Degree Programme	**Bachelor of Science 'Human Movement in Sports and Exercise'**
Module	**Neuromotor Control and Modelling**
Module Number	**5**

1	**Basic information**
Semester	2.-3. semester
Credit points (CP)	12
Workload (h) - total	360
Duration of module	2 semesters
Status of module	mandatory Module

2	**Profile**
Objective of the module/integration into the curriculum	
The module teaches the extended competences in the area of motor control and modelling, which are also to be applied practically within the module.	
Content of Module	
This module provides students with knowledge of the neural basis of motor control, e.g. spinal, reflexive, and central aspects. In four different seminars, basic concepts and current research findings in the area of movement science are discussed. A particularly relevant topic is the application of mathematical and physical theories to biomechanics. Different experimental methods with which to analyse human movements are also discussed. Additionally, basic knowledge of human motor development is elaborated. Preventive aspects and tools in rehabilitation for the human movement apparatus are also presented and discussed.	
Learning outcomes	
Students gain knowledge in basic concepts and theories of movement science, i.e. theoretical concepts and experimental methods in biomechanics along with classical and modern theories of motor control and motor development. They transfer this knowledge to prevention and rehabilitation in the field of human movement. They gain an overview of classic and current research findings and learn to develop and plan new research designs with current questions in movement science. Their theoretical knowledge leads to deeper insights into e.g. the design and the objectives of new therapeutic approaches.	

3	**Module Structure**					
Components of module						
No.	Course type		Course	Status (mandatory/elective)	Workload (h)	
					Attendance (h)/SWS	Individual study time (h)
1	S		Biomechanics of Human Movement	m	30 (2 SWS)	60
2	S		Motor Control of Human Movement	m	30 (2 SWS)	60
3	S		Motor Development of Human Movement	m	30 (2 SWS)	60
4	S		Prevention and Rehabilitation of Human Movement	m	30 (2 SWS)	60
Options within the Module			none			

4	**Examination concept**				
Degree-Relevant Examination(s)					
No.		Type	Duration/ Length	course no.	Weighting for Module Grade
1		Exam	60 min.		100%
Weighting of Module Grade for Final Overall Grade	10%				
Required Coursework					
No.	Type		Duration/ Length	course no.	
1	Short and extensive coursework is necessary for the preparation, realization, and post-processing of courses. Short and extensive coursework includes e.g. protocols (approx. 1–2 pages) and written/ oral assignments (approx. 10 pages/10–15 minutes), respectively. The type of coursework will be announced at the beginning of the course. Duration and extent of coursework will be oriented towards the underlying workload.			LV No. 1	
2	Short and extensive coursework is necessary for the preparation, realization, and post-processing of courses. Short and extensive coursework includes e.g. protocols (approx. 1–2 pages) and written/ oral assignments (approx. 10 pages/10–15 minutes), respectively. The type of coursework will be announced at the beginning of the course. Duration and extent of coursework will be oriented towards the underlying workload.			LV No. 2	
3	Short and extensive coursework is necessary for the preparation, realization, and post-processing of courses. Short and extensive coursework includes e.g. protocols (approx. 1–2 pages) and written/ oral assignments (approx. 10 pages/10–15 minutes), respectively. The type of coursework will be announced at the beginning of the course. Duration and extent of coursework will be oriented towards the underlying workload.			LV No. 3	
4	Short and extensive coursework is necessary for the preparation, realization, and post-processing of courses. Short and extensive coursework includes e.g. protocols (approx. 1–2 pages) and written/ oral assignments (approx. 10 pages/10–15 minutes), respectively. The type of coursework will be announced at the beginning of			LV No. 4	

	the course. Duration and extent of coursework will be oriented towards the underlying workload.			

5	Requirements
Module related participation requirements	Successful completion of M1 and M2 is strongly recommended but not mandatory.
Credit points	The credit points for the module are awarded if the module has been successfully completed overall, i.e. it has been demonstrated by passing all examinations and coursework that the learning outcomes assigned to the module have been acquired.
Attendance	In all courses, 100% participation is recommended. 80% attendance is mandatory because students need to be guided on an interactive basis to acquire the extensive knowledge and competencies within this module.Anyone who exceeds the number of permitted absences forfeits their right to take the examination.

6	CP - Distribution	
Attendance (= time of presentness)	LV No. 1	1 CP
	LV No. 2	1 CP
	LV No. 3	1 CP
	LV No. 4	1 CP
Degree-Relevant Examination(s)	No. 1	4 CP
Required Coursework	LV No. 1	1 CP
	LV No. 2	1 CP
	LV No. 3	1 CP
	LV No. 4	1 CP
Sum CP		12 CP

7	Module offer
Cycle/Timing	every Semester
Module Coordinator	Prof. Dr. Heiko Wagner
Faculty	FB07

8	Mobility/Recognition
Usability in other study programs	none
Module title	Neuromotor Control and Modelling
English Translation of module component of field 3	are in english

9	Additional Information
	All seminars are in English. All reading and writing assignments will be in English, as well as all exams and presentations.