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SAARLANDES

**Faculty of Human and Business Sciences**

# **Module catalogue for the Master's degree programme 'High-Performance Sport'**

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## Structure and content of the programme

The Master's degree programme 'High-Performance Sport' is a consecutive, research-focused programme lasting four semesters. Students attain a *Master of Science (M.Sc.)* degree on completing the programme. The curriculum is divided into the mandatory section 'Generic Aspects: Methodology and Basic Theories' and the compulsory electives section 'High-Performance Sport'. In the first stage of the programme, the mandatory section 'Generic Aspects: Methodology and Basic Theories' comprises a methodological module (Research design and analysis) and a core theoretical module (Organization, evaluation and quality assessment) The second stage of the programme focuses on advanced study in a career-relevant specialization in the 'High-Performance Sport' section. The language of instruction is English.

The objective of this programme is to produce graduates who not only have a high level of specialist and methodological knowledge in the field of international sport science, but also the necessary subject-specific proficiency in English and intercultural skills. The programme includes advanced modules in areas such as research methods, methodology and statistics, and in the specific sub-disciplines of sport medicine, sport psychology, training science and socioeconomics. It also offers students the opportunity to undertake advanced study in an area that is both career-specific and relevant to elite performance sports in an international context. Examples include global perspectives on internationally recognized elite training and diagnostic methods, on international sport structures and talent development programmes and on cultural aspects in international negotiation and communication strategies. Graduates from the Master's degree programme are equipped with the skills to tackle new and complex challenges and assignments and are able to independently manage processes in the field of sport science that are relevant to international professional and performance-oriented sports. A particular objective of the programme is to produce graduates with the knowledge and skills to be able to take on appropriate positions in a global context. In addition to possessing the necessary subject-specific proficiency in English, graduates are also acquainted with international communication strategies, enabling them to identify and provide constructive solutions to intercultural conflicts. Students analyse their own reactions to foreign behaviour and learn how to independently recognize and understand cultural differences and how to deal with possible communication barriers in order to be prepared in the best possible way for a globally networked labour market.

## Double degree and study abroad period

Starting in the winter semester 2019/20, a cooperation agreement between the Faculty of Human and Business Sciences at Saarland University (UdS) and the Faculty of Health at the University of Technology (UTS) in Sydney, Australia will allow students to obtain a degree from both universities as part of a double degree programme. The study and examination regulations for this double degree shall be governed by a cooperation agreement between the two universities rather than by the subject-specific regulations and study regulations at Saarland University. Students interested in a double degree must apply separately. Requirements and deadlines are published in the cooperation agreement. Students who are enrolled in a double degree programme shall spend at least six months studying at UTS where they shall earn at least 30 academic credits in accordance with the appropriate examination regulations. These academic credits earned at the overseas university shall be fully recognized by Saarland University. Academic credits acquired in this way make it possible for students to earn a double degree from both universities. The study plan is designed to accommodate studying abroad at UTS primarily in the third semester. As supplementary and freely selectable modules are

studied here, studying abroad should not extend the programme beyond the standard period of study.

In addition to the option of studying towards a double degree, Erasmus+ partnerships also offer students further opportunities for studying abroad. Studying abroad is expressly recommended due to the international focus of the programme. As with the UTS cooperation, students may also plan an Erasmus+ stay in their third semester. Saarland University currently has Erasmus+ partnerships with Liverpool John Moores University (LJMU, England; work placement / internship / research project) and Rijksuniversiteit Groningen (Netherlands; study). In addition to advancing intercultural knowledge and skills, these partnerships can open up study opportunities in subjects which may not be available or covered in-depth in the 'High-Performance Sport' degree programme at Saarland University. At LJMU, these include the areas of *Sport Nutrition*, *Match Analysis* and *Molecular Biology*. Students at LJMU have the opportunity to broaden their academic achievements, in particular through practical research assignments in these areas. At Rijksuniversiteit Groningen, study units in the fields of *Motor Control*, *Multilevel Analysis*, *Perception and Action* and *Neuromechanics* complement the Saarland University programme. The modules and module elements that can be included in the curriculum must be individually agreed at an early stage with the programme coordinator.

## Overview of programme modules

As a rule, the standard period of study is four semesters and the degree programme has a modular structure. The curriculum is divided into a mandatory section 'Generic Aspects: Methodology and Basic Theories' and the compulsory electives section 'High-Performance Sport'. The final assessment phase of the Master's degree programme comprises the student assessments completed during the degree programme and the Master's thesis. The student assessments completed over the course of the degree programme represent 100 ECTS credits in total, of which at least 40 shall be awarded for graded assessments. The programme is divided into the following three sections (Figure 1):

- Mandatory section 'Generic Aspects: Methodology and Basic Theories' (20 credits)
- Compulsory electives section 'High-Performance Sport' (80 credits = 16 modules worth 5 credits each)
- Master's thesis (20 credits)

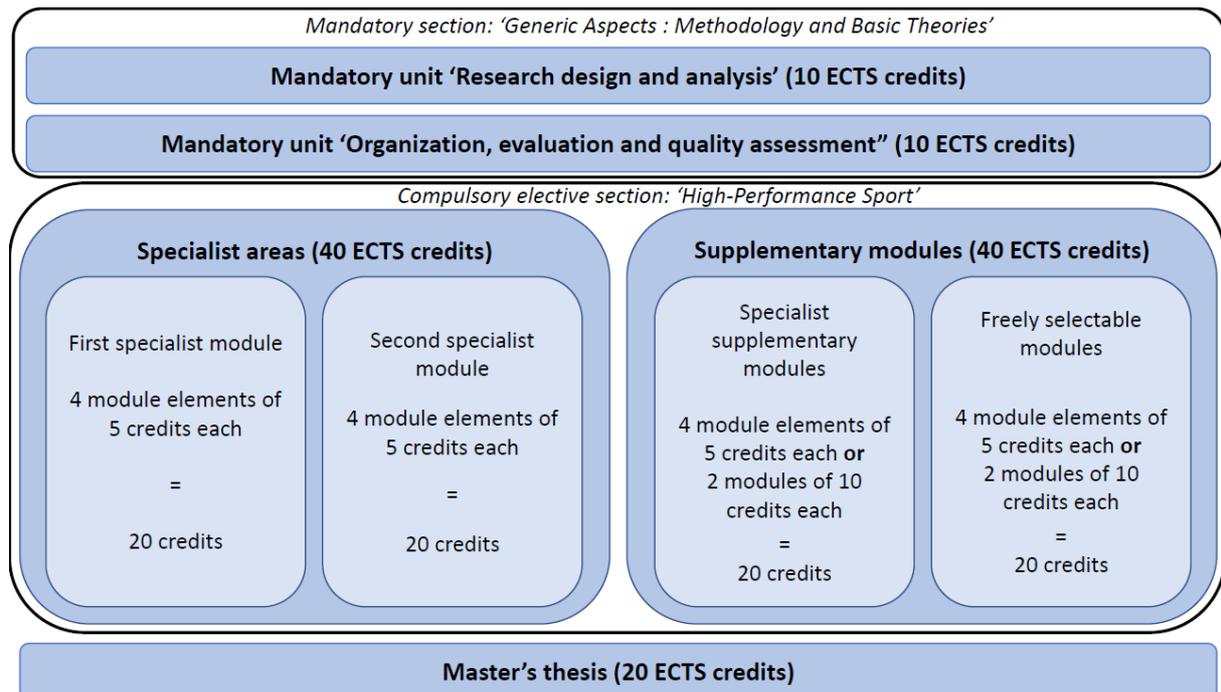


Figure 1: Structure of the Master's degree programme 'High-Performance Sport'.

