Regulations for the International Master's / Doctoral Program in Clinical Exercise Science (CES) at the Faculty of Human Sciences at the University of Potsdam

Dated February 15, 2017

The Faculty Council of the Human Sciences Faculty at the University of Potsdam has approved on February 15, 2017, the following study and examination regulations, on the basis of Section 19 subsections 1 and 2, Section 22 subsection 2 no. 2 of the Brandenburg Higher Education Act of April 28, 2014 (Law and Ordinance Gazette (GVBl.) I/14, [no. 18]), last amended by Article 2 of the law of July 1, 2015 (GVBl. I/15 [no. 18]) in combination with the Ordinance on the Design of Examination Regulations to Guarantee the Equivalency of Studies, Examinations, and Degrees (University Examination Ordinance - HSPV) of March 4, 2015 (GVBl. II/15 [no. 12]) and with Article 21 subsection 2 no. 1 of the Basic Constitution of the University of Potsdam (GrundO) of December 17, 2009 (Bulletin UP no. 4/2010 p. 60) in the Third Amended Version of the Basic Constitution of the University of Potsdam (GrundO) of April 22, 2015 (Bulletin UP no. 6/2015 p. 235) and Section 1 subsection 2 of the new version of the General Admission Regulations for Master's Degree Programs at the University of Potsdam not related to teacher education of January 30, 2013 (BAMA-O) (Bulletin UP no. 3/2013, p. 35), last amended on February 15, 2016 (Bulletin UP 7/2016, p. 560)[1]:

Table of Contents

§ 1 Applicability

(1) These regulations apply to the master's degree in *Clinical Exercise Science* at the University of Potsdam.These subject-specific regulations supplement the master's regulations in the new version of the General Regulations for Study and Examinations for Bachelor's and Master's Degrees (not for teachers in training) at the University of Potsdam (BAMA-O). In the event that these regulations contradict the BAMA-O, then the provisions in the BAMA-O supersede these regulations.

(2) These regulations also apply to the Ph.D. program in *Clinical Exercise Science* at the University of Potsdam. The provisions related to the doctoral program supplement the regulations for a doctoral degree at the Faculty of Human Sciences at the University of Potsdam dated May 15, 2013, and govern the content, structure and examinations of the integrated International Master's and Doctoral Program in Clinical Exercise Science (CES).

§ 2 Program Objectives

(1) The program's objective is to continue professional preparation, in a manner oriented towards clinical experience and research, for leading scholarly activities in the application of physical activity in sports and medicine with a focus on prevention and rehabilitation. Distinctions are drawn between clinical applications with patients and applications in fitness and exercise, recreational sports and elite sports. In the process, program participants deepen and expand the knowledge, skills and facilities gained in a previous bachelor's degree or other degree program in a relevant field. This includes the theoretical, methodological and experimental foundations for scientific work, and promotes the ability to work in fields related to research and teaching.

§ 3 Structure and Duration of the Program

(1) The master's / doctoral program is divided into two segments: a two-year research-oriented master's degree (first to fourth semester) and a doctoral program.

(2) The master's program in Clinical Exercise Science is offered at the University of Potsdam as a

[1] Approved by the President of the University of Potsdam on March 28, 2017.

single-discipline program with a standard period of study (full-time) of 4 semesters and 120 credit points (CP).

(3) Doctoral studies in Clinical Exercise Science can follow directly after the master's degree and can be completed within 8 semesters, including the time spent on the master's degree, and a total of 240 credit points

§ 4 Part-time Studies

The master's / doctoral program in Clinical Exercise Science is not suited for part-time studies.

§ 5 Examining Board

(1) The Faculty of Human Sciences has established a Clinical Exercise Science (CES) Examining Board to organize and supervise teaching and examinations.

(2) The Board consists of five members: three members taken from among the university instructors; a member of the postdoctoral research team; and a member from the ranks of the program participants, who is chosen from the master's or doctoral program depending on the topics that will have to be dealt with.

(3) The Examining Board makes decisions about such issues as the selection of applicants for the master's phase and for the doctoral phase.

(4) The Examining Board coordinates student advising, in which university instructors also participate.

(5) Six months after beginning the second phase of the doctoral program, at the latest, the Examining Board shall appoint, after consultation with the doctoral student, a supervisor who holds a Habilitation or its equivalent, along with at least one additional university instructor from the program, to supervise the doctoral project. In justified cases, this work can be done under the supervision of two university instructors from outside the University of Potsdam.

