Course title: Numerical Methods II.	**Neptun code: GEMAK412-a**
Course coordinator: Attila Házy, associate professor, PhD	
type and number of lesson: 2 lesson/week	
method of accountability: colloquium	
curriculum location of the subject: **autumn**	
pre-study conditions:	
The task and purpose of the subject:	
Providing a survey of different problems and methods in numerical analysis, optimization and differential equation and how can use the computer in solving problems.	
Course description:	
Numerical methods of Ordinary and partial differential equation. Initial value problem, Boundary value problems, Euler method, Modified Euler method, Runge-Kutta methods (Second-order and higher-order), Adaptive Runge-Kutta Methods, System of differential equations, Finite difference method, Shooting method.	
Required literature:	
1. Mark E. Davis: Numerical Methods and Modeling for Chemical Engineers (1984), John Wiley and Sons, Inc. https://authors.library.caltech.edu/25061/1/NumMethChE84.pdf	
Recommended literature:	
1. Todd Young and Martin J. Mohlenkamp: Introduction to Numerical Methods and Matlab Programming for Engineers (2017), http://www.math.ohiou.edu/courses/math3600/book.pdf	