Modules and module elements in the mandatory section 'Generic Aspects: Methodology and Basic Theories' are marked as 'M' (mandatory) under the 'Mandatory or elective' column abbreviated as 'M/E' in the following tables. This section comprises a methodological module worth 10 credits ('Research design and analysis') and a core-content module ('Organization, evaluation and quality assessment') worth a further 10 credits (Table 1).

Table 1: Student assessments and examination requirements for modules in the mandatory section 'Generic Aspects: Methodology and Basic Theories' (g = graded, u = ungraded, M/E = mandatory or elective, PA = preliminary assessment, EA = examination or assessment, KT = knowledge test, CCT = cognitive competence test).

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Research design and analysis	M	1	Advanced statistics	Ex	2	5	WS	PA; KT (g)
	M	2	Applied statistics and research designs, empirical methods of social research	S	2	5	SS	
<b>TOTAL</b>					<b>4</b>	<b>10</b>		

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Organization, evaluation and quality assessment	M	1	Evaluation and quality assessment	S	2	5	WS	PA; CCT (g)
	M	1	Organizational theories and problems of organizational management	Ex	2	5	WS	
<b>TOTAL</b>					<b>4</b>	<b>10</b>		

In the compulsory electives section 'High-Performance Sport', students select two of the following specialist modules each worth 20 credits:

- Medicine and physiology in high-performance sport
- Socio-economics of elite sport
- Strength and conditioning in high-performance sport
- Sport psychology in elite environments

Each specialist module comprises four module elements, with each element worth 5 credits (Table 2). Specialist modules are always graded. A specialist module can only be chosen if it has not already been included in the mandatory section. Supplementary modules worth 20 credits must be chosen, either in the form of four module elements, with each element worth 5 credits, or as two supplementary modules each worth 10 credits (= two module elements each worth 5 credits) (Table 3). Students can also include module elements from specialist modules for the supplementary part of their compulsory electives section, provided that these module elements are not already part of the student's chosen specialist area.

In the compulsory electives section, students must choose four freely selectable modules each worth 5 credits from the modules in the Master's degree programmes in sport science

offered at Saarland University. (Tables 2 and 3) Language courses, projects or practical assignments (Table 4) worth up to 10 credits may also be selected. Individual modules from the specialist or supplementary section that have not yet been included can also be chosen. Modules with relevant content from other degree programmes in other disciplines may also be selected. The topic of the Master's thesis can be selected from all areas (Table 5). Of the total 80 credits that students are required to earn in the compulsory electives section, at least 5 credits must be acquired from each of the specialist areas listed above. The curriculum structure is designed to provide students with a broad education by requiring them to take modules in a variety of areas relevant to international elite sport. It also offers students the opportunity to select areas that are of particular relevance to the field in which they later wish to work.

The study plan, which also integrates a study abroad period, is shown in Table 6.

Table 2: Student assessment and examination requirements for the specialist modules in the compulsory electives section ‘High-Performance Sport’. Students are required to choose two specialist modules worth a total of 40 ECTS credits. The module elements in specialist modules are graded in all cases.

**MEDICINE AND EXERCISE PHYSIOLOGY IN HIGH-PERFORMANCE SPORT**

<b>Module</b>	<b>M/E</b>	<b>Standard study semester</b>	<b>Module element</b>	<b>Format</b>	<b>hrs/wk</b>	<b>ECTS credits</b>	<b>Repeat cycle</b>	<b>Assessments</b>
Medicine and physiology in high-performance sport	E	1	Athletes' musculoskeletal assessment	S	2	5	WS	PA; EA: CCT (g)
	E	1	Advanced exercise physiology and sport medical care	S	2	5	WS	PA; EA: CCT (g)
	E	2	Injury mechanisms, screening and prevention in high-perf. sport	S	2	5	SS	PA; EA: CCT (g)
	E	2	Mechanisms of training adaptation	S	2	5	SS	PA; EA: CCT (g)
<b>TOTAL</b>					<b>8</b>	<b>20</b>		

**SOCIO-ECONOMICS OF ELITE SPORTS**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Socio-economics of elite sports	E	1	Socio-economics in high-performance, economic and social conditions of sporting success	S	2	5	WS	PA; EA: CCT (g)
	E	1	Doping world-wide: Current situation and reasons for doping	S	2	5	WS	PA; EA: CCT (g)
	E	2	Doping prevention and education – an international task	S	2	5	SS	PA; EA: CCT (g)
	E	2	Advanced research methods and statistics	S	2	5	SS	PA; EA: CCT (g)
<b>TOTAL</b>					<b>8</b>	<b>20</b>		

**STRENGTH AND CONDITIONING IN HIGH-PERFORMANCE SPORT**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Strength and Conditioning	E	1	Biomechanics of strength and conditioning I	S	2	5	WS	PA; EA: CCT (g)
	E	1	Biomechanics of strength and conditioning II	S	2	5	WS	PA; EA: CCT (g)
	E	2	Training programs in high-perf. sports	S	2	5	SS	PA; EA: CCT (g)
	E	2	Training and monitoring processes in an international context	S	2	5	SS	PA; EA: CCT (g)
<b>TOTAL</b>					<b>8</b>	<b>20</b>		

**SPORT PSYCHOLOGY IN ELITE ENVIRONMENTS**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Sport psychology in elite environments	E	1	Coaching, communication and stress management	Ex	2	5	WS	PA; EA: CCT (g)
	E	1	Skill acquisition in motor and cognitive domains	S	2	5	WS	PA; EA: CCT (g)
	E	2	Elite performance in different life domains	S	2	5	SS	PA; EA: CCT (g)
	E	2	Career transitions in professional sport in a global world	S	2	5	SS	PA; EA: CCT (g)
<b>TOTAL</b>					<b>8</b>	<b>20</b>		

Table 3: Student assessment and examination requirements for the supplementary modules and freely selectable modules in the compulsory electives section 'High-Performance Sport'. Students are required to choose supplementary and freely selectable modules worth a total of 40 ECTS credits.

