Study program : Class teacher Education

Type and level of studies: Bachelor studies

**Course unit: Mathematical Creativity and Giftedness**

**Teacher in charge : dr Aleksandra Mihajlović, Associate Professor**

Language of instruction (*English or other foreign language*): English

ECTS: 5

Prerequisites:

Semester *(Winter Semester or Summer Semester)*

**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 active teaching hours** | | | | **Other classes** |
|---|---|---|---|---|
| Lectures (including seminars and tutorials):<br>8x2hrs | Practice: | Other forms of classes: | Independent work:<br>40hrs | |

**Teaching methods**

8 x 2hrs 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 | | oral examination | |

| | | | |
|---|---|---|---|
| practical classes/tests | | written examination | |
| 2 x 1 word projects | Total Marks 100 | ..... | |
| Project | | | |
| Other | | | |

| **Grading system** | | |
|---|---|---|
| **Grade** | **No. of points** | **Description** |
| **10** | **....** | Excellent |
| **9** | **....** | Exceptionally good |
| **8** | **....** | Very good |
| **7** | **....** | Good |
| **6** | **....** | Passing |
| **5** | **....** | Failing |