MODULE INFORMATION SHEET

Name of Module Unit	**Urban Climate – Adaptation and Planning**
Name in polish language	
Module type	~~compulsory~~ / elective
Form of studying	full-time day courses
Level of study	graduate course (M.Sc. level)
Type of study (for extra-mural courses)	-
Programme	Environmental Engineering
Speciality	Environment Protection Engineering
Responsible department	Chair of Environmental Protection and Management
Responsible person	dr hab inż. Joanna Strużewska, prof. WUT

Semester	Lectures(E)	Tutorials	Laboratory	Computer Exercises	Projects	ECTS
4	15				30	3

Learning outcomes (knowledge, skills, competences)

The objective of the course is to provide the knowledge on climate related risks in urban environment and methodologies for the development of adaptation strategies. This includes topics on manifestations of climate change in cities, exposure and vulnerability of urban assets and populations, and links to socio-economic welfare

Prerequisites

Applied Climatology

Rules for integrated grade setting

Recommended readings

1. Oke, T., Mills, G., Christen, A., & Voogt, J. (2017). Urban Climates. Cambridge: Cambridge University Press. doi:10.1017/9781139016476
2. Pelling, M. , The Vulnerability of Cities: Natural Disasters and Social Resilience, 9781853838309, 2003, Earthscan Publications
3. IPCC Reports (WG II)
4. https://climate-adapt.eea.europa.eu/

Contents of lectures (syllabus)

	Topics	Time (hrs.)	Scope (S / Ex)
1	Urban climate (radiation balance, UHI, wind pattern)	6	Ex
2	Impacts and hazards related to climate change	4	Ex
3	Vulnerability and adaptation concept	5	Ex
	Total	**15**	**hours**

S – topics listed in the legal study programme standards from 12.07.2007
Ex – extended topics

Lecturers

dr hab inż. Joanna Strużewska, prof. WUT

Assessment method

Written assignment

Contents of guided projects

	Topics	Time (hrs.)	Scope (S / Ex)
1	Downscaling future climate scenario do city scale– R package	4	Ex
2	Urban Heat Island analysis	2	Ex
3	Assessment of urban vulnerability	4	Ex
4	Assessment of urban adaptive capacity	6	Ex
5	Evaluation of climate change impacts on climate related hazards in urban area	4	Ex
6	Testing tools developed in Climate-Adapt initiative	6	Ex
7	Air quality and health aspects	4	Ex
	Total	**30**	**hours**

S – topics listed in the legal study programme standards from 12.07.2007
Ex – extended topics

Persons responsible for guided projects

dr hab inż. Joanna Strużewska, prof. WUT

Assessment method for guided projects

Presentation