COURSE DESCRIPTION CARD

<table>
<tr><td colspan="10">Bialystok University of Technology
Faculty of Engineering Management</td></tr>
<tr><td>Field of study</td><td colspan="5">Management</td><td colspan="2">Degree level and programme type</td><td>first degree/ second degree</td></tr>
<tr><td>Specialisation/ diploma path</td><td colspan="5">-</td><td colspan="2">Study profile</td><td>-</td></tr>
<tr><td rowspan="2">Course name</td><td colspan="5" rowspan="2">Technology Innovation</td><td colspan="2">Course code</td><td>IS-FM-00093S</td></tr>
<tr><td colspan="2">Course type</td><td>elective</td></tr>
<tr><td rowspan="2">Forms and number of hours of educational activities</td><td>L</td><td>C</td><td>LC</td><td>P</td><td>SW</td><td>FW</td><td>S</td><td colspan="2">Semester</td><td>summer</td></tr>
<tr><td></td><td>30</td><td></td><td></td><td></td><td></td><td></td><td colspan="2">No. of ECTS credits</td><td>5</td></tr>
<tr><td>Entry requirements</td><td colspan="9">-</td></tr>
<tr><td>Course objectives</td><td colspan="9">Knowledge: Students acquire modern knowledge of the methods used in the process of technological innovation management.
Skills: Ability to use selected methods of technology management.
Social competences: Competence in presentation and discussion of prepared projects.</td></tr>
<tr><td>Course content</td><td colspan="9">The thematic blocks to be covered by the classes include: the basics of the concepts of technology, innovation, technology management, technology management framework; discussion of selected creative methods related to the search for innovation; implementation of selected creative methods; discussion of selected methods of analysis of the current state of technology development enabling identification and selection of technologies, discussion of technology readiness level scale; preparation by students technology card as part of the technology assessment process for a selected technological solution; discussion of the technology roadmapping method as a method to determine the directions of technological development and search for technological innovations; preparation by students a technological roadmap for a selected technological solution; discussing the communication aspect of innovative ideas/solutions with stakeholders; implementation by students of an exercise in the field of stakeholder communication (stakeholder mapping).</td></tr>
<tr><td>Teaching methods</td><td colspan="9">case study, presentation, discussion, project</td></tr>
<tr><td>Assessment method</td><td colspan="9">projects implementation, presentation and discussion of the projects, discussion during classes</td></tr>
<tr><td>Symbol of learning outcome</td><td colspan="8">Learning outcomes</td><td>Reference to the learning outcomes for the field of study</td></tr>
</table>

	Knowledge: the graduate knows and understands	
LO1	the graduate understands and explains basic concept related to technology innovation management	**-**
LO2	the graduate knows and understands selected methods of technology innovation management	**-**
	Skills: the graduate is able to	
LO3	the graduate is able to use selected creative methods in the process of searching for technological innovations	**-**
LO4	the graduate is able to make a diagnosis of the current state of technology and determine the directions of its development using selected methods	**-**
	Social competence: the graduate is ready to	
LO5	the graduate is ready to prepare presentations concerning technological innovations	**-**
LO6	the graduate is ready to work out a strategy of communication with stakeholders	**-**
Symbol of learning outcome	**Methods of assessing the learning outcomes**	**Type of tuition during which the outcome is assessed**
LO1	evaluation of discussions during classes	
LO2	evaluation of discussions during classes	
LO3	evaluation of discussions during classes, evaluation of project implementation and presentation	
LO4	evaluation of discussions during classes, evaluation of project implementation and presentation	
LO5	evaluation of discussions during classes, evaluation of project implementation and presentation	
LO6	evaluation of discussions during classes, evaluation of project implementation and presentation	
Student workload (in hours)		**No. of hours**
Calculation	Participation in the classes	30
	Preparation for the classes	40
	Consultations	5
	Independent work on projects	50
	TOTAL:	**125**
Quantitative indicators		**HOURS** / **No. of ECTS credits**
Student workload – activities that require direct teacher participation		**35** / **1,4**
Student workload – practical activities		**125** / **5**
Basic references	1. Cetindamar D., Phaal R., Probert D.; *Understanding technology management as a dynamic capability: A framework for technology management activities*; Technovation 2009; 29; 237–246. 2. Sharif M. N.; *Technological innovation governance for winning the future*; Technological Forecasting and Social Change 2012; 79/3; 595-604.	

	3. Gudanowska A.; *Technology Mapping – Proposal of a Method of Technology Analysis in Foresight Studies*; Business: Theory and Practice 2016; 17/3; 243-250. 4. Phaal R., Farrukh C. J. P., Probert D. R.; *Technology Roadmapping – A planning framework for evolution and revolution*; Technological Forecasting and Social Change 2004; 71; 5-26. 5. beFORE E-Learning Course, http://futureoriented.eu/foresight course/course/, 2019.	
Supplementary references	1. Lowe P.; *The Management of Technology: Perception and Opportunities*; Londyn: Chapman&Hall, 1995. 2. Gudanowska A.; *Technology mapping as a tool for technology analysis in foresight studies*; Technology Management Conference : ITMC 2014 : IEEE International, 2014, IEEE, ISBN 978-1-4799-3312-9; 1-4. 3. Daim T.U., Oliver T.; *Implementing technology roadmap process in the energy services sector: A case study of a government agency*; Technological Forecasting and Social Change 2008; 75/5; 687-720.	
Organisational unit conducting the course	**International Department of Logistics and Service Engineering**	**Date of issuing the programme**
Author of the programme	**Alicja Gudanowska, PhD**	**22.02.2022**

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar