



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Technological Entrepreneurship [S2IZarz1E-ZPP>PT]

### Course

Field of study

Engineering Management

Year/Semester

2/3

Area of study (specialization)

Managing Enterprise of the Future

Profile of study

general academic

Level of study

second-cycle

Course offered in

English

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other

0

Tutorials

15

Projects/seminars

0

### Number of credit points

1,00

### Coordinators

dr Ewa Badzińska

ewa.badzinska@put.poznan.pl

### Lecturers

### Prerequisites

The student has theoretical knowledge of microeconomics, management and functioning of enterprises in a market economy. Is able to identify problems of managing a modern enterprise focusing on technological innovations and requirements of industry 4.0. Has the ability to understand and analyze basic socio-economic phenomena and is willing to take entrepreneurial activities. Demonstrates readiness to develop knowledge and teamwork skills.

### Course objective

The aim of the course is to gain knowledge and acquire skills and competences in the field of: theoretical concepts and implications of technological entrepreneurship; the role of intellectual capital and entrepreneurial university in the transfer of knowledge into business and commercialization of research results; the impact of the R&D sector, academic entrepreneurship and the entrepreneurial ecosystem on the development of technological entrepreneurship; formulating own opinions on socio-economic phenomena and critical data selection and methods of analysis; using acquired knowledge in various fields and forms in business practice.

### Course-related learning outcomes

#### Knowledge:

The student characterizes the roles and functioning of network organizations, concerns and clusters in the context of technological entrepreneurship, identifying their impact on innovation and technological development [P7S\_WG\_06].

The student describes the principles of formation and development of technological enterprises, combining theory with practice in the areas of technology, economics and management [P7S\_WK\_03].

#### Skills:

The student evaluates the effectiveness of different models of technology entrepreneurship, including start-ups and academic entrepreneurship, using the acquired knowledge [P7S\_UW\_03].

The student formulates strategies for technology enterprises, taking into account current trends and market challenges [P7S\_UW\_04].

The student analyzes social and economic phenomena in the context of technological entrepreneurship, interpreting their impact on development and innovation [P7S\_UW\_06].

The student formulates and tests hypotheses on the effectiveness and impact of technological entrepreneurship on the economy [P7S\_UW\_07].

#### Social competences:

The student integrates knowledge from different fields to solve complex problems related to technological entrepreneurship, especially in the context of innovation and cooperation between science and business [P7S\_KK\_01].

The student identifies and analyzes cause-and-effect relationships in the technology entrepreneurship ecosystem, assessing the relevance of various factors to business success [P7S\_KK\_02].

The student plans and manages business initiatives in the technology sector, including start-ups and academic enterprises [P7S\_KO\_03].

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge, skills and social competences acquired as part of tutorials are verified based on the presentation of the completed project/assignment carried out independently and in a team, the developed case study and student activity during classes (participation in the discussion, independent problem solving). Criteria for evaluation of the project / assignment will be provided to students in the first class.

### Programme content

Theoretical concepts and implications of technological entrepreneurship.

The model of an entrepreneurial university.

Entrepreneurial ecosystem in building cooperation between science and business.

### Course topics

1. Multidimensionality of technological entrepreneurship - interdisciplinary concepts.
2. The key determinants of technological entrepreneurship and their characteristics.
3. Entrepreneurial University model: mission and strategy, intellectual capital, creation and implementation of innovations, entrepreneurship education, supporting academic entrepreneurship and start-ups, building international relationships, cooperation with business through knowledge transfer and commercialization of research results.
4. Academic entrepreneurship and technology start-ups as a bridge for building business-science relationships.
5. Business incubators – scope of services offered and forms of support.
6. Impact of the quality of the entrepreneurial ecosystem (e.g. incubators, science and technology parks, business environment institutions in the field of incubation, etc.) on the development of entrepreneurship in the region.

### Teaching methods

Tutorials: case study method, discussion methods: brainstorming, metaplan (conclusions from discussion in teams presented on the forum in the form of a poster, multimedia presentation); Exercise and practical methods: solving cognitive tasks, teamwork.

