

COURSE OFFERED IN THE DOCTORAL SCHOOL

Code of the course	4606-EW-0000000-0054	Name of the course	Polish	Praktyczne aspekty zarządzania w nauce i biznesie		
			English	Practical Issues of Management in Science and Business		
Type of the course	Researcher's Workshop					
Course coordinator	Janusz Marszalec, Ph.D. (Eng.), MBA					
Implementing unit		Scientific discipline / disciplines*				
Level of education	Doctoral Program	Semester	Winter and summer semesters			
Language of the course	English					
Type of assessment:	Credit with grade	Number of hours in a semester	45	ECTS credits	3	
Minimum number of participants	10	Maximum number of participants	30	Available for students (BSc, MSc)	No	
Type of classes		Lecture	Auditory classes	Project classes	Laboratory	Seminar
Number of hours	in a week	2		1		
	in a semester	30		15		

* does not apply to the Researcher's Workshop

1. Prerequisites

There are no prerequisites. A general understanding of basic economics is useful but is not a requirement.

2. Course objectives

1. Learning and understanding the fundamentals of management - functions and principles of management.
2. Learning and understanding the most important and practical issues related to self- and time management, management of a project team, a consortium, and an organization to achieve the set objectives.
3. Learning to develop critical thinking on management issues in order to improve the effectiveness of the results achieved in science and business.
4. Expanding personal perspective on a broad scope of issues related to various areas of management.
5. Implementation of a consultancy project to solve a self-identified and selected problem related to management mistakes, or a project on creation of a consortium for a research and development project according to the principles applied in international projects with participation of scientific and business partners.

6. Course content (separate for each type of classes)

Lecture

1. Fundamentals of management. Functions and principles of management.
2. Strategy - About winning and achieving a goal. Sun Tzu principles of strategy and their application to development of personal strategy and strategy of an organisation.
3. Team building, dysfunctions in functioning of the team and methods to improve the team's performance (Patrick Lencioni's approach).

4. Leadership - How a strategy of the leader affects the results of a research team or a company (Jim Collins research and methods).
5. How to build trust and loyalty of partners and customers. Long lasting relationships and research project consortia (Simon Sinek's approach).
6. Cultural differences and how to take them into account in research projects and in business (Hofstede model).
7. Decision making in science and business (PrOACT methodology and value-based approach to decision making).
8. Negotiations in science and business (Harvard Negotiation Project methodology and FBI negotiators' methodology).
9. Building international relations in science and business.
10. Practical aspects of intellectual property rights management in scientific research and innovative technology startups.

Project classes

Mid-term project

Selection of a management book that is interesting to a participant of the course and presentation of its main theses. Explanation why the participant found the book valuable and what others can learn from it. Class discussion in a Q&A session.

Final project

A team project on one of the selected topics:

7. An advisory project to find a management problem in an organisation in science or business, and to propose solutions to solve the problem and improve the organisation performance.
8. A concept to build an international consortium for a scientific-research project according to the rules used in international projects with the participation of scientific and business partners.

The projects are presented in the classroom and the presentation is followed by discussion in a form of a Q&A session.

9. Learning outcomes

	Learning outcomes description	Reference to the learning outcomes of the WUT DS	Learning outcomes verification methods*
Knowledge			
K01	Gaining knowledge on transferring knowledge to economic and social sphere, and on commercialisation of results of scientific research	SD_W5	Assessment of activity during classes, projects and presentations evaluation
K02	Gaining knowledge about the economic and legal determinants of scientific and research activity	SD_W4	Assessment of activity during classes, projects and presentations evaluation
K03	Gaining knowledge on the effective management of the research process and the commercialisation process, as well as the effective use of funds for financing scientific research	SD_W4	Assessment of activity during classes, projects and presentations

			evaluation
Skills			
S01	Skills to creatively identify and formulate problems and solutions in the field of research and development	SD_U1	Assessment of activity during classes, projects and presentations evaluation
S02	Skills to transfer the results of scientific research to the economic and social sphere	SD_U3	Assessment of activity during classes, projects and presentations evaluation
S03	Ability to plan and implement individual and team research, development and creative projects, also in an international environment	SD_U7	Assessment of activity during classes, projects and presentations evaluation
Social competences			
SC01	Understanding the importance of knowledge and scientific achievements in solving cognitive and practical problems	SD_K2	Assessment of activity during classes, projects and presentations evaluation
SC02	Thinking and acting in innovative and entrepreneurial way	SD_K4	Assessment of activity during classes, projects and presentations evaluation
SC03	Behaving in professional manner, developing the ethos of scientific and research communities and presenting their importance to society	SD_K5	Assessment of activity during classes, projects and presentations evaluation

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

10. Assessment criteria

Credit with a grade on the basis of attendance (80% attendance required), activity during classes, execution of the mid-term project and the final project.

11. Literature

1. Peter Drucker, *The Practice of Management*, Harper Business, 2006.
2. Anil Bhat and Arya Kumar, *Principles of Management: Competencies, Processes, Practices*, OUP India, 2019.
3. Jim Collins, *Great by Choice*, Random House, 2011.
4. Simon Sinek, *Start with WHY: How Great Leaders Inspire Everyone to Take Action*, Penguin Books, 2011.
5. Patrick M. Lencioni, *The Five Dysfunctions of a Team: A Leadership Fable*, Jossey-Bass, 2002.

6. Gerald A. Michaelson, and Steven Michaelson, *Sun Tzu - The Art of War for Managers: 50 Strategic Rules Updated for Today's Business*, Adams Media Corporation, 2010.
7. John S. Hammond, Ralph L. Keeney, Howard Raiffa, *Smart Choices: A Practical Guide to Making Better Decisions*, Harvard Business Review Press, 2015.
8. Roger Fisher and William Ury, *Getting to Yes: Negotiating An Agreement Without Giving In*, Penguin Books, 2011.
9. Chris Voss and Raz Tahl, *Never Split the Difference: Negotiating as if Your Life Depended on It*, Ballantine Books, 2017.

10. 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	45
2	Hours of consultations with the academic teacher, exams, tests, etc.	10
3	Amount of time devoted to the preparation for classes, preparation of presentations, reports, projects, homework	20
4	Amount of time devoted to the preparation for exams, test, assessments	15
Total number of hours		90
ECTS credits		3

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