UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Menedžment tehnologije in inovacij
Course title:	Management of Technology and Innovation

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Ekotehnologije, 3. stopnja	/	1	1
Ecotechnologies, 3rd cycle	/	1	1

Vrsta predmeta / Course type Izbirni / Elective

Univerzitetna koda predmeta / University course code: EKO3-653

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30	**30**			**30**	**210**	**10**

**Navedena porazdelitev ur velja, če je vpisanih vsaj 15 študentov. Drugače se obseg izvedbe kontaktnih ur sorazmerno zmanjša in prenese v samostojno delo. / This distribution of hours is valid if at least 15 students are enrolled. Otherwise the contact hours are linearly reduced and transfered to individual work.*

Nosilec predmeta / Course leader: Prof. dr. Borut Likar, MBA

Jeziki / Languages:	**Predavanja / Lectures:**	slovenščina, angleščina / Slovenian, English
	Vaje / Tutorial:	

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Izpolnjeni morajo biti pogoji za vpis na doktorski študij.

Prerequisites:

Student must fulfill the formal requirements for enrolling to the doctoral study program.

Vsebina:

- Strateški vidiki tehnološkega razvoja
- Modeli obvladovanja tehnologij in inovacij
- Vloga RRa pri prebojnih inovacijah
- Triple/Quadruple Helix, sodelovanje in Odprto inoviranje
- Upravljanje RR in inoviranja v raziskovalnih organizacijah in gospodarstvu
- Praktični vidiki zaščite idej in intelektualne lastnine
- Dejavniki uspešne realizacije inovativnih projektov ter obvladovanje odporov v praksi
- Lastnosti najbolj inovativnih in tehnološko naprednih podjetij
- Nacionalna in mednarodna raziskovalno razvojna, inovacijska in podjetniška podpora

Content (Syllabus outline):

- Strategic aspects of technology development
- Models of management of technology and innovation
- Role of R&D at breakthrough innovations
- Triple/Quadruple Helix, Cooperation strategy and Open innovation concept
- Management of R&D and innovation in research organizations and economy
- Practical aspects of the protection of ideas and intellectual property
- Factors successful realization of innovative projects and management of resistances in praxis
- Features of most innovative and technologically advanced companies;
- National and international R&D, innovation and

• Pridobivanje finančnih virov za inovativne tehnološke projekte v mednarodnem okolju Celotni program bo vključeval primere sodobnih izzivov v inovacijsko naravnanih podjetjih in RR organizacijah.	business support • Obtaining financial resources for innovative technology projects in international environment The entire programme shall include examples of contemporary challenges in innovation-oriented enterprises and R&D institutions..

Temeljna literatura in viri / Readings:

Osnovna literatura/Basic literature:

- Zapiski s predavanj/Lecture's handouts
- Tidd, J. & Bessant, J., 2011. Managing Innovation: Integrating Technological, Market and Organizational Change, John Wiley & Sons.
- LIKAR, Borut in soavtorji. *Innovation management*. 1st. ed. Ljubljana: Korona plus - Institute for Innovation and Technology, 2013 (pogl: 1,2,3,4,5,12)
- FATUR, Peter, LIKAR, Borut. Ustvarjalnost zaposlenih za inovativnost podjetja : sistemski vidiki managementa idej kot gradnika uspešne organizacije, (Znanstvene monografije Fakultete za management Koper). Koper: Fakulteta za management, 2009. 132 str., ilustr., preglednice. ISBN 978-961-266-058-1. http://www.fm-kp.si/zalozba/ISBN/978-961-266-059-8.pdf.
- Shanley, R. P. (2004). Financing technology's frontier: decision-making models for investors and advisors (Vol. 192). John Wiley & Sons.

Dopolnilna literatura/Additional literature:

- I Chesbrough, H., 2006. Open Business Models: How to Thrive in the New Innovation Landscape 1. ed., Harvard Business Press.
- Innovation Management and the Knowledge – Driven Economy. European Commission.
- http://www.cordis.lu/innovation-policy/studies/im_study6.htm
- http://www.cordis.lu/innovation-policy/studies/ (various useful materials)
- The PAXIS Manual for Innovation Policy Makers and Practitioners http://cordis.europa.eu/innovation-policy/studies/gen_study15.htm#download
- Christiansen. J. 2000. Competetive innovation management. Macmillan Business.
- Tschirky, H., Jung, H.-H., & Savioz, P. (2003). Technology and Innovation Management on the Move: from managing technology to managing innovation-driven enterprises, Zurich: Verlag Industrielle Organisation

Cilji in kompetence:	**Objectives and competences:**
Glavni cilj je razviti sposobnosti podiplomcev za uveljavljanje menedžmenta tehnologije in inovacij kot bistvene sestavine menedžmenta inovacijsko naravnanih podjetij oz. RR organizacij. To vključuje tako menedžment tehnologije v povezavi z R&R in proizvodnjo, kot tudi sodelovanje vseh ravni celotnega podjetja v naporih za sprejem in obvladovanje, tehnologije, tehnoloških in družbenih sprememb in inovacij. <u>Splošne kompetence:</u> • obvladanje raziskovalnih metod, postopkov in procesov, razvoj kritične in samokritične	The main objective is to develop the skills of postgraduate students to promote technology and innovation management as an essential component of the management of innovation-oriented enterprises and R&D institutions. This includes both technology management in connection with R&D and production, as well as collaboration at all levels of the entire company in endeavours to accept and manage technology, technological and social changes and innovations. <u>General Competences:</u> • The student will master research methods,

presoje,
- sposobnost uporabe znanja v praksi,
- razvoj komunikacijskih sposobnosti in spretnosti v mednarodnem okolju,
- sodelovanje, delo v skupini.