**MODULE: APPLIED PRACTICE IN COACHING, PLANNING AND MONITORING**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Applied practice in high-perf. sport	E	3	Coaching the elite athlete: international experiences	S	2	5	WS	PA; EA: CCT (g)
	E	4	Placement project in the high-perf. environment	S	2	5	SS	
<b>TOTAL</b>					<b>4</b>	<b>10</b>		

**MODULE: RECOVERY MANAGEMENT**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Recovery management in high-perf. sport	E	3	Recovery management and monitoring	S	2	5	WS	PA; EA: CCT (g)
	E	4	Recovery strategies in different contexts and sports	S	2	5	SS	
<b>TOTAL</b>					<b>4</b>	<b>10</b>		

**MODULE: TRAINING THE ENDURANCE ATHLETE**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Training the endurance athlete	E	3	The science of endurance training and performance	S	1	2	WS	PA; EA: CCT (g)
	E	4	Planning and monitoring the athlete's training response	S	2	3	SS	
<b>TOTAL</b>					<b>3</b>	<b>5</b>		

**MODULE: SPORTS NUTRITION**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Sports nutrition	E	3	International questions in elite sports nutrition	S	2	5	SS	PA; EA: CCT (g)
<b>TOTAL</b>					<b>2</b>	<b>5</b>		

**MODULE: SCIENCE AND MEDICINE IN FOOTBALL**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Science and medicine in football	E	4	Football science around the world	S	1	2		PA; EA: CCT (g)
	E	4	Current questions in international football science	S	2	3		
<b>TOTAL</b>					<b>3</b>	<b>5</b>		

**MODULE: TALENT IDENTIFICATION AND DEVELOPMENT**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Talent identification and development	E	3	Talent identification and development in an international context	S	2	2	WS	PA; EA: CCT (g)
	E	4	Sport structures and regulations – international perspectives	S	2	3	SS	
<b>TOTAL</b>					<b>4</b>	<b>5</b>		

**MODULE: PHYSICAL EXERCISE AND MEASUREMENT**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Physical exercise and measurement	E	3	International performance analysis and diagnostics	S	2	5	WS	PA; EA: CCT (g)
	E	4	Testing the elite athlete: a global perspective	S	2	5	SS	
<b>TOTAL</b>					<b>4</b>	<b>10</b>		

**MODULE: DIAGNOSTICS AND TRAINING IN SPORT PSYCHOLOGY**

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits	Repeat cycle	Assessments
Diagnostics and training	E	3	International diagnostics in psychology	S	2	5	WS	PA; EA: CCT (g)
	E	4	Current challenges in sport psychology during training and competition	S	2	5	SS	
<b>TOTAL</b>					<b>4</b>	<b>10</b>		

Table 4: Work placement / internship / research project (freely selectable modules, ungraded)

MODULE: WORK PLACEMENT / INTERNSHIP / RESEARCH PROJECT						
Module	M/E	Recommended semester	Module element	Type	hrs/wk	ECTS credits
Work placement / internship	M	4	minimum 4-week internship / work placement	I/P	-	10
<b>TOTAL</b>					<b>-</b>	<b>10</b>

Module	M/E	Standard study semester	Module element	Format	hrs/wk	ECTS credits
Research project	E	4	minimum four-week research project	RP	-	10
<b>TOTAL</b>					<b>-</b>	<b>10</b>

Table 5: Master's thesis module

MODULE: Master's Thesis						
Module	M/E	Recommended semester	Module element	Type	hrs/wk	ECTS credits
Master's thesis	E	4	Master's thesis	M	-	20
<b>TOTAL</b>					<b>-</b>	<b>20</b>

Table 6: Study plan Master's Degree Programme 'High-Performance Sport'

1st stage									
1	BA: Research design and analysis		BA: Evaluation, organization and quality assessment		Specialist area I		Specialist area II		Total 31 CP
	Scientific theories and methods	Advanced statistics	Evaluation and quality assessment	Organizational theories	SP module 1	SP module 2	SP module 1	SP module 2	
2	BA: Research design and analysis	BA: Organization, evaluation and quality assessment	Specialist area I		Specialist area II		Freely selectable modules (FE)		Total 29 CP
	Applied statistics and research designs	Methods in evaluation and quality assessment	SP module 3	SP module 4	SP module 3	SP module 4	FE module 1		
2nd stage									
3	Specialist supplementary modules (SSM)		Specialist supplementary modules		Freely selectable electives		Study abroad period**		Total 30 CP
	SSM module 1	SSM module 2	SSM module 3	SSM module 4	FE module 2	FE module 3			
4	Freely selectable electives		Master's thesis						Total 30 CP
	FE module 4								

\*\*Mandatory for students taking the double-degree programme; recommended for other students.

BA = Basic module; SP = Specialist module; SSM = Specialist supplementary module; FE = Free elective module

The study plan is organized to allow a stay abroad in the third or fourth semester. This is compulsory for double-degree students. An earlier stay abroad may be feasible for individual students, further details will be finalised during the preparatory phase. Students who are interested in a stay at another partner university can include student assessments and examinations from abroad in the supplementary and freely selectable parts of the compulsory electives section.

## Curricular orientation

The programme has been designed to produce graduates with both general and subject-specific knowledge and skills. The teaching and learning strategies and the forms of academic assessment used in the programme have been derived from the specific types of knowledge and skills that students will acquire. The following sections describe the transferable, subject-specific and career-specific knowledge and skills taught in the Master's 'High-Performance Sport' programme in line with the Qualifications Framework for German Higher Education Qualifications. In specific terms, students should have the following skills and knowledge after completing their studies:

### Transferable skills

- Students are able to reflect upon and contextualize questions of practical significance in international high-performance sports in the light of current theoretical ideas in sport science.
- They are able to interact successfully and appropriately in culturally diverse environments.
- They are able to deal with intercultural barriers to communication, and have the ability to identify such areas of conflict and resolve such issues constructively by applying the appropriate communicative strategies.
- They can analyse their own reactions to foreign behaviour and recognize and understand their own cultural characteristics.

### Subject-specific skills

- Students have a good command of the internationally established methods used in professional and elite sport science and in neighbouring and parent disciplines.
- They can plan, realize, implement and adapt training programmes in high-performance sports.
- They can assess performance and development as well as training success through suitable internationally recognized diagnostic procedures.
- They are familiar with problems typical of high-performance sports in the fields of medicine, sport science and psychology.
- They have mastered communication techniques and stress and conflict management in intercultural settings and with different participants.

