

MODUL E: PROJEKTNO VODENJE, INOVATIVNOST IN TIMSKO DELO

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Modul E: Projektno vodenje, inovativnost in timsko delo
Course title:	Module E: Project management, innovation and teamwork
Članica nosilka/UL Member:	UL FE

Študijski programi in stopnja	Študijska smer	Letnik	Semestri	Izbirnost
Elektrotehnika, prva stopnja, univerzitetni	Ni členitve (študijski program)	3. letnik	2. semester	izbirni

Univerzitetna koda predmeta/University course code:	0082612
Koda učne enote na članici/UL Member course code:	64142

Predavanja /Lectures	Seminar /Seminar	Vaje /Tutorials	Klinične vaje /Clinical tutorials	Druge oblike študija /Other forms of study	Samostojno delo /Individual student work	ECTS
30		30			65	5

Nosilec predmeta/Lecturer:	doc. dr. Samo Mahnič
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Izvajalci predavanj:	doc. dr. Samo Mahnič
Izvajalci seminarjev:	
Izvajalci vaj:	
Izvajalci kliničnih vaj:	
Izvajalci drugih oblik:	
Izvajalci praktičnega usposabljanja:	

Vrsta predmeta/Course type:	Izbirni – splošni/elective general
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Jeziki/Languages:	Predavanja/Lectures:	Slovenščina
	Vaje/Tutorial:	Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Vpis v letnik.	Enrolment in the year of the course.

Vsebina:	Content (Syllabus outline):
Osnove projektnega vodenja, cilji in faze projekta, iskanje in opredelitev problema, analiza stanja (SWOT, SIPOC), razčlenitev dela (WBS), časovno načrtovanje in Ganttov diagram, viri in obvladovanje tveganj, kritična pot.	Basics of project management, project objectives and phases, problem identification and definition, situation analysis (SWOT, SIPOC), work breakdown structure (WBS), time scheduling and Gantt charts, resources and risk management, critical path.

Značilnosti timskega dela, vloge v timu (Belbinov vprašalnik), dinamika tima in reševanje konfliktov (aktivno poslušanje, mediacija). Vodenje sestankov: vrste sestankov, vabilo, dnevni red, zapisnik, ocenjevanje učinkovitosti. Veščine javnega nastopanja in predstavljanja. Osnove managementa inoviranja in ustvarjanja idej (možganska nevihta, analiza problemov). Intelektualna lastnina (patenti, modeli, avtorske pravice; postopki prijave). Svetovni splet in evropsko podporno okolje za inoviranje in razvojno-raziskovalno delo. Predmet vključuje dve vabljeni predavanji ter eno strokovno ekskurzijo.	Characteristics of teamwork, team roles (Belbin questionnaire), team dynamics and conflict resolution (active listening, mediation). Running meetings: meeting types, invitation, agenda, minutes, evaluation of effectiveness. Public speaking and presentation skills. Basics of innovation management and idea generation (brainstorming, problem analysis). Intellectual property (patents, models, copyright; application procedures). World wide web and European supporting environment for innovation, research and development. The course includes two invited lectures and one field excursion.
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Temeljna literatura in viri/Readings:

1. Project Management Institute. A guide to the project management body of knowledge (PMBOK Guide). 7th ed. Newtown Square (PA): PMI, 2021.
2. Likar B., Križaj D., Fatur P. Management inoviranja. 3. izdaja. Koper: Fakulteta za management, 2006.
3. Stare A. Projektni management: teorija in praksa. Ljubljana: Agencija POTI, 2011.
4. Belbin R.M. Team roles at work. 2nd ed. Abingdon: Routledge, 2010.
5. Cikajlo I., Gider F. Tehnike reševanja problemov. Nova Gorica: Založba Univerze v Novi Gorici, 2010.
6. Reynolds G. Presentation Zen: simple ideas on presentation design and delivery. 3rd ed. Berkeley (CA): New Riders, 2019.
7. Doyle M., Straus D. How to make meetings work: the new interaction method. New York: Jove Books, 1993.
8. De Bono E. Six thinking hats. London: Penguin, 2000.

Cilji in kompetence:

Osvojitev teoretičnih osnov in prenosljivih znanj in veščin na področju projektnega vodenja, inoviranja, teamskega dela in tehnik reševanja problemov.

Študentje bodo razvili splošne kompetence:

- sposobnost analize, sinteze in predvidevanja rešitev ter posledic pojavov na področju managementa inoviranja, projektnega in teamskega dela
- obvladovanje raziskovalnih in razvojnih metod s področja projektnega in teamskega dela ter managementa inoviranja ter razvoj kritične in samokritične presoje,
- sposobnost uporabe znanj in veščin v praksi,
- avtonomnost pri strokovnem delu in pri sprejemanju odločitev,
- sposobnost argumentiranega zagovarjanja lastnih stališč in upoštevanje stališč drugih.

Študentje bodo razvili predmetno-specifične kompetence:

- poznavanje in razumevanje projekta in projektnega dela ter inovacijskih procesov,
- sposobnost za reševanje izzivov povezanih z večjo sposobnostjo projektnega in teamskega

Objectives and competences:

To understand theoretical knowledge and skills of project management, innovation management, teamwork and problem solving techniques.