(6) The Examining Board ensures the conduct of examinations. The members of the Board have the right to participate as observers in the examination.

§ 6 Repeating Examinations

In order to repeat an examination that is directly affiliated with a specific course requires taking the course again and participating in the course.

§ 7 Modules and the Course of the Master's Program
Master's Degree Program

(1) The master's degree in Clinical Exercise Science is comprised of the following components:

Master's Degree		
Module Abbreviation	**Name of Module**	**CP**
I. Mandatory modules (90 CP)		
BM-SME	Basic Module: Scientific Methods & Evaluation	12
BM-EPR	Basic Module: Exercise in Prevention and Rehabilitation	12
BM-AS	Basic Module: Applied Science	12
AM-SME	Advanced Module Scientific Methods and Evaluation	12
AM-EPR	Advanced Module: Exercise in Prevention and Rehabilitation	12
BM-SK	Basic Module: Scientific Skills	12
AM-AS	Advanced Module: Applied Science	18
II. Master's Thesis		30
Total		120

(2) The language of instruction in the Clinical Exercise Science program is English.

(3) The descriptions of the modules named in Article 1 are provided in Appendix 1: Module Catalog for the Master's Program and are appended to these Regulations.

(4) Sample degree progress plans for the master's degree are provided in Appendix 3A of these regulations.

§ 8 Master's Thesis

(1) As soon as the student has completed at least 72 credit points, he or she must immediately propose a topic for his/her master's thesis.

(2) The master's thesis, including the oral defense, is equivalent to 30 credit points.

(3) The master's thesis is written in English; this is a departure from Section 30 subsection 12 of BAMA-O.

(4) After consultation with the Examining Board, students can choose to submit a scholarly manuscript for publication at a peer-reviewed journal

instead of preparing a master's thesis. The manuscript must be submitted within the program's timeframe at the University of Potsdam. Acceptance of the manuscript for publication in a scientific journal is not required.

(5) The master's thesis is scholarly work performed in the context of an independent project under the supervision of a university instructor in the master's / doctoral program. The master's thesis must include an appendix with a brief summary in German.

(6) Students can complete experimental parts of the master's thesis at an external institution upon approval from the Examining Board. The Examining Board ensures that the partnering institution offers appropriate supervision for the program participant.

§ 9 Master's Degree

The Faculty of Human Sciences at the University of Potsdam awards the degree of "Master of Science" ("M.Sc.") to students who have completed the necessary credit points and graduation requirements.

§ 10 Admission to the Doctoral Phase

(1) Both students from the master's program of the International Master's / Ph.D. program in CES, as well as graduates from the master's program of the International Master's / Ph.D. program in CES, can be admitted to the doctoral phase. Furthermore, it is also possible for external applicants to be admitted to doctoral studies (see subsection 5).

(2) Students in the master's degree program in the International Master's / Ph.D. program in CES can apply in the re-registration period in the third semester to switch in the fourth semester to the doctoral program. Such applicants must fulfill the following requirements:

a) proof of completion of the mandatory modules of Section 8 (72 credit points),
b) proof of registration for the other modules (18 CP),
c) registration of the master's thesis under Section 30 of the BAMA-O by the end of the third semester,
d) very good or good grades (an average grade point average of B or 2.3) in previous studies[2][2]
e) Academic aptitude

[2] Students in the master's degree program, in the context of the international master's / Ph.D. program in CES, who have earned an average module grade below B (or higher than 2.3) in the first joint program segment, will typically receive a recommendation to continue the master's program (second segment). The Examining Board shall render decisions about exceptions upon application.

(3) Orientation discussions will be conducted with interested students (in the middle of the third semester) regarding the assessment of academic aptitude in accordance with subsection 2. The objective of these discussions is to evaluate the student's motivation to perform research work as well as their foundational knowledge of scientific methodologies that are indispensable for the field. A possible research subject for a dissertation will be determined. On the basis of the orientation discussion and academic performance thus far, a recommendation for admission to the doctoral program will be made to the Examining Board.

