**Statistical Data Analysis (ECTS credits: 6)**

Language: the course is offered in English, Serbian and Hungarian.

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**Course description:**

The course covers some elements of descriptive statistics, exploratory data analysis, statistical parameter estimation and statistical hypothesis testing.

This course cover the following topics:

1. Fundamentals of statistics
2. Data collection
3. Surveys
4. Presenting data by charts
5. Descriptive statistics
6. Exploratory data analysis
7. Fundamentals of probability: probability variables
8. Sampling and sampling distributions
9. Parameter estimation
10. Confidence interval estimation
11. Fundamentals of hypothesis testing
12. Hypothesis testing
13. Closing remarks

**Aims:**

The goals are the following:

* The students should understand the importance and usage of statistics in real problems;
* The students should be able to collect and present data;
* The students should be able to calculate descriptive statistics;
* The students should be able to carry out exploratory data analysis;
* The students should understand importance of probability variables and some probability distributions;
* The students should understand the concept of parameter estimation;
* The students should understand the concept of confidence interval estimation of distribution parameters;
* The students should understand the fundamentals of hypothesis testing.