Students will develop general competencies on:

- ability of analysis, synthesis and anticipation for solutions and consequences of phenomena of innovation management, project management and teamwork,
- management of research and development methods and innovation management and development of critical and self critical assessment,
- ability to employ knowledge and skills in practice,
- autonomy at professional work and decision making,
- ability of defending of one owns positions using arguments while considering different opinions.

The students will also develop subject specific competences:

- understanding project management, team work and innovation processes,

dela ter s krepitvijo ustvarjalnih in inovacijskih procesov, - sposobnost iskanja ter uporabe novih informacij iz raznih virov, - razumevanje povezanosti pridobljenih znanj v organizaciji in zahtev sodobnega obvladovanja s tehnološkimi, inventivnimi, raziskovalnimi, managerskimi in pravnimi vidiki, - razumevanje in uporaba kritične analize in razvoja ter praktične uporabe teorij v reševanju konkretnih strokovnih problemov.	- ability of recognising challenges related on project management and team work and strengthening creative and innovative processes, - ability of searching information and use of different information sources, - understanding relations between acquired knowledge in organisation and necessity to control and manage processes considering technological, inventive, research, managerial and legal aspects, - understand and use of acquired knowledge and skills for organizing and managing of specific professional challenges.
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Predvideni študijski rezultati:	Intended learning outcomes:
Izbrati in uporabiti ustrezne metode reševanja problemov, prepoznati ustreznost projektnega vodenja v vodenju projektov, in uporabiti metode teamskega dela. Prepoznati koncept intelektualne lastnine in izbrati ustrezne načine varovanja.	To recognise and use methods of problem solving, tools and principles of project management, and to use methods and techniques of teamwork. To recognising the concept of intellectual property and choose appropriate ways of protecting intellectual property.

Metode poučevanja in učenja:	Learning and teaching methods:
Predavanja, vabljen predavanja uveljavljenih strokovnjakov, strokovna ekskurzija, laboratorijske vaje, delo v skupinah, individualno delo, igre vlog in simulacije, analiza primerov	Lectures, invited lectures by distinguished guest speakers, field excursion, laboratory exercises, group work, individual work, role-play and simulations, case analysis

Načini ocenjevanja:	Delež/Weight	Assessment:
Končna ocena temelji na sprotne ocenjevanju laboratorijskih vaj in izdelkov, ki jih študent opravi tekom semestra. Če študent s končno oceno ni zadovoljen, lahko pristopi h končnemu izpitu (pisnemu ali ustnemu, po presoji nosilca predmeta), ki v celoti nadomesti sprotne oceno. Za pozitivno oceno je potrebno zbrati vsaj 51 % možnih točk. Ocenjevalna lestvica: 6 (51–64 %), 7 (65–74 %), 8 (75–84 %), 9 (85–94 %), 10 (95–100 %).		The final grade is based on continuous assessment of laboratory exercises and deliverables completed throughout the semester. Students who are unsatisfied with their final grade may sit a final examination (written or oral, at the lecturer's discretion), which fully replaces the continuous-assessment grade. A minimum of 51 % of points is required for a positive grade. Grading scale: 6 (51–64 %), 7 (65–74 %), 8 (75–84 %), 9 (85–94 %), 10 (95–100 %).
pisni in/ali ustni izpit (le če študent uveljavi pravico do izpita)	0,00 %	written and/or oral exam (only if student exercises the option)
sprotne ocenjevanje laboratorijskih vaj in izdelkov	100,00 %	continuous assessment of laboratory exercises and deliverables

Ocenjevalna lestvica:	Grading system:

Reference nosilca/Lecturer's references:

- 1.ČOROVIĆ, Selma, MAHNIČ-KALAMIZA, Samo, MIKLAVČIČ, Damijan. Education on electrical phenomena involved in electroporation-based therapies and treatments. *BioMedical engineering online*, 2016, vol. 15, no. 36, str. 1-19.
- 2.MAHNIČ-KALAMIZA, Samo, KOTNIK, Tadej, MIKLAVČIČ, Damijan. Educational application for visualization and analysis of electric field strength and electroporation threshold. *BMC medical education*, 2012, vol. 12, no. 102, str. 1-13.
- 3.MAHNIČ-KALAMIZA, Samo. Modeli dvojne poroznosti in njihova raba pri elektroporaciji biološkega tkiva. *Elektrotehniški vestnik*, 2021, vol. 88, no. 3, str. 75-84.
- 4.MAHNIČ-KALAMIZA, Samo, MIKLAVČIČ, Damijan, LOMBERGAR, Peter, MIKUŽ, Blaž, MATTISON, Lars M., SIGG, Daniel C., KOS, Bor. Elucidating the mechanisms of microbubble formation in pulsed field ablation. *Electrochimica acta*, 2024, vol. 497, str. 144550.
- 5.MAHNIČ-KALAMIZA, Samo, VOROBIEV, Eugène. Special issue editorial "PEF research and development needs". *Innovative food science & emerging technologies*, 2021, vol. 69, str. 102648.