



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Praktično usposabljanje za poučevanje matematike I
Course title:	Pedagogical Practice for Teaching Mathematics I

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Izobraževalna matematika – enopredmetna, 2. Stopnja		1.	2.
Educational mathematics - single-major, 2 nd cycle		1.	2.

Vrsta predmeta / Course type Obvezni / Compulsory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
	6		8		256	9

Nosilec predmeta / Lecturer: Alenka LIPOVEC

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

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

Ni pogojev.

Prerequisites:

There are no prerequisites.

Vsebina:

- Učni načrti za osnovno šolo.
- Nastopi v šoli.
- Cilji pedagoške prakse v osnovni šoli.
- Strnjena pedagoška praksa: priprava, nastopi, hospitacije, analize, pedagoška dokumentacija, šolska zakonodaja, pedagoško delo v razredu.
- Dnevnik pedagoške prakse.
- Analiza nastopov in pedagoške prakse.

Strnjena pedagoška praksa z nastopi, hospitacijami in drugimi pedagoškimi obveznostmi (1 teden).

Content (Syllabus outline):

- Mathematics curriculum for elementary schools.
- Pedagogical class appearances in school.
- Goals of pedagogical practice in elementary school.
- Summative pedagogical practice: preparation, instructions, observations, analysis, pedagogical documentation, school legislation, pedagogical class management.
- Diary of pedagogical practice.
- Evaluation of class appearances and pedagogical class practice.

Summative pedagogical practice with teaching performances, observations, and other educational obligations (1 week). Besides, the students are also

Poleg omenjenega se zahteva tudi seznanitev študenta z drugim delom učitelja (vodenje dokumentacije, udeležba na roditeljskem sestanku ali govorilni uri, seznanitev z delom strokovnega aktiva, udeležba na pedagoški konferenci, seznanitev z delom razrednika, pomoč mentorju pri drugem delu, določenem z zakonodajo in letnim delovnim načrtom šole).

Izven pedagoške prakse študent opravlja vodene nastope v osnovni šoli, hospitacije učiteljev (vzorčni nastopi) in hospitacije kolegov študentov.

required to familiarise themselves with the other work of the teacher (e. g. keeping documentation, attending a parenting meeting or talking hours, acquaintance with professional active, attending a pedagogical conference, acquaintance with the work of a class teacher, assisting a mentor in work determined by legislation and the school's annual work plan).

Besides summative pedagogical practice, the student performs: guided teaching performances in elementary school, the observations of teachers' performance (sample performances) and the observations of peer students' teaching performance.

Temeljna literatura in viri / Readings:

1. Van de Walle, J. A., Karp, K. S., Bay-Williams, J. M. (2015). *Elementary and middle school mathematics. Teaching Developmentally*. Boston [etc.]: Pearson.
2. Učni načrt za osnovno šolo.
3. Učbeniki, priročniki in druga učna gradiva za osnovno šolo.

Cilji in kompetence:

Namen predmeta je študenta skozi izkušnjsko učenje usposobiti za poučevanje kurikularnih vsebin matematike v osnovni šoli.

Študent/ka:

- načrtuje, izvaja in analizira poučevanje matematike;
- uporablja pedagoško vsebinska znanja,
- uporablja in preverja teoretična spoznanja v neposredni pedagoški praksi;
- pridobiva pedagoške izkušnje
- obvladuje izobraževalne tehnologije,
- pogloblja pedagoško vsebinsko znanje.

Objectives and competences:

The course aim is to prepare a student for teaching curricular contents at mathematics on the elementary level via experiential learning.

Students:

- plan, implement and analyse teaching mathematics;
- apply pedagogical content knowledge
- apply and verify theoretical expertise in the direct teaching practice;
- acquire teaching experience;
- use ICT in a meaningful and efficient way,
- deepen pedagogical content knowledge.

Predvideni študijski rezultati:

Znanje in razumevanje:

- izbira in vrednotenje pristopov glede na teme in sklope v učnem načrtu,
- oblikovanje metodične sekvence za matematične pojme, ki se razvijejo v osnovni šoli,
- uporaba različnih pristopov, strategij, konceptov, modelov, metod in oblik vzgojno – izobraževalnega procesa pri izvajanju pouka;
- analiziranje in vrednotenje izvajanja učne ure.

Intended learning outcomes:

Knowledge and Understanding:

- choosing and evaluating approaches according to the themes and content sections in the mathematics curriculum,
- designing a teaching sequence for mathematical concepts taught at the elementary level,
- applying various approaches, strategies, ideas, models, methods and forms of the educational process;
- analysing and evaluating of self- and peers' teaching performance.

