Study Abroad Module in Engineering for Incoming Undergraduate Students

Course

Basic Numerical Mathematics and Excel VBA Programming

Course Code	Workload	Credits/LP	Semester	Frequency of course	Duration
	90h	3		SSM	1 semester

1	Teaching language	Contact hours	Hours of Self-study	Class size
	English	2SWS / 22,5h	67,5h	

2 Learning outcomes

Excel VBA Scripting is now used everywhere for 2 main tasks:
- to automate tasks inside Excel (own programs for the automatic analysis of data inside excel)
- to automate tasks an external programs like ANSYS or SolidWorks

After successful completion of the course, the students are capable of understanding and programming the basic numerical methods like solution of linear and nonlinear systems or spline-interpolation

***Knowledge* (1):**
Basic Numerical Mathematics and Excel VBA Programming

***Comprehension* (2):**
Comprehensions of programming and numerical methods

***Application* (3):**
Excel VBA for programming of numerical methods

3 Content

Basic Numerical Mathematics: Solution of Linear Systems, Solution of Non-linear Systems, Spline-Interpolation, Solutions of Ordinary Differential Equations using numerical techniques

Basic Excel VBA Programming: loops, procedures, functions, arrays, forms and controls

4 Teaching methods

Lecture/exercises

5 Prerequisites

not met

6 Methods of assessment

1 sbA

7 Applicability of course

8 Lecturer

Dr.(VAK Moscow) Mikhail Revin

9 Reading list (Core texts and recommended texts) in process

Version	Erstellt von	Freigabe (Datum/Kürzel)	Gültig ab
1.3	jr	QM-Board 11.4.2012, 16.01.2013 04.06.2013/jr	04.06.2013