**Algorithms and data structures (ECTS credits: 6)**

Language: the course is offered in Serbian and Hungarian.

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

**Course description:**

### In this course student will learn how to apply basic algorithmic techniques and various data structures to solve programming challenges.

This course cover the following topics:

Basic data types. Algorithm definition. Graphical representation of algorithms. Cyclic algorithmic structures. Cyclic algorithmic structures with condition. Data structures. One-dimensional arrays and their representation in memory. Operations with one-dimensional arrays. Matrices. Sorting. Recursive sorting algorithms. Search. Dynamic data structures. Lists: single, double and circular lists. Realization of algorithms in programming language C.

**Aims:**

The aims of this course include:

- study standard algorithms to solve search, sort and optimize problems.

- acquire knowledge and skills that enable the student to solve basic computational problems.