Study program: Class Teacher Education

Type and level of studies: Bachelor studies, first cycle degree program

Course unit: Mathematical creativity and giftedness

Teacher in charge: Aleksandra Mihajlovic, PhD, associate professor

Language of instruction: English

ECTS credits and course status: 5 ECTS, elective

Prerequisites: /

Semester: Summer semester (VIII)

Course unit objective:

Introducing students to the concept and different theories of mathematical giftedness and mathematical creativity, to different ways of working with mathematically gifted students, to different ways of stimulating and fostering creativity and mathematical abilities among both gifted and non-gifted students.

Learning outcomes of Course unit

Upon completion of this course, students will be able to: prepare, plan and implement effective teaching and learning strategies in work with mathematically gifted primary students, use effective strategies and choose adequate content in order to stimulate and foster creativity among all primary students

Course unit contents

Theoretical and practical classes

Part 1 (3 credits): Mathematical giftedness – concept and definitions. Identification and work with mathematically gifted students. Mathematical abilities. Mathematical creativity – concept, definitions and theories.

Part 2 (2 credits): Strategies of fostering and developing mathematical creativity. Mathematical problems (standard and non-standard problems, open-ended and closed problems). Mathematical competitions.

Literature

Teaching student-centred mathematics: grades 3-5 / John A. Van de Wale; Louann H. Lovin

Teaching student-centred mathematics: grades K-3 / John A. Van de Walle; LouAnn H. Lovin

Articles:

Mirko Dejić, Aleksandra Mihajlović, (2011): *Supporting mathematically gifted students in Serbia*, Proceedings of The 6th International Conference on Creativity in Mathematics Education and the Education of Gifted Students, University of Latvia, Riga, Latvia; Angel Kanchev University of Ruse, Ruse, Bulgaria.

Aleksandra Mihajlović, Milana Egerić, Mirko Dejić (2008), *Mathematical Abilities: Identification and Development*, "Математика. Компьютер. Образование". Сб. трудов XV международной конференции. Под общей редакцией Г.Ю. Ризниченко Ижевск: Научно-издательский центр "Регулярная и хаотическая динамика", Том 1, Москва-Ижевск.

Materials from lectures.

Number of activ	ve teaching hours	Other classes:/				
Lectures (including seminars and tutorials): 30	Practice: 15	Other forms of classes:	Independent work:			

Teaching methods

Lectures (including seminars and tutorials), independent study

Examination methods (maximum 100 points)						
Exam prerequisites	No. of points:	Final exam	No. of points:			
Student's activity during lectures	30	oral examination				
practical classes/tests		written examination				
		2 x 1 word projects	70			
Project						
Other						

Grading system						
Grade	Number of points	Description				
10	91-100	Excellent				
9	81-90	Exceptionally good				
8	71-80	Very good				
7	61-70	Good				
6	51-60	Passing				
5	≤50	Failing				