Predmetnospecifične kompetence:
- Predmet pripravlja študente za uporabo menedžmenta RRa, tehnologije in inovacij kot tudi s tem povezane intelektualne lastnine.

procedures and processes
- The student will develop critical thinking
- The student will develop communications skills to present research achievement in the international environment
- cooperation, team work

Course Specific Competences:
- This course prepares students to apply management of R&D, technology and innovation as well as related intellectual property

Predvideni študijski rezultati:

Znanje in razumevanje:
- razumevanje presoje projektov

Študenti bodo z uspešno opravljenimi obveznostmi tega predmeta pridobili:
- razumevanje strategij in bistvenih tehnoloških izzivov, RR priložnosti in inovacij;
- razumevanje sodobnih modelov in konceptov obvladovanja RR, tehnologij in inoviranja na relaciji akademske sfere, gospodarstva, uporabnikov in družbe;
- premoščanje ovir v pojmovanjih med R&R, proizvodnjo, trženjem in finančnim sektorjem;
- večanje učinkovitosti upravljanja R&R projektov in proizvodnih procesov;
- spoznavanje sodobnih metod in tehnik menedžmenta, ki omogočajo višanje učinkovitosti upravljanja tehnologije in inovacij;
- razumevanje pomena in obvladovanja intelektualne lastnine;
- sposobnost uporabiti mednarodno podporno okolje pri razvoju in implementaciji inovativnih tehnologij;
- spoznavanje sodobne nacionalne in mednarodne koncepte in konkretne instrumente za financiranje inovativnih tehnoloških projektov.

Celoten program bo vključeval primere sodobnih dobrih praks v inovacijsko naravnanih podjetjih in RR organizacijah. Pridobljeno znanje je uporabno tudi v državnih in komercialnih investicijskih agencijah in družbah.

Intended learning outcomes:

Knowledge and Understanding
- The student will understand assessment of projects.

Students successfully completing this course will acquire:
- understanding of strategies and key technological challenges, R&D opportunities and innovation;
- understanding of modern models and concepts of R&D, technology and innovation management among academia, industry, users and society
- overcoming obstacles in conceptions between R&D, production, marketing and the financial sector;
- enhancing the efficiency of managing R&D projects and production processes;
- Becoming acquainted with modern management methods and techniques promoting increased efficiency of technology and innovation management;
- understanding the importance and management of intellectual property
- able to use internationally supportive environment for the development and implementation of innovative technologies
- understand actual national/international concepts and concrete instruments for financing of innovative technological projects

The entire programme shall include examples of contemporary best practice examples in innovation-oriented enterprises and R&D institutions.
Some researchers will also work in governmental or commercial investment agencies, and in companies

	where they will need these skills.

Metode poučevanja in učenja:	**Learning and teaching methods:**
• predavanja • seminarji • študije primerov • razgovor/diskusija/debata • samostojno delo študentov	• lectures • seminar work • case studies • discussion / debate • individual work of students

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Projektna naloga	60 %	Project work
Seminarska naloga	40 %	Term paper

Reference nosilca / Lecturer's references:

- LIKAR, Borut, ROPRET, Marko, FATUR, Peter, KOPAČ, Janez, ŠKAFAR, Maja. Innovation of low and medium-low processing industry : a reference innovation model. The business review, Cambridge, Summer 2012, vol. 20, no. 1, str. 159-165. [COBISS.SI-ID 4445655]
- MARKIČ, Mirko, LIKAR, Borut, MEŠKO, Maja, RAŠIČ, Katja, ŽIVKOVIĆ, Snežana B. Innovation policy and successfulness of micro and small companies in the Republic of Slovenia. Afr. j. bus. manag., Sep. 2011, vol. 5, no. 22, str. 9559-9567, tabele. http://www.academicjournals.org/ajbm/PDF/pdf2011/30Sept/Markic%20et%20al.pdf. [COBISS.SI-ID 4093655]
- FATUR, Peter, LIKAR, Borut, ROPRET, Marko. Going open while innovating: does it pay?. Int. j. ind. eng. manag.. [Print ed.], 2010, vol. 1, no. 3, str. 77-83, ilustr., tabele. http://www.ftn.uns.ac.rs/ijiem/paperIJIEM0301reviewfinal.pdf. [COBISS.SI-ID 3872727]
- LIKAR, Borut, MIKLAVČIČ, Damijan. Organisation and motivation of researchers in an interdisciplinary research team. V: KERN, Tomaž (ur.), RAJKOVIČ, Vladislav (ur.). People and sustainable organization. Frankfurt am Main [etc.]: Peter Lang, 2011, str. 147-165, tabele. [COBISS.SI-ID 8715092]

Patent

- LIKAR, Borut. *Cradle with a motor swinging element : DE112011103612 (B4), 2017-01-05*. Munchen: German Patent and Trademark Office, 2017. 7 str., ilustr. [COBISS.SI-ID 4380119]