

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Kreativnost in kritično razmišljanje
Course title:	Creativity and Critical Thinking

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Podatkovne znanosti, magistrski študijski program druge stopnje	-	drugi	četrty
The second cycle masters study programme Data Sciences	-	second	fourth

Vrsta predmeta / Course type

Obvezni/Compulsory

Univerzitetna koda predmeta / University course code:

2-PZ-MAG-KKR-2026-06-24

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
15	-	15	-	-	60	3

Nosilec predmeta / Lecturer:

Izr. prof. dr. Katarina Rojko

Jeziki /

**Predavanja /
Lectures:**

Slovenščina/English

Languages:

Vaje / Tutorial:

Slovenščina/English

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

Prerequisites:

Na prvi izpitni rok v študijskem letu se lahko prijavijo študenti, ki so bili na predavanjih in vajah prisotni vsaj 75 %, ali študenti, ki so pozitivno opravili kolokvij.

Students who have attended at least 75% of the lectures and tutorials or students who have passed the midterm exam may register for the first exam date in the academic year.

Vsebina:

Content (Syllabus outline):

Kreativnost - kaj in zakaj?

- Kognitivne omejitve
- Kreativne blokade
- Inovacijski motor Tine Seelig
- Kreativnost v digitalni dobi

Tehnike kreativnega mišljenja

- Tehnike uokvirjanja
- Tehnike povezovanja in združevanja
- Tehnike preverjanja predpostavk
- Analogije
- Simbolni jezik

Hevristika in pristranskost oz. predsodki

- Kulturni predsodki
- Organizacijski predsodki
- Kognitivni predsodki

Logika in sklepanje

- Argument
- Vrste sklepanj
- Pravila dedukcije

Zmote oz. napake

- Struktura
- Ustreznost
- Sprejemljivost
- Zadostnost
- Učinkovitost zavrnitve

Metode kritičnega mišljenja

- Kritično branje
- Kritično razmišljanje v fazi opazovanja, analize in sinteze
- Paul-Elder okvir za analizo in kritiko

Creativity - what and why?

- Cognitive limitations
- Creativity blocks
- Tina Seelig's Innovation Engine
- Creativity in the digital age

Creative thinking techniques

- Framing Techniques
- Connect and Combine Techniques
- Assumptions Testing Techniques
- Analogies
- Language of Symbols

Heuristics and biases

- Cultural Biases
- Organizational Biases
- Cognitive Biases

Logic and reasoning

- Argument
- Types of Reasoning
- Rules of Deduction

Fallacies

- Structure
- Relevance
- Acceptability
- Sufficiency
- Effectiveness of Rebuttal

Critical thinking methods

- Critical reading
- Critical thinking in the observation, analysis and synthesis phase Paul-Elder framework for analysis and critique

Temeljni literatura in viri / Readings:

Posamezna poglavja iz:

Griffiths, C.; Costi, M.; Medlicott, C. (2022): The Creative Thinking Handbook: Your Step-by-Step Guide to Problem Solving in Business. Kogan Page.

Thinknetic (2022): Critical Thinking & Logic Mastery - 3 Books In 1: How To Make Smarter Decisions, Conquer Logical Fallacies And Sharpen Your Thinking. M & M Limitless Online Inc

Cottrell, S. (2023): *Critical Thinking Skills: Effective Analysis, Argument and Reflection*. 4th edition. Bloomsbury Publishing.

Cilji in kompetence:

Objectives and competences:

Splošne kompetence

- Sposobnost skrbeti za kakovost strokovnega dela skozi avtonomnost, samoiniciativnost, (samo)kritičnost, (samo)refleksivnost in (samo)evalviranje
- Uporaba ustreznih metodoloških pristopov za izvajanje, koordiniranje in organiziranje raziskav
- Poglobljeno razumevanje in kritično razmišljanje o omejitvah oz. kvaliteti podatkov in njihovi etični uporabi

Predmetno specifične kompetence

- Prepoznavanje ključnih konceptov, pomembnih za razvoj kreativnosti in uvajanje inovativnih rešitev na različnih področjih poslovanja.
- Opredelitev problema kognitivnih omejitev in kreativnih blokad pri reševanju kompleksnih poslovnih problemov in sprejemanju poslovnih odločitev.
- Uporaba kreativnih analitičnih tehnik, ki so usmerjene k dvigu ravni kreativnosti in inovativnosti v poslovnem okolju.
- Uporaba metod kritičnega mišljenja in logičnega sklepanja za zmanjšanje vpliva iracionalnega in subjektivnega sklepanja, predsodkov, zmot in heuristike pri oblikovanju sklepov in pri poslovnih odločitvah.

