

Examination schedule

Master program

Medical Systems Engineering



Explanation to the Examination schedule:

LN = Required course certificates (prerequisite)

* = Depends on the chosen modules

PL = Types of course-related examination achievements

K = written examination

M = oral examination

H = thesis

EA = experimental work

PRO = research project

R = seminar paper

* = Depends on the chosen modules

CP = Credit Points

Timing of the course assessment:

During the examination period of the semester in which the course attended.



Legende zum Prüfungsplan:

LN = erforderliche Leistungsnachweise (Prüfungsvorleistung)

* = Abhängig von der Modulwahl

PL = Art der Prüfungsleistung

K = Klausur

M = Mündliche Prüfung

H = Hausarbeit

EA = Experimentelle Arbeit

PRO = Wissenschaftliches Projekt

R = Referat

* = Abhängig von der Modulwahl

CP = Credit Points = Leistungspunkte

Zeitpunkt der Prüfungsleistung:

Im Prüfungszeitraum am Ende des Semesters, in dem das Modul belegt wurde.

General scheme

Regular curriculum	LN	PL	CP
Technical compulsory modules	----	----	45
Methodical and social compulsory modules	----	----	10
Elective modules - Deepening 1	----	----	15
Elective modules - Deepening 2	----	----	15
Elective modules from entire range	----	----	5
Master Thesis	----	----	30
Research Track	LN	PL	CP
Technical compulsory modules	----	----	45
Methodical and social compulsory modules	----	----	10
Research Project	----	----	20
Elective modules - Deepening 1	----	----	15
Master Thesis	----	----	30

Technical compulsory modules

Regular curriculum and Research Track	LN	PL	CP
Anatomy for Engineering students	Seminar certificate	K60	4
Biological Statistics	----	K120	5
Medical Imaging and Diagnostics	----	K90	5
<i>submodule: Introduction into Medical Imaging</i>	----	----	----
<i>submodule: Radiological Diagnostics</i>	----	----	----
Medical Measurement Technology	----	M	6
<i>submodule: Chemical and Biological Sensors</i>	----	----	----
<i>submodule: Ultrasonic Sensors for Imaging</i>	----	----	----
Medical Physics and Radiation Protection	----	K90	5
Microsystems- and Nano-Technologies for Medical Solutions	Tutorial certificate	K120	5
Human-Computer Interfaces in Medicine	----	R	4
Mathematical foundations	----	K90	6
Digital Information Processing	Tutorial certificate	K120	5

Methodical and social compulsory modules

Regular curriculum and Research Track	LN	PL	CP
Scientific working	----	R	5
MedTec Innovation Generation and Entrepreneurship	Seminar certificate	K60	5

Research Project within Research Track

Research Track	LN	PL	CP
Research Project	Proposal	PRO	20

Elective modules

Elective Modules - Deepening "Imaging"	LN	PL	CP
Nuclear medicine	----	K90	5
Methods of MRI	Tutorial certificate	M	5
Computed Tomography	----	K120	10
<i>submodule: Medical Imaging - Computed tomography</i>	Tutorial certificate	----	----
<i>submodule: Computed Tomography in Material Science</i>	----	----	----
<i>submodule: Lab course CT</i>	Lab certificate	----	----

Elective Modules - Deepening "Intervention"	LN	PL	CP
Instruments for IGP	Seminar certificate	K60	5
Computer Assisted Surgery	----	R	5
Image Guided Procedures	----	K60	5
<i>submodule: Medical Imaging in Interventional Endovascular Therapy</i>	Seminar certificate	----	----
<i>submodule: Seminar IGP</i>	Seminar certificate	----	----

Elective Modules - Deepening "Biomedical Signals"	LN	PL	CP
Digital Information Processing Lab	----	EA	5
EMC of Medical Systems	----	M	5
Tomographic Imaging in Medicine	----	M	5
Functional Safety for Medical and Technical Systems	----	M	5
Lab course Electrophysiology	----	EA	5

Elective Modules - Deepening "Medical Microsystems"	LN	PL	CP
Development of Bio-MEMS for Medical Engineering	----	K120	10
MEMS-Packaging for Medical Solutions	----	K120	5
Elective Modules - Deepening "Biomechanics and Haemodynamics"	LN	PL	CP
Simulation and Numerical Methods in Biomechanics and Medical Engineering	----	H/M	10
<i>submodule: Computational Biomechanics</i>	----	----	----
<i>submodule: Simulation in Medicine and Medical Engineering</i>	----	----	----
Rheology and Rheometry	----	M	5
Computational Fluid Dynamics	----	PRO	5
Elective Modules - Deepening "Medical Computer Science"	LN	PL	CP
Bayesian network	Tutorial certificate	M	5
Machine Learning for Medical Systems	Tutorial certificate	M	5
Image Coding	----	M	5
Advanced Security Issues in Medical Systems	----	M	5
Medical Visualization	Tutorial certificate	K120	5
Selected Topics in Image Understanding	----	M	5
Elective Modules - Deepening "Neuro-Biology"	LN	PL	CP
Theoretical Neuroscience I	Tutorial certificate	K180	5
Theoretical Neuroscience II	Tutorial certificate	K180	5
Analysis and modeling of Physiological Systems	----	M	5
<i>submodule: Mathematical Modeling of physiological Systems</i>	----	----	----
<i>submodule: Brain Computer Interfaces</i>	Lab certificate	----	----

Master Thesis

	LN	PL	CP
Master Thesis	----	H/R	30