Course topics

- Curve fitting: Lagrange interpolation, Hermite interpolation, spline
- Numerical series, power series
- Numerical solution of equaitons and linear equation systems
- Numerical solution of first order ordinary differential equations: method of successive approximations, Euler method
- Solution and mechanical applications of second order linear differential equations

- Basics of probability theory, classical probability, conditional probability, law of total probability, Bayes theorem, independence,
- Discrete and continous random variables, common distributions, expected value, standard deviation
- Basics of statistics, parameter estimation
- Hypothesis testing
- Correlation, linear regression