



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Izbrana poglavja iz didaktike matematike
Course title:	Selected Topics in Didactics of Mathematics

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Matematika, 3. stopnja		1. ali 2.	1. ali 3. ali 4.
Mathematics, 3 rd cycle		1 st or 2 nd	1 st or 3 rd or 4 th

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30					150	6

Nosilec predmeta / Lecturer:

Jeziki / Languages: **Predavanja / Lectures:**
Vaje / Tutorial:

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

Poglobljeno znanje in razumevanje temeljnih pojmov iz didaktike matematike.

Prerequisites:

Profound knowledge and understanding of fundamental notions in didactics of mathematics.

Vsebina:

Izbrana so posebna poglavja didaktike matematike, ki posegajo na vsebinsko specifična področja, posebne metodične vidike, kognitivne, psihološke, kulturne in epistemoloških vidike oz. druga moderna didaktična področja. Izbira poglavij je odvisna od interesa in raziskovalne usmerjenosti študentov. Spodaj navedena literatura praviloma služi le kot osnova in je nadgrajena z bolj specializiranimi teksti.

Content (Syllabus outline):

The chapters selected are specific chapters in didactics of mathematics, which address content-specific areas, specific methodological aspects, cognitive, psychological, cultural and epistemological aspects, or other modern didactic areas. The selection of chapters depends on the interest and research orientation of the students. The literature listed below is generally used as a basis and is supplemented by more specialised texts.

Temeljni literatura in viri / Readings:

Kaiser, G., & Presmeg, N. (2019). *Compendium for early career researchers in mathematics education* (p. 532). Springer Nature.
 Trouche, L., Gueudet, G., & Pepin, B. (Eds.). (2019). *The 'resource' approach to Mathematics Education*. Springer Nature.
 Dreyfus, T., Artigue, M., Potari, D., Prediger, S., & Ruthven, K. (Eds.). (2018). *Developing Research in Mathematics Education: Twenty Years of Communication, Cooperation and Collaboration in Europe*. Routledge.

Cilji in kompetence:

- Študentu predstaviti moderno didaktiko matematike, kar lahko služi kot uvod v raziskovalno delo.
- Doseči poglobljeno razumevanje teoretskih in metodoloških konceptov s področja didaktike matematike.
- Razviti sposobnost za samostojno reševanje najzahtevnejših problemov iz didaktike matematike.
- Razviti možnost kritične refleksije na področju didaktike matematike kot raziskovalnega področja.

Objectives and competences:

- to present a modern didactics of the mathematics area, which can serve as an introduction to student's research work;
- to achieve a deeper understanding of theoretical and methodological concepts of didactics of mathematics;
- to develop the ability for solving the most challenging problems in didactics of mathematics;
- to develop the ability of critical reflection in didactics of mathematics as a scientific field.

Predvideni študijski rezultati:

Znanje in razumevanje:

poglobljeno znanje in razumevanje izbranih poglavij didaktike matematike kot znanstvene discipline didaktično matematičnega področja.

Intended learning outcomes:

Knowledge and understanding:

a deeper knowledge and understanding of selected topics in didactics of mathematics as a scientific area.

Prenesljive/ključne spretnosti in drugi atributi: sposobnost reševanja raziskovalnih problemov; sposobnost znanstvene komunikacije.	Transferable/Key Skills and other attributes: ability to solve scientific problems; ability to communicate in the research community.
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Metode poučevanja in učenja: predavanja; priprava seminarja; konzultacije; samostojni študij.	Learning and teaching methods: lectures; seminar work; consultations; self-study
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Delež (v %) /

Načini ocenjevanja:	Weight (in %)	Assessment:
Način (pisni izpit, ustno izpraševanje, naloge, projekt): seminarsko predavanje; pisni izdelek; ustni izpit.	 20 % 30 % 50 %	Type (examination, oral, coursework, project): seminar talk; written work; oral examination

Reference nosilca / Lecturer's references:

- LIPOVEC, Alenka, FERME, Jasmina. Dokončevanje - pomembna posredna karakteristika matematičnih domačih nalog. *Pedagoška obzorja : časopis za didaktiko in metodiko*. 2020, letn. 35, [št.] 3/4, str. 3-18, ilustr., tabele. ISSN 0353-1392. [COBISS.SI-ID [44204803](#)], [[SNIP](#), [Scopus](#)]
Kategorija: 1A3
- PODGORŠEK MESAREC, Manja, LIPOVEC, Alenka. Self-assessment ability of pre-service teachers. *The new educational review*. 2017, vol. 48, no. 2, str. 213-223. ISSN 1732-6729. http://www.educationalrev.us.edu.pl/dok/volumes/tner_2_2017.pdf. [COBISS.SI-ID [23324680](#)], [[SNIP](#), [Scopus](#)]
Kategorija: 1A3
- LIPOVEC, Alenka, PODGORŠEK MESAREC, Manja. Prospective primary teachers' shift in locus of control and pedagogy focus. *Journal of mathematics teacher education*. 2021, vol. 24, iss. 4, str. 361–373. ISSN 1573-1820. <https://link.springer.com/article/10.1007/s10857-020-09463-3>, DOI: [10.1007/s10857-020-09463-3](https://doi.org/10.1007/s10857-020-09463-3). [COBISS.SI-ID [15387651](#)], [[SNIP](#)]
Kategorija: 1A1
- SABO, Mateja, LIPOVEC, Alenka. What is and what is not mathematical modelling in primary school : opinions of Slovenian and Croatian primary school teachers = Što jest, a što nije matematičko modeliranje u razrednoj nastavi : mišljenja slovenskih i hrvatskih učitelja razredne nastave. *Hrvatski časopis za odgoj i obrazovanje : [CJE]*. [Tiskana izd.]. 2022, vol. 24, no. 2, str. 539-568, tabele. ISSN 1848-5189. DOI: [10.15516/cje.v24i2.4451](https://doi.org/10.15516/cje.v24i2.4451). [COBISS.SI-ID [124172803](#)], [[JCR](#)]

5. PESTANO PÉREZ, Manuel, PESEK, Igor, ZMAZEK, Blaž, LIPOVEC, Alenka. Video explanations as a useful digital source of education in the COVID 19 situation. *Revija za elementarno izobraževanje*. [Tiskana izd.]. dec. 2020, letn. 13, št. 4, str. 395-412, tabele. ISSN 1855-4431. http://rei.pef.um.si/images/Izdaje_revije/2020/04/REI_13_4_CLANEK2.pdf, DOI: [10.18690/rei.13.4.395-412.2020](https://doi.org/10.18690/rei.13.4.395-412.2020). [COBISS.SI-ID [42552323](#)], [SNIP]