

Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

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KSS-MS-01	Exercise Medicine	1st sem.	6 CP		
Module	Exercise Medicine				
Module code	06-KSS-MS-01				
//Faculty/Subject/Department	Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy				
Module coordinator	Cf. German version				
Prerequisites for participation	None				
Learning outcomes	The students acquire a profound knowledge of functional and structural adaptations to competitive sport training. At the same time, strategies regarding effectiveness and optimisation of the stress/recovery cycle will be illustrated and specific parameters which present an additional stimulus to the adaptation of physiological training will be displayed. The students acquire a profound knowledge of the effects and risks of doping substances and of prohibited methods in competitive sports. Competences in the areas of athlete consultation and of coaching as well as talent identification will be imparted. Alternatively, students have the possibility to implement these skills in a practical seminar with a focus on athletic sport disciplines.				
Module content	The introductory lecture illustrates a more profound technical knowledge in the adaptation of performance physiological training. At the same time, possibilities and limitations of performance development will be displayed and strategies for supporting and optimising enhanced performance will be demonstrated, e.g. the parameters of an altitude training. In the second lecture, the focus will lie on the topic of "doping" with its various aspects. This includes a discussion of the different classes of substances and their effects, an illustration of prohibited and performance-enhancing methods as well as possibilities and strategies of doping analysis and doping prevention. Students can take part in an elective practical seminar in which an exercise and training process using the example of athletics will be implemented. Alternatively, specialised knowledge can be acquired in a theoretical seminar focussing on the identification of talents, the prognosis of their performance development and their advancement.				
Percentage share of instruction form(s)	Lecture 50%/seminar or practical seminar 50%				
Workload in hours	Total workload	180 hours = 6 ECTS credits			
		A courses a contact	B autonomous b preparation/ work	C exam incl. preparation	
	Course type and title	hours	revision		
	Sum				
	L1 "Performance Medicine I – Optimisation of Performance in Competitive Sports"	15	15	15	45
	L2 "Performance Medicine II – Performance-enhancing and –inhibiting Factors"	15	15	15	45
	S1 S "Talent Identification and Coaching" or PS "Athletics"	30	30	30	90
	Sum	60	60	30	180
Module examination	Prerequisite(s) for examination	L1 and L2: regular participation S and PS: active participation/oral presentation/written assignment			
	Form(s) of assessment (scope)	L1 and L2: examination (40 minutes each.)			
	Contribution to final mark	40% from each examination and 20% from seminar, a compensation of the different examination components is possible			
	Form of module-component retake examination	L1 examination 40 min. L2 examination 40 min.			
	Form of module retake examination	Oral examination (30 min.)			
Frequency	Every year	duration: 1 semester	winter semester		

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

Intake capacity	Unlimited (capacity of lecture hall)
Language of instruction	German
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-06	Musculoskeletal System and Exercise			2nd sem.	6 CP
Module	Musculoskeletal System and Exercise				
Module code	06-KSS-MS-0206				
//Faculty/Subject/Department	Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy				
Module coordinator	Cf. German version				
Prerequisites for participation	Performance Medicine				
Learning outcomes	The students acquire a profound knowledge of the special anatomy of the locomotor system with regard to various forms of stress in competitive sport. On this basis, knowledge of general and sport-specific orthopaedic symptoms or patterns of injuries including all in each case relevant aspects starting from anamnesis over the entire diagnosis to an acute and rehabilitative therapy will be acquired. Within the framework of an exercise therapeutic concept, these skills can be practically applied.				
Module content	In the 1-hour-lecture of special anatomy of the locomotor system, anatomical-functional and in particular relevant aspects for competitive sport will be illustrated in detail. In the second 1-hour-lecture, special sport orthopaedic and traumatological knowledge with a direct relation to various types of sports including exercise therapeutic approaches will be imparted. In the 2-hour practical seminar, these skills will be applied in specific patient case studies by means of preparing treatment concepts including all secondary preventive and rehabilitative aspects.				
Percentage share of instruction form(s)	Lecture 50%/seminar 50%				
Workload in hours	Total workload	180 hours = 6 ECTS credits			
	examination preparation	A courses		B auto-	C
		a contact	b preparation/	nomous	incl.
	Course type and title	hours	revision	work	
	Sum				
	L1 "Special Anatomy of the Locomotor System"	15	15	15	45
	L2 "Special Orthopaedics and Traumatology in Competitive Sport"	15	15	15	45
	PS "Orthopaedic Rehabilitation in Competitive Sport"	30	30	30	90
	Sum (180)	60	60	30	30
Module examination	Prerequisite(s) for examination	None			
	Form(s) of assessment (scope)	L1: examination (40 minutes), L2: examination (40 minutes), PS: presentation and written report			
	Contribution to final mark	25% from each examination and 50% from seminar, ; a compensation of the different examination components is possible			
	Form of module-component retake examination	L1+2: examination 40 minutes each PS: written report			
	Form of module retake examination	Oral examination (30 minutes)			
Frequency	Every year	duration: 1 semester	summer semester		
Intake capacity	L1 + L2: unlimited (capacity of lecture hall), PS: 30 students				
Language of instruction	German				
Additional information:	Guidance on module and required literature: see notice board/date: see course catalogue				

