

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

SUPERVISOR/TEAM/ DECLARING/CONDUCTING COURSE: Urszula Markowska-Kaczmar

DEPARTMENT: Department of IT and Management W8

SCIENTIFIC DISCIPLINE: Technical information and telecommunications

COURSE CARD

Course name in Polish: Metodologia prowadzenia badań w informatyce

Course name in English: Research Methodology in Computer Science

Course language: polish

University-wide general course type*:

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

~~1) BASIC COURSE~~

~~2) SPECIALIST COURSE~~

~~3) SEMINAR~~

~~4) HUMANISTIC COURSE~~

~~5) LANGUAGE~~

Subject code: ITQ100077W

* 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	evaluation classes
Number of ECTS points	0			

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. English skills - good enough to effortlessly read and write articles in English
- 2.
- 3.

COURSE OBJECTIVES

C1. Research methodology presentation that is applicable in informatics

C2. Acquiring skills in research problem formulation, conducting scientific discussion, presentation of research domain, writing a scientific paper and its evaluation, writing grant application

PROGRAM CONTENTS

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Form of classes – lecture (Lec)		Number of hours
Lec1	Introduction: presentation of course goals, its content and rules of assessment. Research process description. Goals, product and evaluation of research.	2
Lec2	Formulation of research project goals. Research questions and goals. Posing hypotheses.	2
Lec3	Quantitative and qualitative research methods.	2
Lec4	Case study, mathematical modelling and simulation	2
Lec5	Principles of planning, conducting reporting and evaluation of experimental research.	2
Lec6	Research presentation (oral presentation, journal paper, survey paper)	2
Lec7	Finance acquisition for research.	3
Total hours:		15

Form of classes – foreign language course (Lng)		Number of hours
Lng1		
Lng2		
Lng3		
..		
Total hours:		

Form of classes – seminar (Sem)		Number of hours
Sem1		
Sem2		
Sem3		
...		
Total hours:		

Form of classes – mixed forms (mix)		Number of hours
Mix1	Practice in presentation of own scientific interests and conducting discussion.	2
Mix2	Presentation of the paper from a given domain. Critical analysis and discussion.	2
Mix3	Practice in scientific project goals formulation. Research question and hypotheses formulation.	2
Mix4	Quantitative and qualitative research methods.	2
Mix5	Evaluation of experimental research – exercises based on some examples.	2
Mix6	Practice in presentation of research domain	2
Mix7	Practice in presentation of research domain	2
Mix8	Summary of the course. Assessment of students outcomes. Students feedback - survey.	1
Total hours		15

TEACHING TOOLS USED
N1.Course supported by multimedia presentation interspersed by practical exercises. N2.e-learning educational platform with didactic materials

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ACHIEVED SUBJECT LEARNING OUTCOMES		
Type of learning outcome	Code of learning outcome	Assessment of learning outcome
Knowledge1: knows research strategy applied in informatics	P8S_WG	A short presentation of the paper where a given research strategy was applied (for each strategy presented in the lecture). Analysis how the strategy was implemented in the described research.
Skills1: is able to formulate the goal of the research project, pose research questions and hypotheses	P8S_UW	Presentation (1-2 slides) – project can refer to the future PhD research project or other project
Skills2: is able to discuss on scientific topics	P8S_UW	Activity in discussion during the course and the way of argumentation
Skills4: is able to present state of the art in his research domain		The way of presentation
Skills5: is able to write a survey paper	P8S_UW	Quality of the prepared survey paper
...		
Social competence		
Social competence		
...		

PRIMARY AND SECONDARY LITERATURE
<p>[1] Oates Briony J: Researching Information Systems and Computing , SAGE, 2006 [2] Dawson Christian W.: Projects in Computing and Information Systems, Prentice Hall PTR, 2009</p> <p><u>SECONDARY LITERATURE:</u></p> <p>[3] Creswell John W., Plano Clark Vicki L.: Designing and conducting mixed methods research, SAGE, 2011</p>
SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)
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