**Calculus (ECTS credits: 6)**

Language: the course is offered in Serbian and Hungarian.

Contact person: Dr. Lívia Szedmina (slivia@vts.su.ac.rs)

**Course description:**

The course covers elements of Calculus.

This course will include the following topics:

1. lecture: Set of real numbers, the notion of function and notion of series

2. lecture: Monotonicity and limits of series and their properties

3. lecture: Monotonicity and limits of functions and their properties

4. Lecture: Elementary functions and their properties

5. lecture: Derivative of function and its properties

6. lecture: Derivative of complex function and its application in calculating limits

7. lecture: Examining functions and drawing their graphs- application of derivatives

8. lecture: Examining functions and drawing their graphs- determining the asymptotes

9. lecture: Examining functions by using package GeoGebra

10. lecture: Indefinite integrals- introduction

11. lecture: Types of indefinite integrals

12. lecture: Definite integrals

13. lecture: Applications of definite integrals

14. lecture: Differential equations

**Aims:**

The goals are the following:

* Understanding the theory of calculus.

**Learning outcomes:**

After completing the course the student should be able to:

Calculate limits and derivatives, examine functions and drawing their graphs, calculate indefinite and definite integrals.