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-11	Molecular and Cellular Sports Physiology			3rd sem.	6 CP
Module	Sports Physiology				
Module code	06-KSS-MS-11				
Faculty/Subject/Department	Faculty 06 Department of Sports Science				
Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy				
Module coordinator	Cf. German version				
Prerequisites for participation	Performance Medicine				
Learning outcomes	The students acquire a detailed knowledge of molecular and cellular reactions to physical activity as well as their adaptation within the framework of the training process. They are familiarised with specific reactions of cellular signal transduction pathways to various stimuli such as endurance or power stimuli. As well as the cellular approach, the students also learn to apply the systems-biological approach and to understand the active organism in its entirety. The aim is to gain an integrated view of all stress sensitive, regulatory processes across all levels, from the genome to the proteome to the organelles as well as the behaviour and biomechanics of the entire organisms. This also comprises the influence of specific nutritional ingredients. The students become familiar with the identification of molecular markers within the scope of training monitoring.				
Module content	<p>Training stimuli have an individual and psychically highly complex effect in sports. In the first lecture, the adaptation and controlling processes on a genetic and molecular biological level will be defined. In the second lecture, crucial stress sensitive systems such as the immune system and the endocrine system in their stress dependency and trainability will be illustrated.</p> <p>In the additional seminar, stress sensitive molecular biological markers and their validity in the planning and monitoring of training will be dealt with. Alternatively, the possibilities and limitations of nutritional supplements for optimizing the performance will be discussed.</p>				
Percentage share of instruction form(s)	Lecture 50%/seminar 50%				
Workload in hours	Total workload	180 hours = 6 ECTS credits			
		A courses		B auto-	C
	examination	a contact	b preparation/	nomous	incl.
	preparation	hours	revision	work	
	Course type and title				
	Sum				
	L1 "Molecular and Cellular Sport Physiology"	15	15	15	45
	L2 "Special High Performance Physiology"	15	15	15	45
S1 "Biochemical Markers in Stress and Recovery" or	30	30	30	90	
S2 Elective: "High Performance Sport and Nutrition"					
	Sum (180)	60	60	30	30
Module examination	Prerequisite(s) for examination	L1 and L2: regular participation S and PS: regular and active participation			
	Form(s) of assessment (scope)	L1 and L2: examination (each 40 minutes each) S and PS: oral presentation and written assignment			
	Contribution to final mark	40% from each examination and 20% from seminar,; a compensation of the different examination components is possible			
	Form of module-component retake examination	L1 examination 40 minutes L2 examination 40 minutes			
	Form of module retake examination	Oral examination (30 minutes)			
Frequency	Every year/semester	duration: 1 semester	winter semester		
Intake capacity	60 (teaching capacity of seminars)				

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Language of instruction	German
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-0402	Special Biochemistry	1st sem.	6 CP																													
Module	Special Biochemistry																															
Module code	06-KSS-MS-0402																															
//Faculty/Subject/Department	Faculty 09 Nutritional Sciences, Faculty 06 Department of Sports Science																															
/Associated degree course/Semester taken	Master Nutritional Science (=MKE 20), MSc Clinical Sport Physiology and Sport Therapy																															
Module coordinator	Cf. German version																															
Prerequisites for participation	Biochemistry 1 (BKÖ/E 06) or equivalent																															
Learning outcomes	<p>The students</p> <ul style="list-style-type: none"> • have a profound knowledge of principles for regulating the metabolism on a molecular and cellular level, • can discuss how far the metabolism of nutrients is regulated by organs, • are familiar with the molecular mechanisms of receptors and signal transduction, • are familiar with the interrelations between structure and function of enzymes/proteins, • understand immunological processes and their interactions with the environment and nutrition, • are familiar with the significance of proteome and transcriptome analyses in biochemistry or nutritional science respectively. 																															
Module content	<ul style="list-style-type: none"> • Receptors and signal transduction of eukaryotic cells • Compartmentalisation of the metabolism considering special functions of organelles • Enzymes (structure, catalytic mechanisms, inhibition, regulation, linear and nonlinear regression, enzyme diagnostics, coenzymes) • Chaperones, posttranslational modifications, target control of the proteins, proteolysis • Differential genome and proteome analyses and their interpretation • Nucleotide metabolism and its disturbances • Immunology (complementary system, allergy and its prevention/therapy, immunological testing methods) • Interactions between food constituents and genes (e.g. in the case of cancer) • Nutrition and infection (mycotic, bacterial, viral, parasitic) • Apoptosis (cascades, regulation, markers) 																															
Percentage share of instruction form(s)	Lecture 50%/seminar 50%																															
Workload in hours	Total workload	180 hours = 6 ECTS credits																														
	examination	<table border="1"> <thead> <tr> <th colspan="2">A courses</th> <th>B auto-</th> <th>C</th> </tr> <tr> <th>a contact</th> <th>b preparation/</th> <th>nomous</th> <th>incl.</th> </tr> <tr> <th>hours</th> <th>revision</th> <th>work</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="4">Sum</td> </tr> <tr> <td>L "Biochemistry of Sport & Exercise 1"</td> <td>30</td> <td>60</td> <td></td> </tr> <tr> <td>S "Biochemistry of Sport & Exercise 1"</td> <td>30</td> <td>60</td> <td></td> </tr> <tr> <td>Sum</td> <td>60</td> <td>120</td> <td>180</td> </tr> </tbody> </table>			A courses		B auto-	C	a contact	b preparation/	nomous	incl.	hours	revision	work		Sum				L "Biochemistry of Sport & Exercise 1"	30	60		S "Biochemistry of Sport & Exercise 1"	30	60		Sum	60	120	180
	A courses		B auto-	C																												
	a contact	b preparation/	nomous	incl.																												
	hours	revision	work																													
	Sum																															
L "Biochemistry of Sport & Exercise 1"	30	60																														
S "Biochemistry of Sport & Exercise 1"	30	60																														
Sum	60	120	180																													
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Course type and title																																
Sum																																
L "Biochemistry of Sport & Exercise 1"	30	60																														
S "Biochemistry of Sport & Exercise 1"	30	60																														
Sum	60	120	180																													
Module examination	Prerequisite(s) for examination	Regular participation																														
	Form(s) of assessment (scope)	Examination (90 minutes)																														
	Contribution to final mark	Examination (100%)																														
	Form of module-component retake examination	Examination																														
	Form of module retake examination	Examination																														
Frequency	Every year/semester	duration: 0 semesters	winter semester																													