General Competences

- The ability to manage quality of professional work through autonomy, initiative, as well as (self-)criticism, (self-)reflection and (self-)evaluation
- Utilization of adequate methodological approaches to conduct, coordination and organization of research
- In-depth understanding and critical thinking about limitations of data quality and their ethical usage

Subject-specific Competences

- Identifying key concepts important for the development of creativity and implementation of innovative solutions in various areas of business.
- Defining the problem of cognitive limitations and creativity blocks in resolving complex business problems and making business decisions.
- Applying creative analytical techniques aimed at raising the level of creativity and innovation in business environment.
- Applying methods of critical thinking and logical reasoning for reducing the impact of irrational and subjective reasoning, biases, fallacies, and heuristics in making inferences and business decisions.

• Kritično vrednotenje argumentov, predpostavk, abstraktnih konceptov in podatkov pri poslovnih problemih. • Oblikovanje veljavnih in trdnih sklepov ter gradnja »neprebojnih« argumentov.	• Critically evaluating arguments, assumptions, abstract concepts and data in business problems. • Making valid and sound inferences, and building bulletproof arguments.
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Predvideni študijski rezultati:

Znanje in razumevanje: <i>Študent/študentka:</i> • Kritično oceni razloge za uporabo tehnik kreativnega mišljenja - na splošno in za reševanje poslovnih problemov • Priporoči načine reševanja poslovnih problemov z uporabo nestrukturiranih tehnik kreativnosti • Spozna, kako heuristika in predsodki ovirajo logiko in objektivnost • Primerja različne vrste logičnega sklepanja in oceni prednosti sklepanja • Analizira različne metode kritičnega razmišljanja

Intended learning outcomes:

Knowledge and understanding: <i>The student:</i> • Critically assesses reasons for applying creative thinking techniques, in general and for solving business problems • Recommend ways of solving business problems using unstructured creativity techniques • Grasp how heuristics and biases hinder logic and objectivity • Compare various types of logical reasoning and assess the strengths of inference • Analyses different methods of critical thinking

Metode poučevanja in učenja:

Predavanja, predstavitve, razprave, sodelovanje, praktično delo.
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Learning and teaching methods:

Lectures, demonstrations, discussions, collaboration, practice by doing;
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Delež (v %) /

Načini ocenjevanja:

Weight (in %) **Assessment:**

Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
Pisni izpit	100 %	Written exam

Reference nosilca / Lecturer's references:

ROJKO, Katarina, ERMAN, Nuša. The Impact of the Covid-19 Pandemic on Higher Education Students' Perceptions of Educational Applications and Platforms. International
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Journal of Cognitive Research in Science, Engineering and Education. 2023, vol. 11, no. 2, str. 267-279.

ROJKO, Katarina, LUŽAR, Borut. Scientific performance across research disciplines : trends and differences in the case of Slovenia. *Journal of informetrics : an international journal*. 2022, vol. 16, iss. 2, str. 1-21.

ROJKO, Katarina, LESJAK, Dušan, ERMAN, Nuša. The COVID-19 Pandemic Crisis : impact on ICT spending. *Journal of computer information systems*. 2022, vol. , iss. , str. 1-16.

ROJKO, Katarina, ERMAN, Nuša, JELOVAC, Dejan. Impacts of the transformation to industry 4.0 in the manufacturing sector : the case of the U.S. *Organizacija : revija za management, informatiko in kadre*. [Tiskana izd.]. Nov. 2020, vol. 53, no. 4, str. 287-305.

ROJKO, Katarina, BRATIĆ, Brankica, LUŽAR, Borut. The Bologna reform's impacts on the scientific publication performance of Ph.D. graduates : the case of Slovenia. *Scientometrics*. 2020, vol. 124, iss. 1, str. 329-356.