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| Study Program: Mathematics | |

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| Type and level of studies: Bachelor studies, VIII semester |
| **Course name: Software for mathematical computing** |
| **Lecturer: Stamenković M. Negovan** |
| Status: Elective |
| ECTS: 7 |
| Attendance Prerequisites: none |

**Course aims**

- the students should acquire knowledge of computer tools - MATLAB programming;
- the students should acquire knowledge and programming skills and are able to use educational computer software;
- the students should acquire skills and abilities necessary for teaching while applying the modern knowledge acquired in the field of computer tools.

**Course outcome**

- the students have gained both the theoretical and practical knowledge about the principles, forms and methods of teaching in the field of computer tools;
- they know how to analyse, improve their skills and form a critical and creative relationship between theory and their own practice;

**Course content**

*Theoretical part*

Basic principles of work In MATLAB. Display formats for numeric data. Mathematical functions of MATLAB. Using HELP. Look for command. Working with fields. Plain fields. Access to field elements. Defining fields. Field operations. Working with matrices. Functions and operations with matrices. Solutions of systems of linear equations. Special matrices. Symbolic mathematics. Symbolic algebra. Solving equations. Differentiation and integration. Graphical display of data. Two-dimensional diagrams. Three-dimensional drawing. Edit diagrams from the menu palette. Draw a diagram from the work window. Commands for working with text. M-files. Writing functions in MATLAB. Relational and logical operators. Control loops. for loops, while loops, if-else-end structures.

*Practical part*

Computer work.

**Literature:**

1. Етер, Доларес М. и Давид Ц. Кунцицку са Холлу Мооре: Матлаб 7, Београд, ЦЕТ, 2005.
2. Увод у Матлаб са примерима Амос Гилан Микро књига Београд 2004.
3. Н. Стаменковић и В.Стојановић Рачунарство и програмски језици Природно-математички факултет К.Митровица 2012

| **Number of active classes** | | | | Other classes |
|---|---|---|---|---|
| Lectures: 2 | Practical classes: 2 | Other forms of teaching: | Students' research work | |

**Teaching methods**

Combined, frontal, group, practical work.

| **Assessment (maximum 100 points)** | | | |
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| **Course assignments** | points | Final exam | points |
| activity during lectures | **10** | written exam | **25** |
| practical classes | **20** | oral exam | **25** |
| term test(s) | **10** | .......... | |
| seminar(s) | **10** | | |
| **Total** | **50** | | **50** |