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Intake capacity	Unlimited (capacity of lecture hall)
Language of instruction	German
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue

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KSS-MS-0507	Nutrition and Disease	2nd sem.	6 CP	
Module	Nutritional Medicine			
Module code	06-KSS-MS-0507			
//Faculty/Subject/Department	Faculty 06 Department of Sports Science			
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy			
Module coordinator	Cf. German version			
Lecturers	Cf. German version			
Prerequisites for participation	Biochemistry of Sport & Exercise			
Learning outcomes	<p>The students</p> <ul style="list-style-type: none"> • are familiar with aetiology, pathophysiology, the symptoms and progression of diseases connected to nutrition, • are familiar with the principles of treatment and prevention of diseases connected to nutrition, • can illustrate these parameters of diseases connected to nutrition with the help of a real case study, • have knowledge of the molecular effects of hormones and cytokines, • understand cellular signal transduction, • have knowledge of the intermediary metabolism, • have a fundamental knowledge of immunology. 			
Module content	<ul style="list-style-type: none"> • Artificial nutrition, enteral & parenteral • Diseases in infancy connected to nutrition • Nutrition (prevention and supportive therapy) • Metabolic disorders, innate and acquired • Gastro-intestinal diseases, especially inflammatory bowel diseases • Liver-bile-pancreas-diseases, diabetes mellitus, disease management strategies, 'self care' • Renal and immune diseases, rachitis and osteoporosis, prevention and management • Eating disorders, integrated treatment concepts • Cancer and nutrition • Aging processes, nutrition and metabolic syndrome, nutrition and vascular changes • Autoimmune diseases, e.g. diabetes mellitus, type 1 • Chronic inflammatory bowel diseases • Food allergies, gluten sensitive enteropathy • Food intolerances, e.g. lactose intolerance 			
Form(s) of instruction Percentage	Lecture 100%			
Workload in hours	Total workload	180 hours = 6 ECTS credits		
	examination	A courses		B auto- C
	preparation	a contact	b preparation/	nomous incl.
	Course type and title	hours	revision	work
	Sum			
	L1 "Pathophysiology"	30	60	
L2 "Molecular Fundamentals of Degenerative Diseases"	30	60		
	Sum	60	120	
Module examination	Prerequisite(s) for examination			
	Form(s) of assessment (scope)	L1 + L2: examination		
	Contribution to final mark	50% from each examination; compensation possible		
	Form of module-component retake examination	Examination		

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	Form of module retake examination	Examination
Frequency	Every year/semester	duration: 0 semesters summer semester
Intake capacity	Unlimited (capacity of lecture hall)	
Language of instruction	German	
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue	

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KSS-MS-12	Health Behaviour	3rd sem.	9 CP	
Module	Health Behaviour			
Module code	06-KSS-MS-12			
//Faculty/Subject/Department	Faculty 11 Medicine, Faculty 06 Department of Sports Science			
/Associated degree course/Semester taken	Medicine, MSc Clinical Sport Physiology and Sport Therapy			
Module coordinator	Cf. German version			
Lecturers	Cf. German version			
Prerequisites for participation	Orthopaedic Rehabilitation, Internal Rehabilitation			
Learning outcomes	Initially, the students are familiarised with the fundamentals of medical psychology. Knowledge of various psychosocial factors, which play a role in the medical system on the part of patients, relatives and disease groups as well as on the part of the medical staff within the framework of health behaviour, will be imparted. The students can determine the socioeconomic, psychosocial, and cultural behavioural determinants in the context of exercise, nutrition and drinking with the help of theoretical models and empirical studies. The students can specifically implement methods for collecting data in dependency of the specific issue at hand and can assess the validity of the data. The students have a command of behaviour analysis both theoretically and practically. Finally, the students have the ability to classify various psychosocial factors in the context of health behaviour and apply these in the assessment and concept design of means for health promotion.			
Module content	<p>In the introductory lecture, theoretical fundamentals of medical psychology and medical sociology as well as their dimensions and medicine will be imparted. Socially relevant medical ethics aspects as well as socially problematic issues and questions of communication with patients, their relatives or aspects within the framework of a multi professional cooperation also belong to this area.</p> <p>In the lecture "Nutrition Behaviour" food consumption and intake data, consumption statistics, budget accounts and nutritional epidemiological studies will be illustrated. Eating habits, eating behaviour and eating disorders will be focused on. Nutrition as a psychosocial phenomenon and approaches towards a behavioural reference framework for communication and advice will be presented. Additionally, concepts for changing behaviour within social psychology will be illustrated.</p> <p>In the seminar, the role of psychosocial factors for the emergence as well as for the course and overcoming of a disease will be discussed on a more profound level and will be illustrated against the background of different approaches for supporting and maintaining health.</p>			
Form(s) of instruction Percentage	Lecture 70%/seminar 30%			
Workload in hours	Total workload	270 hours = 9 ECTS credits		
		A courses		B auto- C
	examination	a contact	b preparation/	nomous incl.
	preparation	hours	revision	work
	Course type and title			
	Sum			
	L1 "Medical Psychology"	30	60	
	90			
L2 "Nutrition Behaviour"	40	60		
100				
S "Health Behaviour"	30	30	20	
80				
	Sum	100	150	20
270				
exam	Prerequisite(s) for examination	Regular participation in the seminar		