## Bibliography

### Basic:

1. Bailetti T. (2012), Technology Entrepreneurship: Overview, Definition, and Distinctive Aspects, *Technology Innovation Management Review*, 2(2), p. 5-12.
2. Badzińska E. (2016), The Concept of Technological Entrepreneurship: The Example of Business Implementation, „*Entrepreneurial Business and Economics Review*”, 4 (3), pp. 57-72.
3. Badzińska E. (2020), The Entrepreneurial University: conceptualisation, models and challenges for operationalisation of the concept, [in:] A. Michałkiewicz, W. Mierzejewska (eds.), *Contemporary organisation and management. Challenges and trends*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź, s. 443-459.
4. Badzińska, E. (2022). Exploring an entrepreneurial ecosystem with regard to business-science-government cooperation: preliminary research findings, *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie*, no. 158, s. 9-26.
5. Lachiewicz, S., Matejun, M., The role of External Environment in Creating Technology Entrepreneurship in Small and Medium-Sized Enterprises, „*Management*”, 2010, 14(1), 187-202.
6. Nacu C.M., Avasilcăi S., Technological entrepreneurship: conceptual approaches. *Procedia - Social and Behavioral Sciences*, 2014, 124, 229-235.
7. Beckman C, Eisenhardt K., Kotha S., Meyer A., Rajagopalan N., *Technology Entrepreneurship*, „*Strategic Entrepreneurship Journal*” 2012, vol. 6, no. 2, s. 89-93.
8. HEInnovate (2023). An Initiative of the European Commission's DG Education and Culture in Partnership with the OECD. <https://heinnovate.eu/en/>
9. A Guiding Framework for Entrepreneurial Universities, OECD (2012), <https://www.oecd.org/site/cfecpr/EC-OECD%20Entrepreneurial%20Universities%20Framework.pdf>

### Additional:

1. Petti C. (red.) (2009), *Cases in technological entrepreneurship: Converting ideas into value*, Edward Elgar Publishing, Northampton, MA.
2. Badzińska, E., & Mrugalska, B. (2022). Technological Entrepreneurship and Entrepreneurial University towards Greater Effectiveness of Business-Science Cooperation, [in:] *Science, Business and Universities: Cooperation, Knowledge Transfer and Entrepreneurship*, (Eds.) J. Duda, T. Bernat, Milton, United States: Taylor & Francis Group, p. 145-155.
3. Badzińska, E., & Alt, R. (2021). Providing a Nurturing Environment for Start-up Incubation: An Explorative Study of a University-based Entrepreneurial Ecosystem, *European Research Studies Journal*, vol. 24, spec. iss. 5, p. 15-29.3.
4. Badzińska E., Potencjał start-upów technologicznych w zakresie rozwoju przedsiębiorczości technologicznej – ujęcie badawczo-koncepcyjne, „*Przedsiębiorczość i Zarządzanie*” 2017, 18, 12(2), s. 477–492.
5. Poznańska K., *Przedsiębiorczość technologiczna*, 2010. [http://www.pol-nord.eu/IP\\_Workshop/Prof.\\_Krystyna\\_Poznanska\\_-\\_Przedsiębiorczosc\\_tehnologiczna.pdf](http://www.pol-nord.eu/IP_Workshop/Prof._Krystyna_Poznanska_-_Przedsiębiorczosc_tehnologiczna.pdf)
6. Kordel P., *Przedsiębiorczość technologiczna*, Wydawnictwo Politechniki Śląskiej, Gliwice, 2018.
7. Staniec, I., Klimczak, K. M., Machowiak, W., Shachmurove, Y., *Przedsiębiorczość technologiczna: istota, znaczenie, wybrane kierunki badań*. *Studia i Prace Kolegium Zarządzania i Finansów SGH w Warszawie*, Zeszyt Naukowy 168, 2018, s. 101-112.

## Breakdown of average student's workload

|                                                                                                                                         | Hours | ECTS |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------|------|
| Total workload                                                                                                                          | 25    | 1,00 |
| Classes requiring direct contact with the teacher                                                                                       | 15    | 0,50 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 10    | 0,50 |