<p>Prenesljive/ključne spretnosti in drugi atributi:</p> <ul style="list-style-type: none"> - <i>Spretnosti komuniciranja</i>: ustna in pisna matematična komunikacija, ki sledi splošnim jezikovnim normam. - <i>Uporaba informacijske tehnologije</i>: uporaba programskih orodij in aplikacij pri pouku matematike - <i>Reševanje problemov</i>: sposobnost reševanja izobraževalno matematičnih problemov. - <i>Računska pismenost</i>: reševanje šolskih matematičnih problemov. <p><i>Delo v skupini</i>: priprava in izvedba timskega pouka.</p>	<p>Transferable/Key Skills and other attributes:</p> <ul style="list-style-type: none"> - <i>Communication skills</i>: oral and written mathematical communication that complies with general language norms. - <i>Use of information technology</i>: the use of software tools and applications in mathematics. - <i>Problem-solving</i>: ability to solve educational problems in school mathematics. - <i>Numeracy</i>: solving school mathematical problems. <p><i>Teamwork</i>: designing and carrying out team lessons.</p>
---	---

Metode poučevanja in učenja:

Learning and teaching methods:

<ul style="list-style-type: none"> - visokošolska predavanja, - metoda razgovora, - metoda reševanja problemov, - sodelovalno učenje, - projektno delo, - individualni študij. <p>Poučevanje in učenje potekata z didaktično uporabo informacijsko-komunikacijske tehnologije.</p>	<ul style="list-style-type: none"> - lectures, - Socratic method, - problem-solving, - cooperative learning, - project work, - individual study. <p>Teaching and learning are done through the didactic use of ICT</p>
--	--

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

<p>Način (pisni izpit, ustno izpraševanje, naloge, projekt):</p> <ul style="list-style-type: none"> - nastopi izven strnjene prakse, - hospitacije kolegov študentov, - strnjena pedagoška praksa. <p>Predmet je ocenjen s končno opisno oceno »je opravil«, če je kandidat uspešno opravil vsako od naštetih obveznosti.</p>	<p>opravil/passed</p>	<p>Type (examination, oral, coursework, project):</p> <ul style="list-style-type: none"> - teaching performances outside of summative practice, - observations of peer students' teaching performances, - summative pedagogical practice. <p>The course is assessed with the final descriptive grade "passed" if the candidate has completed each of the above obligations.</p>
--	-----------------------	--

Reference nosilca / Lecturer's references:

LIPOVEC, Alenka (urednik), KRAŠNA, Marjan (urednik), PESEK, Igor (urednik). *Izzivi in dileme osmišljene uporabe IKT pri pouku*. 1. izd. Maribor: Univerzitetna založba Univerze, 2019. ISBN 978-961-286-257-2. <http://press.um.si/index.php/ump/catalog/book/402>, doi: [10.18690/978-961-286-257-2](https://doi.org/10.18690/978-961-286-257-2).

JAVORNIK, Iza, PODGORŠEK MESAREC, Manja, LIPOVEC, Alenka. Alternativni algoritmi pisnega množenja. *Matematika v šoli*. 2019, letn. 25, št. 1, str. 2-8, ilustr. ISSN 1318-010X. [COBISS.SI-ID [24682760](https://www.cobiss.si/id/24682760)]

ANTOLIN DREŠAR, Darja, LIPOVEC, Alenka. Mathematical experiences and parental involvement of parents who are and who are not mathematicians. *Irish educational studies*, ISSN 0332-3315, 2017, vol. 36, no. 3, str. 357-374, doi: [10.1080/03323315.2017.1333445](https://doi.org/10.1080/03323315.2017.1333445).

LIPOVEC, Alenka, FERME, Jasmina. The use of the reference point strategy for measurement estimation. V: NOVOTNÁ, Jarmila (ur.), MORAOVÁ, Hana (ur.). *Equity and diversity in elementary mathematics education : proceedings*, International Symposium Elementary Maths Teaching, Charles University, Faculty of Education, Prague, Czech Republic, August 20-25, 2017. Prague: Charles University, Faculty of Education. 2017, str. 311-318.

SABO, Mateja, LIPOVEC, Alenka. Stavovi hrvatskih i slovenskih učitelja o razlikama među kurikularnim matematičkim sadržajima. *Matematika i škola*, ISSN 1332-0327, 2017, god. 18, br. 89, str. 177-182.