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	Form(s) of assessment (scope)	L1: examination (40 minutes), L2: examination (60 minutes), S: oral presentation and written report
	Contribution to final mark	30% from each examination and 40% from seminar; compensation possible
	Form of module-component retake examination	L1: examination (40 minutes), L2: examination (60 minutes), S: re-submission of report
	Form of module retake examination	Oral examination
Frequency	Every year/semester	duration: 1 semester winter semester
Intake capacity	Lecture: unlimited (capacity of lecture hall), seminar: 30 participants	
Language of instruction	German	
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue	

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KSS-MS-0703	Orthopaedic Sports Therapy	1st sem.	6 CP		
Module	Orthopaedic Sports Therapy				
Module code	06-KSS-MS-0703				
//Faculty/Subject/Department	Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy				
Module coordinator	Cf. German version				
Prerequisites for participation	None				
Learning outcomes	The students acquire a fundamental knowledge of the entire spectrum of orthopaedic rehabilitation including all practically relevant symptoms, their relevance in the health care system, the general and specific purpose of an orthopaedic rehabilitation with different rehabilitation phases, various options of rehabilitation and the legal framework that exists for rehabilitation. The students are familiar with the ICF (International Classification of Functionality, Disability and Health). Different therapeutic approaches can be assessed based on evidence and can be applied indication-related and differentiated in specific patient case studies within the framework of a short-term, medium-term or long-term orientated interdisciplinary therapy planning.				
Module content	In the introductory 1-hour lecture, an extensive overview regarding all aspects of orthopaedic rehabilitation will be imparted. Besides the illustration of corresponding orthopaedic symptoms, this also includes the illustration of orthopaedic rehabilitation within the framework of the entire health care system including all relevant social medical aspects. In the second 1-hour lecture, corresponding therapeutic approaches will be critically illustrated from an evidence-based point of view. Subsequently this knowledge regarding the planning of a multi-modal and interdisciplinary concept in a patient-oriented and indication-related manner will be implemented in a practical seminar.				
Form(s) of instruction Percentage	Lecture 50%/seminar 50%				
Workload in hours	Total workload	180 hours = 6 ECTS credits			
	Course type and title	A courses a contact hours	b preparation/ revision	B auto- nomous work	C examination incl. prep.
	L1 "Orthopaedic Rehabilitation"	15	15	15	45
	L2 "Evidence-based Concepts in Prevention, Rehabilitation and Sport Therapy"	15	15	15	45
	PS "Sport and Exercise Therapeutic Planning in Case of Orthopaedic Symptoms"	30	30	30	90
	Sum (180)	60	60	30	30
Module examination	Prerequisite(s) for examination	None			
	Form(s) of assessment (scope)	L1: examination (40 minutes), L2: examination (40 minutes), PS: oral presentation and written report			
	Contribution to final mark	25% from each examination and 50% from practical seminar; a compensation of the different examination components is possible			
	Form of module-component retake examination	L1: examination (40 minutes), L2: examination (40 minutes), PS: written report			
	Form of module retake examination	Oral examination			
Frequency	Every year	duration: 1 semester	winter semester		
Intake capacity	L1 + L2: unlimited (capacity of lecture hall), PS: 30 students				
Language of instruction	German				

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Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue
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KSS-MS-08	Internal Rehabilitation	2nd sem.	6 CP	
Module	Internal Rehabilitation			
Module code	06-KSS-MS-08			
//Faculty/Subject/Department	Faculty 06 Department of Sports Science			
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy			
Module coordinator	Cf. German version			
Prerequisites for participation	None			
Learning outcomes	The students are familiar rehabilitation as multidisciplinary and interdisciplinary management of a person's functional health in order to eliminate negative consequences of a disease and to achieve an improvement in the health-related quality of life. Besides the various forms of rehabilitation, they are also familiar with the legal fundamentals of rehabilitation and the relevant institutions and health care providers. The students acquire a profound knowledge of the role of symptomatology, clinical physiology and pathophysiology in the rehabilitation of commonly occurring internal symptoms and are familiar with how therapeutic effects can be achieved by means of sport and exercise.			
Module content	In the first lecture, the fundamentals of rehabilitation medicine will initially be introduced in order to explain in more detail subsequently the indication-specific characteristics of cardiological diseases such as the acute coronary syndrome, chronic heart failure, heart transplantation, etc. In the second lecture, sport therapeutic aspects in the rehabilitation of respiratory and metabolic diseases, tumours, etc. will be focused on. In the accompanying seminar, the planning of the rehabilitation process will be discussed, from a classification of functionality, impairment and health to risk stratification towards an individual therapy planning. Besides these theoretical considerations, practical knowledge regarding the implementation of exercise therapeutic measures referring to specific symptoms will be imparted within the framework of 6 units in cooperating rehabilitation clinics in the area.			
Percentage share of instruction form(s)	Lecture 50%/seminar 50%			
Workload in hours	Total workload	180 hours = 6 ECTS credits		
	Course type and title	A courses a contact hours	b preparation/ revision	B auto- nomous work
	L1 "Fundamentals of Rehabilitation Medicine with a Focus on Cardiological Rehabilitation"	15	15	45
	L2 "Fundamentals of Rehabilitation Sports and Sport Therapy in the Case of Non-cardiological, Internal Diseases"	15	15	45
	PS "Sport and Exercise Therapeutic Planning in the Case of Internal Diseases"	30	30	90
	Sum	60	60	180
Module examination	Prerequisite(s) for examination	Regular participation		
	Form(s) of assessment (scope)	L1 and L2: examination (40 minutes each) PS: oral presentation and written assignment		
	Contribution to final mark	30% from each examination and 40% from seminar; a compensation of the different examination components is possible		
	Form of module-component retake examination	L1 examination 40 minutes L2 examination 40 minutes		
	Form of module retake examination	Examination (80 minutes)		
Frequency	Every year	duration: 1 semester	summer semester	
Intake capacity	30 (seminar capacity)			

