis: A New Methodology for Three-Dimensional Equilibrium. *Journal of the International Association for Shell and Spatial Structures* Vol. 48 (2007) No. 3 December n. 155, pp. 167–73.
- [17] Byrne J., Matthews T., *Sustainable re-use and recycling work for heritage buildings and places too*, *The Conversation* (2017), <https://theconversation.com/sustainable-re-use-and-recycling-work-for-heritage-buildings-and-places-too-83975>
- [18] Seekamp E., Jo E., *Resilience and transformation of heritage sites to accommodate for loss and learning in a changing climate*, *Climatic Change* (2020) 162:41–55, (pdf) <https://doi.org/10.1007/s10584-020-02812-4>
- [19] Wilkinson S., Remøy H., *Heritage building preservation vs sustainability? Conflict isn't inevitable*, *The Conversation* (2017) <https://theconversation.com/heritage-building-preservation-vs-sustainability-conflict-isnt-inevitable-83973>
- [20] Batty M. (2014). *City 1.0, City 2.0, City n.0, ..., City t*. 'Environment and Planning B' No 1(41), p. 1–2.
- [21] Castells M. (1998). *The Rise of the Network Society*, Malden, Oxford: Wiley-Blackwell.
- [22] Damurski Ł., Pluta J., Ładysz J., Mayer-Wydra M. (2018). *Online or offline services for urban neighbourhoods? Conceptualisation of research problems*. 'International Journal of E-Planning Research' Volume 8, Issue 1, January-March 2019, p. 50-67. DOI: 10.4018/IJEPR.2019010104

**DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

- [24] Damurski Ł. (2015). *From formal to semi-formal and informal communication in urban planning: insights from Polish municipalities*. European Planning Studies. 2015, vol. 23, nr 8, p. 1568-1587.
- [25] Evans, J., Vacha, T., Watson, K and Kok, H. (2021) *How Cities Learn: From Experimentation to Transformation*. Urban Planning. Accepted 27th October 2020.
- [26] Lang Jon, 2006, *Urban Design: A typology of procedures and products*, Elsevier, Architectural Press, Amsterdam, Boston, Heidelberg, London, New York, Oxford, Paris, San Diego, San Francisco, Singapore, Sydney, Tokyo.
- [27] Corner, J., *Recovering Landscape: Essays in Contemporary Landscape Architecture*, New York, Princeton Architectural Press, 1999.
- [28] Mostafavi, Mohsen, Cirola Najle i Architectural Association, *Landscape Urbanism: A Manual for the Machinic Landscape*, Londyn: Architectural Association, 2003.
- [29] Moran, E.F., *People And Nature: An Introduction To Human Ecological Relations*, Malden, MA: Blackwell Publishing Ltd. 2011.

SECONDARY LITERATURE:

- [1] Gzell Sławomir, *Urbanistyka XXI wieku*, Wydawnictwo Naukowe PWN, Warszawa 2020.
- [1] Kowalewski Adam, Markowski Tadeusz, Śleszyński Przemysław (red.), *Studia nad chaosem przestrzennym*, Tom I-III, Studia, Tom CLXXXII, Polski Komitet Przestrzennego Zagospodarowania Kraju PAN, Warszawa 2018.
- [2] Ossowicz Tomasz, *Metoda ustalania kolejności przedsięwzięć polityki przestrzennej miasta wielkiego*, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2003.
- [4] Baborska-Narozny, M. (red.) *Węglem i nie węglem. Ogrzewanie kamienic: perspektywa mieszkańców i scenariusze zmian. Rzeczywiste koszty, zużycie energii i warunki korzystania z różnych systemów ogrzewania*. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław. [doi:https://doi.org/10.37190/DiverCITY4_WNW](https://doi.org/10.37190/DiverCITY4_WNW)
- [5] Baborska-Narozny M., Szulgowska-Zgrzywa M., Chmielewska A., Fidorów-Kaprawy N., Laska M., Stefanowicz E., Piechurski K. (2018) *Ciepło w domu, gdy zimno na dworze* (eng. *Warm inside when cold outside*). The research report, available at: https://www.funduszeuropejskie.gov.pl/media/95398/4_cieplo-zimno-raport.pdf
- [6] Baborska-Narozny M., Szulgowska-Zgrzywa M., Piechurski K., Stefanowicz E., Fidorów-Kaprawy N., Laska M., Machyńska A., Chmielewska A., Wójcik F. (2019) *Źródła ciepła na paliwo stałe w budynkach mieszkalnych we Wrocławiu*. The research report, available at: <https://bip.um.wroc.pl/artykul/643/43316/raport-z-badan-zrodla-ciepła-na-paliwo-stale-w-budynkach-mieszkalnych-we-wroclawiu> [Accessed 20/05/2021]

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

prof. dr hab. arch. Marzanna Jagiello, marzanna.jagiello@pwr.edu.pl zespól:
dr. hab. arch. Magdalena Baborska
dr hab. arch. Marcin Brzezicki
dr hab. Łukasz Damurski
prof. dr hab. arch. Jacek Kościuk
prof. dr hab. arch. Ewa Łużyniecka
dr arch. Joanna Majczyk
prof. dr hab. arch. Tomasz Ossowicz
prof. dr hab. inż. Romuald Tarczewski
dr hab. arch. Agnieszka Tomaszewicz
dr hab. arch. Barbara Widera
dr arch. Bogusław Wórzeczka