### Career-related skills

- Students have a thorough understanding of anatomy and physiology as well as of the morphological and structural adaptations within the framework of the main forms of motor activity with particular reference to the requirements of international competitive and elite sport.
- They possess a thorough understanding of internationally recognized measures and strategies for injury prevention and can apply them appropriately to the target group.
- They have team building and leadership skills suited to managing professional athletes in a competitive setting, especially from an international perspective.
- They have practical knowledge in areas related to high-performance sport such as nutrition/substitution and dietetics.

- They are acquainted with national and international talent identification and talent development systems, and understand talent-related issues and ethical and moral aspects of competitive sport in a global context.
- Students can plan, implement and evaluate internationally recognized sport psychological, biomechanical as well as physiological diagnostic and intervention processes for specific sports.
- They can identify, analyse and discuss psychological and social determinants as well as cultural and social conditions of high-performance sport, taking into account global perspectives.
- They are familiar with the problems of combating doping and are capable of developing strategies and taking action in international high-performance sports practice.
- Through practical experience in dealing with competitive athletes from different cultures, they are well acquainted with the practical problems of everyday training and competition, especially taking into account global perspectives and cultural differences (training management, career-sport balance, law of diminishing returns in training, etc.).

## Description of modules

### Modules in the mandatory section 'Generic Aspects: Methodology and Basic Theories'

#### Module: Research design and analysis

Research design and analysis					<b>Abbr.: Research</b>
<b>Recommended study semester(s) 1-2</b>	<b>Normally completed no later than semester 2</b>	<b>Offered yearly</b>	<b>Duration 2 semesters</b>	<b>hrs/wk 4</b>	<b>ECTS credits 10</b>

<b>Module coordinator</b>	Univ.-Prof. Dr. Eike Emrich
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Compulsory module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Applied statistics and research designs, empirical methods of social research; 2 hrs/wk, 5 credits Ex. Advanced statistics; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Knowledge test (graded)
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Exercise class: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Exercise class: 240 hours
<b>Marking/grading information</b>	

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a fuller understanding of experimental design, sampling problems, designing research projects and different types of scientific investigation (e.g. laboratory vs. field studies, panel designs, single-case designs, secondary analyses)</li> <li>• have an appreciation of important epistemological issues</li> <li>• understand the effects of confounding and moderating variables in different kinds of qualitative and quantitative survey and measurement methods</li> </ul>
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- have acquired a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of exploratory data analysis, multiple correlation tests, comparison testing and mutation analysis.

After completing this module, students are able to:

- describe, apply and critically assess qualitative and quantitative survey and measurement methods
- plan, implement and evaluate single-factor, two-factor and multi-factor designs and their statistical analyses (ANOVA)

**Module content:**

- Philosophy of science and the scientific method
- Design of experiments (DOE)
- Advanced statistics (e.g. multivariate analysis)
- Working with statistical software packages such as Stata, Statistica, R or SPSS

**Additional information**

**Module: Organization, evaluation and quality assessment**

<b>Organization, evaluation and quality assessment</b>					<b>Abbr.: Eva</b>
<b>Recommended study semester(s)</b> 1	<b>Normally completed no later than semester</b> 1	<b>Offered yearly</b>	<b>Duration 1 semesters</b>	<b>hrs/wk</b> 4	<b>ECTS credits</b> 10

<b>Module coordinator</b>	Univ.-Prof. Dr. Eike Emrich
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Compulsory module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Evaluation and quality assessment; 2 hrs/wk, 5 credits Ex. Organizational theories and problems of organizational management; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Knowledge test (graded)
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Exercise class: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Exercise class: 240 hours
<b>Marking/grading information</b>	

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a fuller understanding of how quality can be determined and assessed and of the associated measurement and implementation problems</li> <li>• have an appreciation of the functions, objectives and content of evaluation and measures relating to implicitly and explicitly normative premises</li> <li>• have acquired a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of quality measurements and quality assessments in a range of social settings</li> <li>• have an understanding of the institutional and organizational environments in which evaluations are performed and their intended and unintended effects.</li> </ul> <p>After completing this module, students are able to:</p> <ul style="list-style-type: none"> <li>• describe, apply and critically assess internal and external summative and formative means of evaluation as well as self-evaluation and external evaluation criteria</li> </ul>
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- appraise the contexts and conditions under which evaluations are performed and their intended and unintended effects, assess qualitative and quantitative indicators, and independently plan, implement and assess small-scale evaluation concepts.

**Module content:**

- Students will acquire the theoretical instruments needed to independently conduct quality determinations and quality assessments. Furthermore, students should be able to apply evaluation criteria in a critical and judicious manner.

**Additional information:**

## Modules in the compulsory electives section 'High-Performance Sport'

### Specialist modules

#### Module: Medicine and exercise physiology in high-performance sport

Medicine and exercise physiology in high-performance sport					Abbr.: Med
<b>Recommended study semester(s)</b> 1-2	<b>Normally completed no later than semester</b> 2	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 8	<b>ECTS credits</b> 20

<b>Module coordinator</b>	Univ.-Prof. Dr. Tim Meyer
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Specialist module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Athletes' musculoskeletal assessment; 2 hrs/wk, 5 credits S. Advanced exercise physiology and sport medical care; 2 hrs/wk, 5 credits S. Injury mechanisms, screening and prevention in high-perf. sport; 2 hrs/wk, 5 credits S. Mechanisms of training adaptation; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	Module element assessments: Cognitive competence tests (graded) Preliminary assessments
<b>Student workload</b>	Total: 600 hours <u>Contact teaching time:</u> Seminars: 120 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 480 hours
<b>Marking/grading information</b>	The grade awarded for the module is determined from the results of the module element assessments.

<b>Learning outcomes/skills:</b>
<p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have an understanding of the typical acute injuries and overuse injuries in sport, including their causes, the risk factors involved and how they can be prevented based on the available scientific evidence</li> </ul>

- be acquainted with the typical injury screening procedures used in sports, e.g. functional movement screenings (jump performance, power tests, mobility/agility analyses) based on the available scientific evidence
- understand the general principles underlying sport injury prevention, injury rehabilitation and post-injury 'return-to-play' programmes based on the available scientific evidence
- be acquainted with the physiotherapeutic and physical procedures commonly used in sport and have an appreciation of the supporting scientific evidence
- have a thorough understanding of the physiological processes during the different kinds of mechanical loading in sport and of the underlying molecular/biochemical mechanisms
- be acquainted with the typical medical problems affecting elite athletes and understand the importance of an appropriate evidence-based approach to such problems
- have a fundamental appreciation of the diversity of training adaptation mechanisms in elite and professional sport and understand the biological background
- understand the factors that influence adaptation processes and their mode of action
- appreciate interindividual variability in responses to training stimuli.