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Language of instruction	German
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue

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KSS-MS-0904	Training and Athletics	1st sem.	6 CP		
Module	Training and Athletics				
Module code	06-KSS-MS-0904				
//Faculty/Subject/Department	Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy, L3 Sports Science				
Module coordinator	Cf. German version				
Prerequisites for participation	Performance Medicine				
Learning outcomes	<p>The students acquire knowledge of the systematic setup of a long-term training in performance-oriented sports. Efficient strategies for improving the motoric types of principal stress as endurance, power, velocity as well as flexibility will thus be imparted. The students learn to apply these skills age- and target-group-appropriately and to document and reflect on the training process. Particular focus is placed on a multi-modal training structure, which is oriented towards a permanent improvement and development in performance.</p> <p>Furthermore, the students acquire fundamental skills and views in the field of application of the individual sport "swimming". The students are familiarised with methodological forms of imparting knowledge in this area. They shall develop the necessary performance and demonstration abilities that are necessary for imparting their knowledge.</p>				
Module content	<p>In the first practical seminar, a systematic overview of the structure of a multi-modal training process will be given. Within this, the students will undergo and experience a systematic training for improving their conditional abilities and skills. This training will be diagnosed, assessed, and reflected on (diagnostics of the performance and re-test at the end of the seminar, development of the training plan and documentation of a training diary). Emphasis is put on the implementation of specific competitive sport training strategies. In the second practical seminar, an individual sport will be focused on and the student will attempt to apply the acquired training strategies in swimming. At the same time, the students are familiarised with methodological forms of imparting knowledge and organizational forms in the area of swimming and learn to implement these in the field of therapeutic sports.</p>				
Percentage share of instruction form(s)	PS1 50%/PS2 50%				
Workload in hours	Total workload	180 hours = 6 ECTS credits			
	Course type and title	A courses a contact hours	B auto-nomous work b preparation/ revision	C examination incl. preparation	
	Sum				
	PS1 "Multi Modal Athletic Training"	30	30	30	90
	PS2 "Swimming"	30	30	30	90
	Sum	60	60	60	180
Module examination	Prerequisite(s) for examination	Regular participation/active participation/successful participation/giving a presentation/creating an essay...			
	Form(s) of assessment (scope)	PS 1 and 2: oral presentation and written assignment for each component			
	Contribution to final mark	PS1: oral presentation 50%, written assignment 50% PS2: oral presentation 50%, written assignment 50%			
	Form of module-component retake examination	PS1 examination 40 minutes PS2 examination 40 minutes			
	Form of module retake examination	Oral examination (30 minutes)			
Frequency	Every year	duration: 1 semester	summer semester		
Intake capacity	30 students				
Language of instruction	German				

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue
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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-09	Special Sports and Nutritional Therapy			2nd sem.	6 CP
Module	Special Sports Therapy				
Module code	06-KSS-MS-09				
//Faculty/Subject/Department	Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy				
Module coordinator	Cf. German version				
Lecturers	Cf. German version				
Prerequisites for participation	None				
Learning outcomes	The students are familiar with the characteristics of sport therapy regarding different target groups. They know that sport therapy merely represents one pillar of therapy and know how sport therapy is weighted in relation to other approaches, especially compared with the possibilities and limitations of nutrition therapy. The contact with and the characteristics of children, geriatric patients, psychosomatic/psychiatric and disabled patients will be illustrated. The students learn to classify a sport therapeutic intervention in an interdisciplinary and multidisciplinary therapy approach.				
Module content	In the first lecture, the important therapeutic methods of physical medicine as well as the concepts and methods that are significant for rehabilitative medicine, such as occupational therapy, neuropsychological and psychological intervention or body-oriented therapies will initially be illustrated. Their integration into sport therapeutic concepts will be imparted. In the second lecture, the significance of nutrition and of dietetics within the therapy of chronic diseases will be presented. In the practical seminar, target group specific aspects of sport therapy will be dealt with. Symptoms which are significant in infancy and adolescence and which often occur in rehabilitation, such as cystic fibrosis, neurodermatitis, bronchial asthma, etc. will be dealt with and sport therapeutic concepts will be developed. Important symptoms from the spectrum disorder of schizophrenia and affective disorders as well as organic mental disorders will be presented and sport therapeutic possibilities and modes of action will be described. Furthermore, dependency syndromes and physically dependent addictions will be dealt with. Finally, disability sports and their organization will be focused on.				
Percentage share of instruction form(s)	Lecture 75%/seminar 25%				
Workload in hours	Total workload	180 hours = 6 ECTS credits			
	Course type and title	A courses a contact hours	b preparation/ revision	B auto- nomous work	C examination incl. preparation
	Sum				
	L1 "Integrated Performance Development in Preventive-rehabilitative Therapeutic Sports"	15	15	15	45
	L2 "Nutrition Therapy in Case of Chronic Diseases"	15	15	15	45
	L/PS "Practical Sport Therapy in Paediatrics, Geriatrics, Psychosomatics, Psychiatry and with Disabled"	30	30		90
	Sum	60	60	60	180
Module examination	Prerequisite(s) for examination	None			
	Form(s) of assessment (scope)	L1: examination (40 minutes), L2: examination (40 minutes), PS: oral presentation and written report			
	Contribution to final mark	30% from each examination and 40% from seminar, ; a compensation of the different examination components is only possible for the lectures			
	Form of module-component retake examination	L1 + 2: examination 40 minutes each PS: written report			
	Form of module retake examination	Oral examination (30 minutes)			

