

Module Catalog – Master Program Computational Engineering & EUMaster4HPC

Winter Term 2025/2026

Note that standard study plans for all technical application fields are to be found on the CE website!



General Modules (max. 10 ECTS)

Module	SWS L+E+S+P	Total ECTS	Language	Exam	Department	Responsible Chair	WS/SS
HPC Project		5					Full list is found in the Campo
Seminar		5					Full list is found in the Campo

Mathematics (min. 20 ECTS)

Module	SWS L+E+S+P	Total ECTS	Language	Exam	Department	Responsible Chair	WS/SS
Algorithms of Numerical Linear Algebra	2+2+0+0	7,5	EN	352989	INF	Lehrstuhl für Informatik 10 (Systemsimulation)	WS
Functional Analysis for Engineers	2+2+0+0	5	EN	32301/ 32302	INF	Professur für Informatik (Numerische Simulation mit Höchstleistungsrechnern)	WS
Optimization for Engineers	2+1+0+0	7,5	EN	40501 40602	Math	Controlling IngMath	SS

Computer Science (min. 40 ECTS)

Module	SWS L+E+S+P	Total ECTS	Language	Exam	Department	Responsible Chair	WS/SS
Architectures of Supercomputers (Architekturen von Superrechnern)	2+2+0+0	5	EN	44601	INF	Lehrstuhl für Informatik 3 (Rechnerarchitektur)	WS

High End Simulation in Practice	2+4+0+0	7,5	EN	45101	INF	Lehrstuhl für Informatik 10 (Systemsimulation)	SS
Programming Techniques for Supercomputers (Programmiertechniken für Supercomputer-VU)	4+2+0+0	7,5	EN	43401	INF	Professur für Höchstleistungsrechnen	SS
Practical Parallel Algorithms with MPI	2+2+0+0	5	EN	33111	INF	Professur für Höchstleistungsrechnen	WS
Advanced Programming Techniques	4+2+0+0	7,5	EN	465562	INF	Lehrstuhl für Informatik 10 (Systemsimulation)	WS
Computer Architecture	2+4+0+0	7,5	EN	798810	INF	Lehrstuhl für Informatik 10 (Systemsimulation)	WS

Technical Application Fields (min. 20 ECTS)

Module	SWS L+E+S+P	Total ECTS	Language	Exam	Department	Responsible Chair	WS/SS
Fundamentals in Anatomy and Physiology for Engineers	4+0+0+0	5	EN	76641	INF/IFA	Lehrstuhl für Funktionelle und Klinische Anatomie	SS
Deep Learning	2+2+0+0	5	EN	901895	INF	Lehrstuhl für Informatik 5 (Mustererkennung)	WS/SS
Pattern Recognition	3+1+0+0	5	GER/EN	41301	INF	Lehrstuhl für Informatik 5 (Mustererkennung)	WS
Machine learning for time series	2+2+0+0	5	EN	428256	AIBE	Lehrstuhl für Maschinelles Lernen und Datenanalytik	WS

Abbreviations:

L Lecture
E Exercise
S Seminar

P Practical Exercise
WS Winter Term
SS Summer Term

EN English
GER German
ECTS European Credit Transfer System

Bold mandatory modul

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