After completing this module, students are able to:

- compile a case history of an elite athlete, focusing particularly on the musculoskeletal system
- analyse joints, muscles and body parts both individually and in the context of a specific functional or kinematic chain
- identify typical sports injuries and, working in conjunction with the medical team, know how to treat and manage them, including the compilation and management of prevention, rehabilitation and return-to-play plans
- estimate and explain the health consequences of specific constellations of high-performance sport
- modify training programmes to accommodate changes in physiological and pathological circumstances, e.g. as a result of a sport injury
- describe and record the modifications to a training programme as a multi-factor process
- identify the potential benefits and limits from individually optimizing training efficacy.

**Module content:**

- Aetiology, symptomatology and therapy of typical sport injuries
- Screening and testing procedures and physiotherapeutic and sport therapy measures for treating sport injuries
- Basic principles of prevention, rehabilitation and return-to-play programmes within a multidisciplinary team
- Special aspects of the activities of elite-sports medical teams
- The limits of adaptation mechanisms in elite athletes and organ pathologies specific to high-performance sport
- Molecular and cellular aspects of the training stimulus
- Biological fundamentals of cellular adaptation mechanisms (particularly, fundamental aspects of signal transduction and protein expression)
- Performance physiology details of the effects of training

- Non-intrinsic factors and their influence on training-induced adaptation mechanisms

**Additional information:**

The seminar 'Injury mechanisms, screening and prevention' may only be taken after successful completion of the seminar 'Athletes' musculoskeletal assessment'.

**Module: Socio-economics of elite sports**

<b>Socio-economics of elite sports</b>					<b>Abbr.: Eco</b>
<b>Recommended study semester(s)</b> 1-2	<b>Normally completed no later than semester</b> 2	<b>Offered yearly</b>	<b>Duration 2 semesters</b>	<b>hrs/wk</b> 8	<b>ECTS credits</b> 20

<b>Module coordinator</b>	Univ.-Prof. Dr. Eike Emrich
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Specialist module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. International socio-economics in high-perf. sport; 2 hrs/wk, 5 credits S. Doping world-wide: Current situation and reasons; 2 hrs/wk, 5 credits S. Doping prevention and education – an international task; 2 hrs/wk, 5 credits S. Advanced research methods and statistics; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	Module element assessments: Cognitive competence tests (graded) Preliminary assessments
<b>Student workload</b>	Total: 600 hours <u>Contact teaching time:</u> Seminars: 120 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 480 hours
<b>Marking/grading information</b>	The grade awarded for the module is calculated from the results of the module element assessments.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a basic understanding of the mode of action and especially the unwanted adverse effects of the substances and methods in the Prohibited List and will be acquainted with the principles of anti-doping analytical testing</li> <li>• be acquainted with the commonly cited causes of the manifestly apparent abuse of prohibited substances and methods</li> <li>• have a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of anti-doping measures</li> </ul>
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- have a systematic overview of current organizational theory (organizations as rational, natural and open systems)
- understand the principles of recruitment, personnel management and HR administration
- be acquainted with the international regulatory framework governing associations and federations.

After completing this module, students are able to:

- describe the current situation regarding doping in sport, apply the factual knowledge acquired to current cases and critically reflect upon the situations in which doping occurs
- plan, implement and evaluate doping prevention strategies
- formulate complex queries of large datasets or compile comparable data surveys and carry out the subsequent statistical analyses.

**Module content:**

- Methods of drug testing in sport (blood vs. urine)
- Mechanisms and unwanted adverse effects of substances and methods in the Prohibited List
- Dependencies and networks of relationships of athletes involved in doping
- Interactions between the factors that potentially motivate doping in athletes; Extent of doping in amateur/recreational sports and in professional/elite sports; Evaluating the use of performance-enhancing drugs from the perspective of sports law and from a general legal point of view
- Institutional economics and the new institutionalism in sociology
- Problems of efficiency and effectiveness within organizations and international networks
- Management and evaluation theory
- Advanced methods and analytical techniques and their application using statistical software (e.g. R or SPSS)

**Additional information:**

**Module: Strength and conditioning in high-performance sport**

<b>Strength and conditioning in high-performance sport</b>					<b>Abbr.: Streng</b>
<b>Recommended study semester(s)</b> 1-2	<b>Normally completed no later than semester</b> 2	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 8	<b>ECTS credits</b> 20

<b>Module coordinator</b>	Univ.-Prof. Dr. Stefan Panzer
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Specialist module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Biomechanics of strength and conditioning I; 2 hrs/wk, 5 credits S. Biomechanics of strength and conditioning II; 2 hrs/wk, 5 credits S. Training programmes in high-perf. sports; 2 hrs/wk, 5 credits S. Training and monitoring processes in an international context; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	Module element assessments: Cognitive competence tests (graded) Preliminary assessments
<b>Student workload</b>	Total: 600 hours <u>Contact teaching time:</u> Seminars: 120 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 480 hours
<b>Marking/grading information</b>	The grade awarded for the module is calculated from the results of the module element assessments.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have an understanding of force and movement from a biomechanical perspective</li> <li>• have a fuller appreciation of the basic principles of training science and deeper insight into special aspects of training science in different types of sport in an international context</li> <li>• understand the acute and chronic effects that different training methods can have on physiological functions and processes (performance enhancement and fatigue)</li> </ul>
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- have acquired a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of the different training methods used in elite sports to improve the conditions required for enhanced physical performance
- have a systematic overview of the methods used in movement and performance diagnostics in different areas of high-performance sports (optimization of technique, equipment-based methods, preventive and rehabilitation aspects).

After completing this module, students are able to:

- describe, measure and evaluate biomechanical parameters (kinematics and dynamics)
- describe, apply and critically assess the different means and methods of training used in different types of sport
- plan, implement and evaluate training programmes with specific performance targets in different seasonal cycles.