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

Frequency	Every year/semester duration: 1 semester summer semester
Intake capacity	Unlimited (capacity of lecture hall)
Language of instruction	German
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-1113	Sports Therapy Practical Training	3rd sem.	9 CP	
Module	Sports Therapy Practical Training			
Module code	06-KSS-MS-1113			
//Faculty/Subject/Department	Faculty 06 Department of Sports Science			
/Associated degree course/Semester taken	MSc Sport, 3 rd semester			
Module coordinator	Cf. German version			
Prerequisites for participation	Sport Special Sports Therapy			
Learning outcomes	As interns, the students gain insight into a clinical sport therapy field of occupation and into sport medicine/sport therapy field of occupation which can be freely selected by the students. Therein, they gain experience in the clinical environment and in the direct contact with patients with different internal symptoms. The knowledge acquired in their studies is thus brought together with practical tasks and skills. The students gain an orientation for developing their occupation-related perspectives (career planning) through a close cooperation with the rehabilitation clinics and their academic staff. The experiences of the placement can influence the selection of the master's dissertation.			
Module content	<p>The 6-week placement comprises a 3-week period either at the Südpark-Klinik or at the Kaiserbergklinik in Bad Nauheim. It is a modern and high performance rehabilitation clinic with speciality departments in the fields of Internal Medicine/Cardiology and Psychosomatics or Orthopaedics. A practical insight into the occupational field of sport therapists will be given in close cooperation with doctors and therapists. The students are in close contact with various patient cases, ranging from acute patients to patients at the end of an in-patient rehabilitation phase. In the second phase of their placement, the students select another placement from a choice of clinics/rehabilitation clinics/Olympic centres etc. The possibility of a sport therapy placement in the Hochgebirgsklinik in Davos, Switzerland also exists.</p> <p>In an introductory course, organizational issues regarding the placement will be dealt with, for example, requirement criteria, documentation of the placement, writing of reports, visiting an occupational event or congress (e.g. DVS Gesundheitskongress, DGPR-Tagung, etc.).</p> <p>Details can be found in the placement regulations.</p>			
Percentage share of instruction form(s)	Placement, placement course			
Workload in hours	Total workload	270 hours = 9 ECTS credits		
	Course type and title	A courses a contact hours	b preparation/ revision	B auto-nomous work C examination incl. preparation
	Sum			
	260	Placement	230	30
	10	Placement Course	10	
	Sum	240	30	270
Module examination	Prerequisite(s) for examination	Documentation of the placement with weekly updates, placement certificate, writing of a placement index card		
	Form(s) of assessment (scope)	Written report of placement (tasks and activities during the placement; acquired knowledge and skills; reflection)		
	Contribution to final mark	Grading of the written report		
	Form of module retake examination	1-hour oral retake examination regarding the activities in the placement and the written report		
Implementation/frequency	Every semester	duration: 6 full-time weeks	winter and summer semester	
	The student can begin the placement in the semester holidays before the courses of the 3 rd semester being so that a punctual completion of the placement before the master's			

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

	dissertation is guaranteed. The workload will be fully included in the 3 rd semester.
Intake capacity	30
Language of instruction	German
Additional information:	Advice on module, possible placements and placement organisation: see notice board

