

Title of Module (English):	Neuromotor Control and Modelling
Title of Module (German):	Motorische Kontrolle und Modellierung
Degree Programme:	Bachelor of Science "Human Movement in Sports and Exercise"

1	Module Number: 5	Status: <input checked="" type="checkbox"/> Mandatory Module <input type="checkbox"/> Elective Module
----------	-------------------------	--

2	Frequency: <input checked="" type="checkbox"/> Every semester <input type="checkbox"/> Every winter semester <input type="checkbox"/> Every summer semester	Duration: <input type="checkbox"/> 1 semester <input checked="" type="checkbox"/> 2 semesters	Semester: 2-3	CP: 12	Workload (h): 360
----------	---	--	-------------------------	------------------	-----------------------------

3	Module Structure:						
	No.	Type	Course	Status (mandatory/ elective)	CP	Attendance (h + SWS⁹)	Individual Study Time (h)
	1	S	Biomechanics of Human Movement	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	3	30 (2 SWS)	60
	2	S	Motor Control of Human Movement	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	3	30 (2 SWS)	60
	3	S	Motor Development of Human Movement	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	3	30 (2 SWS)	60
	4	S	Prevention and Rehabilitation of Human Movement	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	3	30 (2 SWS)	60

4	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.
----------	---

5	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.
----------	--

6	Options within the Module: None
----------	---

7	Type of Examination: <input checked="" type="checkbox"/> Final Module Examination <input type="checkbox"/> Module Examination <input type="checkbox"/> Component Examinations
----------	---

8	Degree-Relevant Examination(s):		
	Number and form (e.g. written examination, oral examination); assigned to course no. ¹⁰ :	Duration or length	Weighting of grade for module grade in %
	Written Examination	60 Min.	100%

⁹ SWS (Semesterwochenstunden) = hours of instruction per week

¹⁰ Not applicable to final module examination

9	Required Coursework:		Duration or length
	Number and form; assigned to course no.:		
	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.		
10	Requirements for Obtaining Credits (CP): The credit points of the module are awarded when the entire module has been completed successfully, i.e. the degree relevant Examination and the required coursework.		
11	Weighting of Module Grade in Calculation of Final Overall Grade: 10%		
12	Admission to Module: Successful completion of M1 and M2 is strongly recommended but not mandatory.		
13	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.		
14	This Module is also an Element of the Following Degree Programmes: --		
15	Module Coordinator: Prof. Dr. H. Wagner	Faculty: FB07	
16	Additional Information: All seminars are in English. All reading and writing assignments will be in English, as well as all exams and presentations.		