**Module content:**

- Methods of measurement, analysis and evaluation of biomechanical parameters (kinematics and dynamics)
- Principles of biomechanics
- General and special training science
- Physiological and morphological principles of performance and fatigue
- Training the physiological conditions for enhanced performance
- Principles and theories of training
- Structuring, planning and implementing training programmes
- Procedures for the short-term, medium-term and long-term control of training outcomes
- Assessment of training methods: evaluation and critical reflection
- Methodology and theoretical development of training science

**Additional information:**

**Module: Sport psychology in elite environments**

<b>Sport psychology in elite environments</b>					<b>Abbr.: Psych</b>
<b>Recommended study semester(s)</b> 1-2	<b>Normally completed no later than semester</b> 2	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 8	<b>ECTS credits</b> 20

<b>Module coordinator</b>	Univ.-Prof. Dr. Sabine Schäfer-Cerasari
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Specialist module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Coaching, communication and stress management; 2 hrs/wk, 5 credits S. Skill acquisition in motor and cognitive domains; 2 hrs/wk, 5 credits S. Elite performance in different life domains; 2 hrs/wk, 5 credits S. Career transitions in professional sport in a global world; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	Module element assessments: Cognitive competence tests (graded) Preliminary assessments
<b>Student workload</b>	Total: 600 hours <u>Contact teaching time:</u> Seminars: 120 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 480 hours
<b>Marking/grading information</b>	The grade awarded for the module is calculated from the results of the module element assessments.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a fundamental appreciation of theories of communication and understand the significance of emotional/relational aspects in communication: content and relational levels of meaning</li> <li>• have a deeper understanding of conversation strategies and of questioning and negotiating techniques</li> <li>• be acquainted with the theoretical foundations of a range of psychological interventions: behavioural therapy, psychoanalysis, forms of cognitive therapy, systemic approaches</li> </ul>
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- have a thorough grounding in the commonalities and differences between motor learning and cognitive learning processes
- have a good overview of the research relating to expert knowledge in the field of high-performance sport and to other highly qualified areas of activity
- have a good understanding of research findings concerning critical life events and how they can be overcome.

After completing this module, students are able to:

- deal with culturally grounded differences in communicative behaviour in a professional and empathetic manner
- respond to the individual needs of clients when planning and implementing interventions
- optimize motor learning and cognitive learning processes while taking account of the learner's psychological state
- provide professional support and assistance to elite athletes dealing with critical life events such as serious injuries or the end of their careers

**Module content:**

- Theories of communication
- Theories and findings relating to cognitive and motor learning
- Selected research findings concerning critical life events and how they can be overcome
- Findings from expertise research
- Discussion of the implications of theories and scientific findings for practical applications

**Additional information:**

**Supplementary modules and freely selectable electives**

**Module: Talent identification and development**

Talent identification and development					Abbr.: Talent
Recommended study semester(s) 3-4	Normally completed no later than semester 4	Offered yearly	Duration 2 semesters	hrs/wk 4	ECTS credits 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Eike Emrich
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Talent identification and development in an international context: 2 hrs/wk, 5 credits S. Sport structures and regulations – international perspectives; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Cognitive competence test (ungraded) Preliminary assessments
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminars: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 240 hours
<b>Marking/grading information</b>	This module is ungraded.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• understand the problems of defining and interpreting the concept of 'talent'</li> <li>• have acquired a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of talent identification and talent development in national and international settings.</li> </ul> <p>After completing this module, students are able to:</p> <ul style="list-style-type: none"> <li>• describe and critically assess national and international talent identification and development schemes</li> <li>• plan, implement and evaluate a strategy for talent identification and development.</li> </ul>
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<b>Module content:</b>
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- The concept of talent from an interdisciplinary perspective
- National and international sports talent search and support schemes
- Working at Olympic training bases and at schools with elite sport development programmes
- Institutions and facilities that promote and support high-performance sports

**Additional information:**

**Module: Recovery management in high-performance sport**

Recovery management in high-performance sport					Abbr.: Rec
<b>Recommended study semester(s)</b> 3-4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration 2 semesters</b>	<b>hrs/wk</b> 4	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Tim Meyer
<b>Teaching staff</b>	Dr. phil. Sabrina Skorski, Dr. phil. Sascha Schwindling and other members of the Department of Sports and Preventive Medicine
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Recovery management and monitoring; 2 hrs/wk, 5 credits S. Recovery strategies in different contexts and sports; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Cognitive competence test (graded) Preliminary assessments
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminars: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 240 hours
<b>Marking/grading information</b>	The grade awarded for the module is that achieved in the end-of-module examination.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• understand the physiological principles of fatigue and recovery both after and between bouts of physical exertion</li> <li>• be acquainted with the internationally recognized and scientifically established methods of measuring fatigue and recovery</li> <li>• have the knowledge required to incorporate short- and long-term recovery techniques into athlete training plans</li> <li>• have acquired a deeper understanding of different recovery methods, their practical application in an international context (case studies) and their use in carefully managed sport training programmes.</li> </ul> <p>After completing this module, students are able to:</p> <ul style="list-style-type: none"> <li>• assess the significance of regeneration in the training process</li> </ul>
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- apply internationally recognized and scientifically established methods of measuring the need for recovery in specific situations and for different types of sport
- plan and implement recovery techniques in a manner appropriate for the training regimes used by elite and professional athletes
- identify and quantify insufficient recovery or heightened fatigue and introduce methods that can rectify these deficits
- apply recognized recovery strategies that are appropriate to the specific sport and the prevailing situation.

**Module content:**

- The scientifically established basis of internationally recognized methods of determining recovery and fatigue in high-performance sport
- Recovery indicators, their quality and their appropriate deployment within the context of international training and competition
- The physiological background to and differentiation between short-term and long-term recovery
- Recovery as a component of training regimes in an international context
- Practical application and management of recovery strategies
- Sport-specific case studies in an international setting

**Additional information:**

The seminar 'Recovery strategies' may only be taken after successful completion of the seminar 'Recovery management and monitoring'.

**Module: Applied practice in coaching, planning and monitoring in high-performance sport**

<b>Applied practice in coaching, planning and monitoring in high-performance sport</b>					<b>Abbr.: ApplPrac</b>
<b>Recommended study semester(s)</b> 3-4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 4	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Tim Meyer
<b>Teaching staff</b>	Ten trainers / sport scientists / athletes
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. Coaching the elite athlete: international experiences; 2 hrs/wk, 5 credits S. Placement project in the high-performance environment; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Cognitive competence test (ungraded) Preliminary assessments
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminars: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 240 hours
<b>Marking/grading information</b>	The grade awarded for the module is that awarded for the seminar assessment.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have an understanding of the training, coaching and monitoring methods used in international elite sports, an appreciation of their physiological and psychological foundations and insight into short-term and long-term training and coaching plans for different sports and in different cultures</li> <li>• have a deeper technical understanding of different training and coaching regimes, their practical application in international settings (e.g. through work shadowing) and the targeted inclusion of sport-specific forms of training into the training process</li> <li>• appreciate the stresses and strains that international elite athletes are subject to in their day-to-day training regimes.</li> </ul> <p>After completing this module, students are able to:</p>
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- assess the significance of different training and coaching strategies for an athlete's training programme and for performance enhancement in an international context while giving due consideration to intercultural factors
- plan and organize the short-term and long-term training programme for an elite athlete
- conduct individual elite-level training sessions as trainer/coach and provide guidance and instruction to individual athletes (work shadowing).

