

COURSE OFFERED IN THE DOCTORAL SCHOOL

Code of the course	4606-EW-0000000-0181	Name of the course	Polish	„Inżynierowie na rzecz społeczeństwa” – Tech-Athon		
			English	“Engineers for the society” – Tech-Athon		
Type of the course	Researcher’s Workshop					
Course coordinator	prof. dr. hab. inż. Elżbieta Malinowska dr hab. inż. Aneta Pobudkowska-Mirecka					
Implementing unit		Scientific discipline / disciplines*	all disciplines			
Level of education	Education of PhD students	Semester	summer			
Language of the course	english					
Type of assessment:	Personal assignment	Number of hours in a semester	75	ECTS credits	4	
Minimum number of participants	12	Maximum number of participants	60	Available for students (BSc, MSc)	o	
Type of classes		Lecture	Auditory classes	Project classes	Laboratory	Seminar
Number of hours	in a week					
	in a semester	15	30	30		

* does not apply to the Researcher’s Workshop

1. Prerequisites

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2. Course objectives

The aim of the course is for Teams to develop concepts of practical ideas / demonstrators by engineers.

This objective will be achieved by the PhD student through:

- integrating the community of PhD students and academics of Warsaw University of Technology around problems in engineering;
- Developing the ability to cooperate in teams between PhD students of Warsaw University of Technology representing different scientific disciplines (interdisciplinarity);
- use of research knowledge by PhD students in order to prepare demonstrators’ concept of solutions to given or reported problems.

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

Lecture/ Auditory classes/ Project classes

The main event will be held on May 26, 27 and 28, 2023, from 4:00 p.m. on May 26 to 3:00 p.m. on May 28, 2023, at CEZAMAT headquarters.

Participants of Tech-Athon will take an active part in Knowledge and Competence Platform, kick-off meeting, trainings: design thinking, business model canvas, project management, UX - user experience, art pitching and create concepts ideas submitted, so called projects. Work will be carried out in teams of 3-6 people, led by the Team Leader and supported by substantive consultations from the Mentors.

Kick-off meeting, March at the CZliTT headquarters.

During the Event, Ph.D. students will learn about the rules of participation in Tech-Athon, integrate, and be able to lead discussions regarding potential Team compositions.

A knowledge and competence platform for Tech-Athon will be launched on MS Teams. It aims to gather people interested in participating in the Event in a hackathon format. On the Platform, PhD students will have the opportunity to propose their own research idea in the field of engineering and form a Team to implement it. Thus formed Teams will apply to Tech-Athon, the Main Event.

The Organizer can be contacted at the following email address: tech.athon2023@pw.edu.pl

4. Learning outcomes			
	Learning outcomes description	Reference to the learning outcomes of the WUT DS	Learning outcomes verification methods*
Knowledge			
K01	He is familiar with the fundamental problems in engineering and medicine occurring in modern civilization.	SD_W1	Evaluation of presentation
K02	Knows and understands the development trends associated with the fields of medical sciences, health sciences and engineering sciences, as well as the related research methodologies.	SD_W3	Evaluation of presentation
K03	Knows and understands the laws commonly applicable to scientific research, including legal and economic regulations.	SD_W4	Evaluation of presentation
Skills			
S01	Can apply knowledge from the fields of medical, health and engineering sciences when creating a project of a research nature. Can define the purpose and object of research, formulate a research hypothesis, identify appropriate research techniques and tools to solve the research problem and draw conclusions. Can critically analyze and use the results of research work and evaluate their usefulness and contribution to the development of medical and engineering knowledge.	SD_U1 SD_U2	Evaluation of presentation
S02	Able to initiate debate, participate in scientific discussions, cite appropriate arguments in scientific discussions, and communicate on topics in the fields of health sciences and engineering-technology when developing a scientific project.	SD_U4 SD_U5	Evaluation of presentation
S03	Can communicate in English.	SD_U6	Evaluation of presentation
S04	Can plan independently, act for his own development and solve research problems by creating solutions to the submitted idea. Can inspire others to take action leading to the solution of a research problem.	SD_U7 SD_U8	Evaluation of presentation
Social competences			
SC01	He is ready to act, think creatively, creatively, entrepreneurially, and recognize the importance of knowledge in practical solutions to research problems.	SD_K4 SD_K2	Evaluation of presentation
SC02	Follows the rules of professional ethics and works for the public interest.	SD_K5 SD_K3	Evaluation of presentation

*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
<ol style="list-style-type: none"> 1. As part of MedTech-Athon, a competition shall be held for the best Solutions. 2. The best Solutions may be awarded according to the Jury's own assessment.

3. The Jury shall assess the Solutions in accordance with the following Evaluation Criteria:
- a) Formal criteria:
 - i. The presentation of the Solution must be made available before the expiry of the time limit;
 - ii. Personal participation of at least 3 Members of the Team in work on the Solution in the CEZAMAT's premises during the Main Event;
 - iii. Presence of at least 2 Members of the Team at the Solution Presentation during the Main Event.
 - b) Content-related criteria:
 - i. Completeness and quality of the presentation (10 points);
 - ii. Quality of problem diagnosis and definition (20 points);
 - iii. Interdisciplinarity and consistency of the solution (10 points)
 - iv. Relevance of the Solution to the defined problem (20 points);
 - v. Originality and creativity as compared to existing solutions (20 points);
 - vi. Feasibility and implementation potential of the Solution (20 points).
4. Failure to meet even one of the formal criteria listed in paragraph 3(a) (i)-(iii) shall result in the exclusion of the given Team from the Main Event.
5. The Jury shall make decisions with the use of Evaluation Sheets on the basis of the Evaluation Criteria.

6. Literature

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	45
2	Hours of consultations with the academic teacher, exams, tests, etc.	30
3	Amount of time devoted to the preparation for classes, preparation of presentations, reports, projects, homework	30
4	Amount of time devoted to the preparation for exams, test, assessments	15
Total number of hours		120
ECTS credits		4

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