Modulbezeichnung	Modelling and Simulation
Modulbezeichnung (eng.)	Modelling and Simulation
Semester (Häufigkeit)	WPM (nach Bedarf)
ECTS-Punkte (Dauer)	6 (1 Semester)
Art	Wahlpflichtmodul
Sprache(n)	English
Studentische Arbeitsbelastung	60 h Kontaktzeit + 120 h Selbststudium
Voraussetzungen (laut MPO)	
Empf. Voraussetzungen	
Verwendbarkeit	MTCE
Prüfungsart und -dauer	Written exam 1,5 h or implementation and documentation of computer programmes
Lehr- und Lernmethoden	Lecture
Modulverantwortliche(r)	I. Herraez

Qualifikationsziele
The students are familiar with the basics of scientific computing with Matlab/Octave. They can work out and understand simple third-party programs. They are able to plot 2D and 3D diagrams. They know the basics of modelling and simulation of dynamic systems. They are able to develop simple models and carry out their own simulations.

Lehrinhalte
Introduction to Matlab/Octave, basics of programming and scientific computing, non-linear equations, complex numbers, polynomials, numerical differentiation and integration, partial differential equations.

Literatur

- Quarteroni, A., Saleri, F, Gervasio, P.: Scientific Computing with Matlab and Octave, Springer, 2010

Lehrveranstaltungen

Dozenten/-innen	Titel der Lehrveranstaltung	SWS
I. Herraez	Modelling and Simulation	4