COURSE OFFERED IN THE DOCTORAL SCHOOL

Code of the course	4606-EW-0000000-0075	Name of the course	Polish	Zarządzanie informacjami i wiedzą: warsztat naukowca
			English	Managing information and knowledge: the Scientists toolbox

Type of the course	Researcher's workshop (*warsztat badacza*)		
Course coordinator	dr hab. Andrzej Wodecki, prof. PW		
Implementing unit	Faculty of Management	Scientific discipline / disciplines*	

Level of education	Doctoral Degree	Semester	summer	
Language of the course	English			

Type of assessment:	Personal assignment	Number of hours in a semester	8	ECTS credits	1
Minimum number of participants	5	Maximum number of participants	30	Available for students (BSc, MSc)	Yes (II degree)

Type of classes		Lecture	Auditory classes	Project classes	Laboratory	Seminar
Number of hours	in a week					
	in a semester				8	

* does not apply to the Researcher's Workshop

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1. Prerequisites
No prerequisites.

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2. Course objectives
The aim of the course is to prepare for the effective conduct of scientific research with the use of generally available, modern methods and technologies.

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3. Course content (separate for each type of classes)
Lecture

1) Course Introduction
2) Organization
   a. Files and Folders. Naming conventions, syncing with cloud services, collaborating with others
   b. Reference managers. The most important functionalities, configuration, integration with other programs. Tools: Zotero, Mendeley.
   c. Note-taking tools: Logseq, Obsidian
3) Research
   a. The concept of research sprints (identification of relationships, patterns and research gaps; knowledge objects organization, new ideas generation).
   b. Information and knowledge resources (scholarly databases: Scopus, Web of Science, Google Scholar; blogs: Medium.com, etc.; Massive Open Online Courses (MOOCs))
   c. Processing information and knowledge (reading and understanding levels; model topics using natural language processing techniques, content classification and prioritization)
   d. Codification of knowledge (Zettelkasten method, Knowledge objects, and graphs)
4) Publication
   a. Scope definition and project plan
   b. Organization and integration of research material
c. Writing and reviewing publication, quality assurance.

Laboratory

1) Group organization
2) Setting up a collaboration workspace

3) Generating and choosing the idea for a research paper
4) Research sprints
5) Final paper preparation.

4. Learning outcomes			
	Learning outcomes description	Reference to the learning outcomes of the WUT DS	Learning outcomes verification methods*
Knowledge			
K01	Knowledge of effective methods of collecting and organizing scientific information	SD_W2	Project evaluation
K02	Knowledge of tools to assist researchers in research implementation	SD_W2	Project evaluation
K03	Understanding of the role of work organization and research process management in the implementation of research projects	SD_W2	Project evaluation
Skills			
S01	Ability to prepare a workshop and organize research work	SDU_1	Project evaluation
S02	Ability to identify valuable sources of information and knowledge on the Internet	SD_U2	Project evaluation
S03	Ability to organize and codify knowledge, both in the creative process and in the finalization of the scientific work	SD_U7	Project evaluation
Social competences			
SC01	Ability to collaborate in research projects using best practices and tools for project management and group work	SD_K4	evaluation of activity during classes
SC02	Ability to effectively communicate the results of one's research, especially in interdisciplinary projects	SD_K4	evaluation of activity during classes

*Allowed learning outcomes verification methods: exam; oral exam; written test; oral test; project evaluation; report evaluation; presentation evaluation; active participation during classes; homework; tests

5. Assessment criteria
Evaluation of the final project:
- project evaluation: 100%

6. Literature
Obligatory:
[1] Course materials
Supplementary:
[1] Sonke Ahrens, *How to Take Smart Notes: One Simple Technique to Boost Writing, Learning and Thinking,* 20220, https://amz.run/5cpt

7. PhD student's workload necessary to achieve the learning outcomes**		
No.	Description	Number of hours
1	Hours of scheduled instruction given by the academic teacher in the classroom	8
2	Hours of consultations with the academic teacher, exams, tests, etc.	4
3	Amount of time devoted to the preparation for classes, preparation of presentations, reports, projects, homework	10
4	Amount of time devoted to the preparation for exams, test, assessments	8
	Total number of hours	**30**
	ECTS credits	**1**

** 1 ECTS = 25-30 hours of the PhD students work (2 ECTS = 60 hours; 4 ECTS = 110 hours, etc.)