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-1214	Current Developments in Exercise Medicine and Sports Therapy	3rd sem.	3 CP	
Module	Current Developments in Exercise Medicine and Sports Therapy			
Module code	06-KSS-MS-1214			
//Faculty/Subject/Department	Faculty 06 Department of Sports Science			
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy, BSc Physical Activity and Health			
Module coordinator	Cf. German version			
Lecturers	Cf. German version			
Prerequisites for participation	None			
Learning outcomes	The students gain an overview of current research topics in the area of exercise medicine and sport therapy. They learn to read and understand original works published in internationally acknowledged journals. The students learn to understand, reason, and also critically reflect on their curriculum. They will be trained in developing own study designs for specific issues and topics. An important objective of the module is to prepare the students for autonomous research activities in the area of sport physiology and sport therapy from a methodological and content point of view.			
Module content	<p>In this seminar, the students autonomously work on original works published in internationally acknowledged journals and present their work, including</p> <ul style="list-style-type: none"> • an introduction of the topic, • an illustration of the relevant questions and hypotheses, • an illustration and critical reflection of the methodology, • an illustration of the results, • a discussion. <p>Simultaneously, the presenting students as well as the other seminar participants are called upon to critically discuss structure, methods, and contents of the publications.</p>			
Percentage share of instruction form(s)	Seminar 100%			
Workload in hours	Total workload	90 hours = 3 ECTS credits		
	Course type and title	A courses a contact hours	b preparation/ revision	B auto- nomous work
	S "Planning, Implementing and Assessing Academic Investigations"	30	60	C examination incl. preparation
	Sum (90)	30	60	
Module examination	Prerequisite(s) for examination			
	Form(s) of assessment (scope)	Regular and active participation and preparation of the texts, presentation of original work		
	Contribution to final mark	Mark for presentation (100%)		
	Form of module retake examination	Oral examination (45 minutes)		
Frequency	Every year	duration: 1 semester	summer semester	
Intake capacity	30 students			
Language of instruction	English/German			
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue			

KSS-MS-05	Biometrics and Informatics	1st sem.	6 CP
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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

Module		Biometrics and Informatics				
Module code		06-KSS-MS-05				
//Faculty/Subject/Department		Faculty 11 Medicine, Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken		Medicine, MSc Clinical Sport Physiology and Sport Therapy				
Module coordinator		Cf. German version				
Prerequisites for participation		None				
Learning outcomes	The students have knowledge of the fundamental terms of descriptive statistics. They are familiar with the principles of statistical tests for dependent and independent random samples. Knowledge of the illustration of scientific data will be acquired, which also comprises medical documentation. The students acquire a profound knowledge of the types of studies in epidemiology. The occurrence frequency of disease in terms of measurement and description as well as the consideration of influencing factors and effect-sizes in order to assess calculations and interpretations of prevention methods, early diagnosis, and rehabilitation will be imparted.					
Module content	In the lecture, fundamental terms of descriptive statistics, such as the description of data observed in an experiment, a study or compilation, frequency distributions of discrete and steady features as well as location and dispersion parameters for describing distributions and their interpretability will be presented. The students learn the calculating of necessary sample sizes for investigations and the application of different statistical tests. In the accompanying seminar, the planning, implementation, interpretation, and illustration of the results of clinical or epidemiological studies with consideration of the historical background, guidelines, and current legal fundamentals will be focused on.					
Percentage share of instruction form(s)		Lecture 50%/seminar 50%				
Workload in hours	Total workload	180 hours = 6 ECTS credits				
	Course type and title	A courses a contact hours	b preparation/ revision	B auto- nomous work	C examination incl. preparation	
	Sum					
	L "Medical Biometry, Epidemiology and Medical Informatics"	30	60			
	S "Planning and Interpreting Clinical Studies"	30	60			
	180	Sum	60	120		
Module examination	Prerequisite(s) for examination	Regular participation				
	Form(s) of assessment (scope)	L + S: combined examination (90 minutes)				
	Contribution to final mark	Examination mark (100%)				
	Form of module-component retake examination	Examination				
	Form of module retake examination	Examination				
Frequency	Every year	duration: 1 semester	winter semester			
Intake capacity	30 (seminar capacity)					
Language of instruction	German					
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue					
KSS-MS-1410		Methods in Sports Medicine and Nutritional Research			2nd sem.	6 CP

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

Module		Methods in Sports Medicine and Nutritional Research			
Module code		06-KSS-MS-1410			
//Faculty/Subject/Department		Faculty 09 Nutritional Science, Faculty 06 Sports Science			
/Associated degree course/Semester taken		Master Nutritional Science, MSc Clinical Sport Physiology and Sport Therapy			
Module coordinator		Cf. German version			
Prerequisites for participation		Biometrics and Computer Science			
Learning outcomes	The students acquire a profound knowledge in the application of sport medical and nutritional methods. The students have knowledge and skills in the statistical planning of complex experiments, and in the graphic and numeric editing of multivariate data. They have an overview of the principles and the validity of various methods in (sport) medical and nutritional research and learn to deal with different study designs as well as with their advantages and disadvantages. In both scientific disciplines, they learn about relevant performance diagnostic, cytological, molecular biological, spectrophotometric and chromatographic methods. They also acquire knowledge of the qualitative and quantitative validity of these analytical methods.				
	The students learn the fundamental skills for applying the following methods: <ul style="list-style-type: none"> • Key aspects and principles of epidemiologic, clinical, animal experimental, biochemical, and molecular biological studies • Repetition of the fundamentals and principles of applied statistics • Spirometry/spiroergometry • Methods for assessing physical activity (accelerometry, etc.) • Differential diagnostic performance • Photometry, spectrofluorometry, and flow cytometry • Genomics (analysis of gene expression, microarrays, PCR, etc.) • Proteomics (e.g. protein purification by means of affinity chromatography, SDS gel analysis, two-dimensional gel electrophoresis, ELISA, etc.) • Enzyme kinetics (linear and nonlinear regression) • Determining the entire antioxidant capacity in biological material • Implementation and interpretation of multifactorial experiments and studies • Application of statistical software packages 				
Percentage share of instruction form(s)		Lecture 1 and 2 each 50%			
Workload in hours	Total workload	180 hours = 6 ECTS credits			
	Course type and title	A courses a contact hours	b preparation/ revision	B auto- nomous work	C examination incl. preparation
	Sum				
	L1 "Methods in (Sport) Medical Research"	30	60		
	L2 "Methods in Nutritional Research"		30	60	
	180	Sum	60	120	
Module examination	Prerequisite(s) for examination	Regular and active participation			
	Form(s) of assessment (scope)	Examination 90 minutes each			
	Contribution to final mark	50% L1, 50% L2; a compensation of the different examination components of both lectures is possible			
	Form of module-component retake examination	L1 examination 90 minutes L2 examination 90 minutes			

