



Mathematics III and Simulation

Course Number	5653
Hours per week:	4
ECTS:	5
Scheduled:	Winter Term
Format:	Lecture (2 hours) and computer exercises (2 hours)
Examination:	Written exam
Lecturer:	Prof. Dr. Michael Möckel
Objectives:	Knowledge of basic calculus, linear algebra and analysis of one variable
Contents:	Topics are chosen from: Fourier analysis Introduction to Matlab Numerical methods, including for example linear and nonlinear systems quadrature interpolation and approximation differential equations finite difference method applications and simulations
Recommended Reading:	A. Gilat and V. Subramaniam, Numerical Methods for Engineers and Scientists, Wiley 2014 J Hass, M. Weir and G. Thomas, University Calculus, Pearson 2009 Riley, Hobson, Bence, Mathematical methods for physics and engineering, Cambridge University Press 2006