Warsaw University of Technology

COURSE OFFERED IN THE DOCTORAL SCHOOL

Code of the course	4606-EW-0000000-0139	Name of the course	Polish	**Przedsiębiorczość i budowa startupów**
			English	**Entrepreneurship and Building Startups**
Type of the course	Researcher's workshop (*warsztat badacza*)			
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 a concept and the principles of strategy, development of a personal strategy and strategy in the professional area based on introspection and defining one's core values and personal preferences.
2. Learning and understanding the fundamental principles of entrepreneurship and the essential elements that drive a new venture's success.
3. Learning and understanding academic entrepreneurship and commercialisation of results of scientific research by building an own innovative technology startup as a spinoff of scientific research.
4. Learning and understanding a systematic approach to building a startup (theoretical and practical issues), including the following stages of creation of a new business venture:
   - defining a strategy,
   - identifying good business opportunities based on the results of scientific research,
   - evaluation of business opportunities and selection of the most appropriate for building a startup based on personally defined criteria,
   - designing a business model and value proposition,
   - developing and writing a business plan,
   - finding sources of financing a new business venture, and
   - issues related to starting and managing a startup.
5. Developing a concept of own innovative technology startup and the methods of preparing good business presentations for effective communication with investors and business partners in the form

of investor pitch and elevator pitch.

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

Lecture

1. Basics of macroeconomics and microeconomics.
2. Fundamentals of accounting and corporate finance - the basis for the assessment of the company's business activity.
3. What is a strategy, Sun Tzu principles and their application in business, formulating a personal strategy.
4. What is entrepreneurship - the basics of building a successful business.
5. The skills and abilities of the entrepreneur, and how to develop them.
6. What kind of company I want to build on the basis of scientific research results.
7. Identifying business opportunities - methodology for analysing market gaps and potential sources of ideas taking into account the results of scientific research.
8. Assessment of business opportunities - methodology of assessment using decision matrix and selection of the best opportunity to build your own spin-off startup.
9. Model and strategy for the created business; research to design a business model and preparation of the information and materials for writing business plan.
10. Design of business model and value proposition using Business Model Canvas and Value Proposition Canvas methods.
11. Developing and writing a business plan of a new startup venture.
12. Finding sources of financing for your own business venture to commercialise results of your scientific research.
13. Establishing a company and managing a high-tech company (including the Lean Start-Up methodology); legal and tax issues; protection of intellectual property rights - methods and practical issues.
14. Building a family business on the basis of scientific research results.
15. Summary – Dos and Don'ts to build a successful business to commercialise results of scientific research.

Project classes

Final project

1. Based on the knowledge acquired during the course the participants working in groups have the task to create a concept of an innovative technology startup.
2. Participants prepare a presentation of their concept to potential investors and business partners in a form of investor pitch.
3. Presentation is delivered in the classroom followed by Q&A session as it usually is during startup mixers and meetings with investors and business partners.

7. 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, and project and presentation

			evaluation
K02	Gaining knowledge on academic entrepreneurship and on creation and development of innovative technology startups	SD_W5	Assessment of activity during classes, and project and presentation evaluation
K03	Gaining knowledge about building research projects and obtaining research funding, taking into account the principle of creating value for stakeholders	SD_W4	Assessment of activity during classes
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 and project evaluation
S02	Skills to transfer the results of scientific research to the economic and social sphere	SD_U3	Project and presentation evaluation
S03	The ability to build an innovative technology-based startup venture as a spinoff of scientific research activities	SD_U3	Assessment of activity during classes, and project and presentation 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, and project and presentation evaluation
SC02	Thinking and acting in innovative and entrepreneurial way	SD_K4	Assessment of activity during classes, and project and presentation 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, and project and presentation 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

8. Assessment criteria
Credit with a grade on the basis of attendance (80% attendance required), activity during classes, execution of the final project of development of a concept to build a startup and presentation of the concept.

9. Literature

1. Steve Blank, Bob Dorf – *The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company*, K & S Ranch, 2012. (wydanie polskie: Podręcznik Startupu. Budowa wielkiej firmy krok po kroku. Helion, 2013).
2. William Bygrave & Andrew Zacharakis, *Entrepreneurship,* 2nd Edition, John Wiley & Sons, 2011.
3. Stephen Spinelli Jr., Robert J. Adams Jr., *New Venture Creation: Entrepreneurship for the 21st Century*, McGraw Hill Education, 2016.
4. Janusz Marszalec – *Jak zostać przedsiębiorcą. Zbuduj własną firmę i odnieś sukces!*, Centrum Edisona, 2014.
5. Ray Oakey, *High-Technology Entrepreneurship*, Routledge, 2012.
6. Resources at www.inc.com, www.entrepreneur.com, www.kauffman.org

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.	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.)