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

	Form of module retake examination	Oral examination (30 minutes)		
Frequency	Every year	duration: 1 semester	summer semester	
Intake capacity	30 (laboratory capacity)			

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-15	Setting up in Business	3rd + 4th sem.	6 CP	
Module	Setting up in Business			
Module code	06-KSS-MS-15			
//Faculty/Subject/Department	Faculty 02 Business Studies, chair BWL VIII			
/Associated degree course/Semester taken	Business Studies, MSc Clinical Sport Physiology and Sport Therapy			
Module coordinator	Cf. German version			
Prerequisites for participation	Orthopaedic Rehabilitation, Internal Rehabilitation; online registration via: http://wiwi.uni-giessen.de/lv/anmeldung/Personal/995/			
Learning outcomes	The students are familiarised with the fundamental and advanced theories, concepts and processes of establishing a company. Hereby, a real-life application is taken as the central aspect. This application-oriented approach will be additionally supported by means of advanced elaboration of the topic and through the regular involvement of practitioners with experience in the establishment of own enterprises.			
Module content	<ul style="list-style-type: none"> - Fundamentals of Business Studies - Fundamentals and process of a business establishment - Success and risk factors for newly established enterprises - Choice of legal form and legal aspects of business establishment - Market analysis, marketing strategies and pricing - Financing young companies - Tax fundamentals and accounting for new enterprises - Creating business plans - Organisation of newly established enterprises and young companies - Human resources management for newly established enterprises and young companies - Patent and brand strategies for newly established enterprises and young companies - Choice of location for newly established enterprises and young companies - Advancing forms of financing of young companies (e.g. initial public offering) - Strategies of internationalisation for newly established enterprises and young companies - Growth strategies for newly established enterprises and young companies 			
Percentage share of instruction form(s)	Lecture 100%			
Workload in hours	Total workload	180 hours = 6 ECTS credits		
		A courses		B auto-nomous work
	Course type and title	a contact hours	b preparation/revision	C examination incl. preparation
	Sum			
	L1 "Entrepreneurship I" 90		30	60
	L2 "Entrepreneurship II" 90		30	60
	Sum	60	120	
	180			
Module examination	Prerequisite(s) for examination	Regular participation		
	Form(s) of assessment (scope)	Lecture 1 + 2: examination 60 minutes each		
	Contribution to final mark	Examination mark (100%)		
	Form of module-component retake examination	Examination		

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	Form of module retake examination	Examination
Frequency	Every year	duration: 2 semesters winter semester: L1 summer semester: L2
Intake capacity	Unlimited (capacity of lecture hall)	
Language of instruction	German/English	
Additional information:	Guidance on module and required literature: see notice board / Date: see course catalogue	

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Please note that only the German version of the modules is official and legally binding. The English version is for informative purposes only.

KSS-MS-16	Thesis	4th sem.	27 CP		
Module	Thesis				
Module code	06-KSS-MS-16				
//Faculty/Subject/Department	Faculty 06 Department of Sports Science				
/Associated degree course/Semester taken	MSc Clinical Sport Physiology and Sport Therapy, 4th semester				
Module coordinator	Cf. German version				
Prerequisites for participation	All modules MSc, except Current Developments and Establishment of a Company...(for particulars see detailed code of examination regulations)				
Learning outcomes	<p>The students demonstrate their specialised skills of</p> <ul style="list-style-type: none"> • autonomously working on a scientific research question, • planning, implementing and interpreting an empirical-experimental investigation, • writing an academic report, • presenting results and defending these when critically challenged. 				
Module content	<p>The students demonstrate their skill of autonomous empirical-experimental working by writing their master's dissertation. They apply their technical and methodological knowledge, which they acquired in their degree course, to their own scientific question in an advanced manner. They acquire knowledge regarding the time management of scientific work.</p>				
Percentage share of instruction form(s)	Autonomous work/participation in discussions regarding the planning, implementation, interpretation, and writing of the dissertation				
Workload in hours	Total workload	810 hours = 27 ECTS credits			
	Course type and title	A courses a contact hours	B auto- nomous work	C examination incl. preparation	
	Sum				
	Master's Dissertation		750		
	Talks with Supervisor	20	30		
	Defence Master's Dissertation	2	8		
	810	Sum	22	20	40
Module examination	Prerequisite(s) for examination	-			
	Form(s) of assessment (scope)	Submission of master's dissertation on schedule within a timeframe of 165 days, oral examination (defence) of the dissertation			
	Contribution to final mark	Mark for the master's dissertation. The oral examination (defence) must be passed.			
	Form of module retake examination	Re-submission of dissertation according to § 34 par. 2 General Regulations			
Frequency	Every semester	winter and summer semester			
Intake capacity	30				
Language of instruction	German/English				
Additional information	Guidance on module and required literature: see notice board				