M.Sc. CAME – Track: Production – Suggested Curriculum Overview

1 Semester
WS

Compulsory Courses

Numerical Methods in Mechanical Engineering	Advanced Finite Element Methods	Advanced Software Engineering	

Language Courses

Language Course (1)			

Compulsory Elective Area II

Practical Introduction to FEM-Software I	Control Engineering*	Manufacturing Technology I*	Industrial Engineering and Ergonomics*

2 Semester
SS

Compulsory Courses

Continuum Mechanics	Multibody Dynamics		

Language Courses

Language Course (2)			

Compulsory Elective Area I - 4 CP are to be taken

Porous Media Mechanics	Computational Fluid Dynamics I		

Compulsory Elective Area II

Production Metrology*	Computational Modeling of Membranes and Shells*	Practical Introduction to FEM-Software II	Simulation of Discrete Event Systems
Modeling, Model Reduction and Simulation in Laser Processing - Laser	Intelligent Monitoring of Engineering Systems		

3 Semester
WS

Compulsory Courses

Computational Intelligence in Engineering	Quality Management*	Simulation Techniques in Manufacturing Technology*	Production Management A*

Language Courses

Linguistic Elective			

Elective Area Internship or Research Project

Mini Thesis (260 hours)	or	Industrial Internship (9 weeks)

Compulsory Elective Area II

Artificial Neural Networks in Structural Mechanics	Computational Fluid Dynamics II	Modeling, Model Reduction and Simulation in Laser Processing - Application	Molecular Mechanics and Multi-Scale Modelling of Materials

4 Semester
SS

Master Thesis (six months)

*Track specific