**Module content:**

- Theoretical foundations of training and coaching elite athletes in an international context
- Planning of short-term and long-term training and coaching programmes in international high-performance sport
- Practical implementation and monitoring/management of elite-level training sessions
- Insight into the day-to-day work of sports trainers/coaches and elite athletes
- Sport-specific case studies

**Additional information:**

**Module: Training the endurance athlete**

<b>Training the endurance athlete</b>					<b>Abbr.: TraiEnd</b>
<b>Recommended study semester(s)</b> 3-4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 4	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Tim Meyer
<b>Teaching staff</b>	Dr. phil. Sabrina Skorski, Dr. phil. Sascha Schwindling
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. The science of endurance training and performance; 2 hrs/wk, 5 credits S. Planning and monitoring the athlete's training response; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Cognitive competence test (graded) Preliminary assessments
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminars: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 240 hours
<b>Marking/grading information</b>	The grade awarded for the module is that achieved in the end-of-module examination.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have extensive knowledge of the physiology of endurance performance</li> <li>• an appreciation of the factors that determine performance in endurance sports</li> <li>• be able to assess endurance performance</li> <li>• have a comprehensive understanding of training recommendations</li> <li>• be able to apply training monitoring procedures in practice</li> <li>• know about nutritional recommendations in endurance sports</li> <li>• have an appreciation of the psychological determinants of endurance performance</li> <li>• know about typical injuries in endurance sports</li> <li>• be acquainted with special and additional types of training and how they affect endurance performance and adaptation processes.</li> </ul> <p>After completing this module, students are able to:</p>
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- independently develop and evaluate different forms of training and coaching across a range of performance levels and age groups with the aim of achieving either short-term training goals or long-term improvements in performance
- assess and evaluate endurance performance and changes in endurance performance.

**Module content:**

- Advanced study of the theoretical foundations of the physiology and psychology of endurance performance and endurance training
- Development, practical implementation and evaluation of training concepts including training monitoring in endurance sports

**Additional information:**

**Module: Science and medicine in football**

<b>Science and medicine in football</b>					<b>Abbr.: SciMedFoot</b>
<b>Recommended study semester(s)</b> 4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 4	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Tim Meyer
<b>Teaching staff</b>	Prof. Meyer, PhD students, members of the Department of Sports and Preventive Medicine
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport', may also be attended by students on other degree programmes
<b>Teaching and learning formats / Hours per week</b>	S. Football science; 2 hrs/wk, 5 credits S. Current questions in international football; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	Students should attend the two seminars in the same semester
<b>Student assessments/examinations</b>	Seminar presentations
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminars: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminars: 240 hours
<b>Marking/grading information</b>	The grade awarded for the module is determined from the grades achieved in the seminar presentations.

<p><b>Learning outcomes/skills:</b>                  Students should</p> <ul style="list-style-type: none"> <li>• have a sound knowledge of the interaction between physiology, health and football, understand its current issues, locally and internationally, and know how to apply this knowledge within a health-related context</li> <li>• analyse, plan, develop and conduct training programmes and performance diagnostic tools for specific players and/or situations in football</li> <li>• have a comprehensive understanding of football science and health-related literature</li> <li>• understand the specificity of football-related questions compared to those concerning other team sports</li> <li>• engage in independent learning by adapting to new ideas and ways of thinking and be able to critically analyse issues.</li> </ul>
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<b>Module content:</b>
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- Hot topics in football research
- Current methods of quantifying physical-loading training regimes for professional footballers during the in-season phase and identification of those methods most appropriate for preventing injuries
- The most important match parameters ('key performance indicators') in professional football and how they can be interpreted in light of different tactical approaches or match situations
- Currently used training methods and how these can improve both individual and team performances
- Current methods of how football players can be prepared for congested playing schedules, domestic or international travel and different environmental conditions
- The most effective recovery methods used by elite clubs during both the pre-season and in-season periods
- What is the epidemiology of injuries in professional football? Analyse the evidence and situations as to why these injuries occur and how they could be prevented by the use of injury-prevention tools (i.e. screening procedures, specified exercise regimes)
- Evolution (across time) of the game characteristics of female professional football and how training and coaching differs from male football
- Comparison of current 'football intervention for health strategies' across both male and female populations
- Current 'soccer-specific' performance testing. Are these tests actually specific to aspects of football?
- Analysis of current pathways used in talent identification strategies and specifically in youth football
- Training approaches: possible influences of psychological stressors in football, when these might arise and how these skills could be improved
- Possible effects of doping on football performance; Discussing the stigma of doping and recent case studies from international football.

**Additional information:**

**Module: Sports nutrition**

<b>Sports nutrition</b>					<b>Abbr.: Nutr.</b>
<b>Recommended study semester(s)</b> 3	<b>Normally completed no later than semester</b> 3	<b>Offered yearly</b>	<b>Duration 2 semesters</b>	<b>hrs/wk</b> 2	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Tim Meyer
<b>Teaching staff</b>	One member of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. International questions in elite sports nutrition; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	S. Sports nutrition – seminar paper (ungraded)
<b>Student workload</b>	Total: 150 hours <u>Contact teaching time:</u> Seminar: 30 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminar: 120 hours
<b>Marking/grading information</b>	This module is ungraded.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a fuller understanding of international recommendations on sports nutrition and energy delivery in sport</li> <li>• appreciate how nutrition and sport performance are linked</li> <li>• have acquired a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of dietetics in high-performance sport.</li> </ul> <p>After completing this module, students are able to:</p> <ul style="list-style-type: none"> <li>• describe, apply and critically assess different forms of diet and nutrition in a variety of sports while taking account of cultural differences</li> <li>• design, implement and evaluate dietary programmes for specific purposes or to meet specific objectives in different seasonal cycles.</li> </ul>
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<p><b>Module content:</b></p> <ul style="list-style-type: none"> <li>• General nutritional science / dietetics</li> <li>• The physiological foundations of nutrition and energy delivery in sport</li> </ul>
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- How nutrition influences sporting performance
- Nutritional and diet-related problems in international elite sports

**Additional information:**

**Module: Physical exercise and measurement**

<b>Physical exercise and measurement</b>					<b>Abbr.: PhysEx.</b>
<b>Recommended study semester(s)</b> 3-4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration</b> 2 semesters	<b>hrs/wk</b> 4	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Stefan Panzer
<b>Teaching staff</b>	Two members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. International performance analysis and diagnostics; 2 hrs/wk, 5 credits S. Testing the elite athlete: a global perspective; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Cognitive competence test (graded)
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminar: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminar: 240 hours
<b>Marking/grading information</b>	The grade awarded for the module is that achieved in the end-of-module examination.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a fuller appreciation of the basic principles of training science and deeper insight into special aspects of training science in different types of sport</li> <li>• understand the acute and chronic effects that different training methods can have on physiological functions and processes (performance enhancement and fatigue)</li> <li>• have acquired a systematic overview of the subject matter, methods and principles as well as the problems and areas of application of the different training methods used in elite sports to improve the conditions required for enhanced physical performance.</li> </ul> <p>After completing this module, students are able to:</p> <ul style="list-style-type: none"> <li>• describe, apply and critically assess the different means and methods of training used in different types of sport</li> </ul>
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- plan, implement and evaluate training programmes with specific performance targets in different seasonal cycles.

