Course title: Numerical Methods II.	**Neptun code: GEMAK412-a**
Course coordinator: Dr. Attila Házy, PhD, associate professor	
type of lesson and number of lessons: **lecture (2)**	
method of evaluation: colloquium	
curriculum location of the subject: (autumn/spring semester): autumn and spring	
pre-study conditions *(if any)*: Numerical Methods I. (GEMAK411-a)	
The task and purpose of the subject:	
Introduction of numerical analysis methods and algorithms for approximate solutions of mathematical problems. Solving methods of ordinary and partial differential equations.	
Course description:	
Numerical methods of Ordinary and partial differential equation. Initial value problem, Boundary value problems, Euler method, Modified Euler method, Higher order methods, Runge-Kutta methods, Adaptive Runge-Kutta Methods, System of differential equations, Finite difference 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 2. Todd Young and Martin J. Mohlenkamp: Introduction to Numerical Methods and Matlab Programming for Engineers (2017) http://www.ohiouniversityfaculty.com/youngt/IntNumMeth/book.pdf	
Recommended literature:	
1. Steven C. Chapra and Raymond P. Canale: Numerical Methods for Engineers McGraw-Hill Education (2015) http://www.game-info.tk/mech144232415981.pdf 2. Joe D. Hoffman: Numerical Methods for Engineers and Scientists, Marcel Dekker Inc New-York (2001) https://epiportal.com/Ebooks/Numerical%20Methods%20for%20Engineers%20and%20Scientists.pdf	