**Module content:**

- General and special training science
- Physiological and morphological principles of performance and fatigue
- Training the physiological conditions for enhanced performance
- Principles and theories of training
- Structuring, planning and implementing training programmes
- Procedures for the short-term, medium-term and long-term control of training outcomes
- Assessment of training methods: evaluation and critical reflection
- Methodology and theoretical development of training science

**Additional information:**

**Module: Diagnostics and training in sport psychology**

<b>Diagnostics and training in sport psychology</b>					<b>Abbr.: DiaTr.</b>
<b>Recommended study semester(s)</b> 3-4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration 2 semesters</b>	<b>hrs/wk</b> 4	<b>ECTS credits</b> 5

<b>Module coordinator</b>	Univ.-Prof. Dr. Sabine Schäfer-Cerasari
<b>Teaching staff</b>	Two members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Supplementary module or freely selectable elective in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	S. International diagnostics in psychology; 2 hrs/wk, 5 credits S. Current challenges in sport psychology during training and competition; 2 hrs/wk, 5 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	End-of-module exam: Cognitive competence test (graded)
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Seminar: 60 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Seminar: 240 hours
<b>Marking/grading information</b>	The grade awarded for the module is that achieved in the end-of-module examination.

<p><b>Learning outcomes/skills:</b></p> <p>After completing this module, students will:</p> <ul style="list-style-type: none"> <li>• have a systematic overview of the subject matter, methods, principles and problems of sport psychology</li> <li>• have acquired a basic understanding in the following areas: physiology, learning and memory, perception and attention, cognition, motivation, groups and teams, and leadership</li> <li>• have a deeper appreciation of psychological stress in sport, diagnostic strategies and methods, psychoregulative techniques and psychological coaching.</li> </ul> <p>After completing this module, students are able to:</p> <ul style="list-style-type: none"> <li>• describe the psychological demands of different types of sport and different sport situations</li> <li>• diagnose mental problems in training and competition</li> <li>• describe and critically assess psychological interventions</li> <li>• plan, implement and evaluate practical psychological interventions in both individual and team sports.</li> </ul>
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**Module content:**

- Diagnostic methods and techniques from a psychological perspective
- Performance optimization in sport
- Psychological techniques for regulating motivation in sport
- Psychological techniques of emotion regulation in sport
- Psychological techniques for optimizing motor control in sport (mental skills training)
- Team diagnostics
- Coaching

**Additional information:**

**Module: Work placement / internship / research project**

<b>Work placement / internship / research project</b>					<b>Abbr.: Intern</b>
<b>Recommended study semester(s)</b> 3	<b>Normally completed no later than semester</b> 3	<b>Offered yearly</b>	<b>Duration 1 semester</b>	<b>hrs/wk</b> 2	<b>ECTS credits</b> 10

<b>Module coordinator</b>	t.b.a.
<b>Teaching staff</b>	Four members of departmental teaching staff and short-term contract lecturers
<b>Type of module</b>	Specialist module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	P. Research project or a work placement / internship lasting at least four weeks; 10 credits
<b>Prerequisites</b>	None
<b>Student assessments/examinations</b>	Certificate issued by the company or organization hosting the work placement / internship or research project and a student report (ungraded).
<b>Student workload</b>	Total: 300 hours <u>Contact teaching time:</u> Work placement / internship / research project: 260 hours  <u>Preparatory and follow-up activities / Exercises / Assignments:</u> Work placement / internship / research project: 40 hours
<b>Marking/grading information</b>	This module is ungraded.

<p><b>Learning outcomes/skills:</b></p> <ul style="list-style-type: none"> <li>• Students who undertake a research project have the opportunity to tackle a specific question of scientific interest and thus learn about the advantages and disadvantages of carrying out in-depth scientific research.</li> <li>• The work on a research project should lead to the development of potentially relevant questions for a student's Master's thesis.</li> <li>• Students who undertake a work placement or internship will become acquainted with working in the international high-performance sport sector and thus learn about the advantages and disadvantages of working with elite athletes.</li> </ul>
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<p><b>Module content:</b></p> <ul style="list-style-type: none"> <li>• Participation in a specific research project in the field of sports science or sports medicine</li> <li>• Work placement / internship at a national or international facility for high-performance sport (e.g. working at a school with an elite sports development programme, at an Olympic training base or at international partner institution)</li> </ul>
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**Additional information:**

**Module: Master's Thesis**

<b>Master's thesis</b>					<b>Abbr.: Thesis</b>
<b>Recommended study semester(s)</b> 4	<b>Normally completed no later than semester</b> 4	<b>Offered yearly</b>	<b>Duration 1 semester</b>	<b>hrs/wk</b> 2	<b>ECTS credits</b> 20

<b>Module coordinator</b>	Univ.-Prof. Dr. Eike Emrich
<b>Teaching staff</b>	Four members of departmental teaching staff
<b>Type of module</b>	Compulsory module in the Master's degree programme 'High-Performance Sport'
<b>Teaching and learning formats / Hours per week</b>	
<b>Prerequisites</b>	
<b>Student assessments/examinations</b>	Master's thesis (graded)
<b>Student workload</b>	Total: 600 hours
<b>Marking/grading information</b>	The grade awarded for the module is that for the module element 'Master's thesis'

**Learning outcomes/skills:**

The Master's thesis is the final assignment that completes the Master's degree programme. Students are required to produce a written document (Master's thesis) in which they address a question of relevance in the field of sport science by applying the knowledge that they have acquired in a scientifically rigorous manner and by making appropriate use of the available scientific literature. The arguments and results are to be presented in a cogent and didactically sound manner that reflects a high level of scientific rigour.

**Additional information:**

## Tabular overview of the ECTS credits awarded

Module	ECTS credits	hrs/wk
<b>Mandatory section</b>		
Research design and analysis	10	4
Organization, evaluation and quality assessment	10	4
<b>Specialist modules</b>		
Socio-economics of elite sport	20	8
Medicine and physiology in high-performance sport	20	8
Strength and conditioning in high-performance sport	20	8
Sport psychology in elite environments	20	8
<b>Supplementary and freely selectable elective modules</b>		
Talent identification and development	10	4
Applied practice in coaching, planning and monitoring in high-perf. sport	10	4
Science and medicine in football	5	3
Physical exercise and measurement	4	10
Diagnostics and training in sport psychology	4	10
Work placement / internship / research project	10	2
Master's Thesis	20	2