(4) In the event that a student switches to the doctoral program, the mandatory modules completed in the master's degree program (90 CP) will be applied to the doctoral program. The switch into the doctoral program does not affect the announcement of the master's thesis. When this switch is made, the master's thesis contents identified in Section 8 must be replaced by a publication that has been submitted to a peer-reviewed scholarly journal and that lists the candidate as the primary author (Section 8 subsection 4). Otherwise, Section 30 of the BAMA-O applies. Under Section 8, after the master's thesis is accepted, and the oral defense passed, Section 9 applies accordingly. If the master's thesis is not accepted, it is only possible to repeat the master's thesis under Section 30 of the BAMA-O if the student switches from the doctoral program back to the master's degree program. In such cases, a transition back to the doctoral program is prohibited.

(5) Graduates from the master's degree program in the International Master's / Ph.D. program in CES, and external applicants, can be admitted directly to the doctoral program if they meet the following requirements:

a) Completion of a university degree in a subject related to prevention and rehabilitation in sports and medicine, or related fields under Section 3 (a) of the subject-specific admission regulations; the degree must have been completed within the standard time for completing a degree program (at least four years), with a degree higher than a bachelor's degree, with very good or good grades (at least B or 2.3). At least half of the credit points completed must be related to scientific methods and clinical exercise science.
b) English-language skills under Section 3 (b) of the subject-specific admission regulations for master's studies in the International Master's / Ph.D. program in Clinical Exercise Science.
c) A positive result from the orientation discussion.

(6) The conclusion of a doctoral studies agreement between a professor and an applicant is a requirement for being admitted directly to the Ph.D. pro-

gram. The specifics are governed by the applicable regulations for a doctoral degree.

§ 11 Module and Course of Studies in the Doctoral Phase

(1) The doctoral phase of the Clinical Exercise Science program is comprised of the following components, taking into account work already completed in the master's program:

Doctoral Phase		
Module Abbreviation	**Name of Module**	**CP**
I Mandatory Modules, 4th - 8th semester (70 credit points)		
QM-SW	Qualification Module: Scientific Writing	30
VM-AS	Advanced Module: Applied Science I	20
WM-SQ	Science Module: Scientific Qualification	20
II. Dissertation and Oral Defense		80*
Total CP for mandatory modules to be completed during the 4th to 8th semesters		70

* The master's thesis completed under Section 11 subsection 3 (30 CP)
is included in the 80 CP total.

(2) The language of instruction in the Clinical Exercise Science doctoral program is English.

(3) The descriptions of the modules named in subsection 1 are given in the Module Catalog in Appendix 2 of these Regulations.

(4) Sample degree progress plans for the doctoral phase are provided in Appendix 3 b) of these Regulations.

(5) This phase should be completed within three years.

§ 12 Dissertation

(1) 80 credit points will be awarded for the empirical work completed for the dissertation.

(2) The dissertation must be written in English. The dissertation must include an appendix with a brief summary in German.

(3) The dissertation can be composed as a monograph or as a publication-based dissertation.

(4) Section 7 subsection 4 of the regulations for a doctoral degree at the Faculty of Human Sciences applies for a publication-based dissertation. In addition, this form of dissertation requires a collection of at least three scholarly publications that have been accepted for publication at peer-reviewed professional journals. The doctoral candidate must appear as the lead author for these publications. This form of a doctoral degree requires the submission of a summary of the subject treated in these publications, and a general discussion, to the Examining Board. Upon submission, the student affirms that the work was completed independently, that no other sources or aids were used, other than those identified in the texts, and that the rules for scholarly practice were followed. The master's thesis completed under Section 12 subsection 3 (30 CP) is considered as one of the three scholarly publications.

(4) The Examining Board appoints three professors or qualified instructors as expert reviewers, including the supervisor of the student's work as well as at least one external reviewer who is not employed by the University of Potsdam. The evaluations must recommend, with explanation, the acceptance or rejection of the dissertation. In the event of acceptance, they will recommend a grade:

- A (*summa cum laude*): An excellent dissertation,
- B (*magna cum laude*): A very good dissertation,
- C (*cum laude*): A good dissertation,
- D (*rite*): A sufficient dissertation,
- F (*non sufficit*): An unsatisfactory dissertation that does not qualify for an oral defense.

(5) The dissertation defense is typically held in English. The dissertation defense is public. The defense is graded with the following designations:

- A (*summa cum laude*): An excellent dissertation defense,
- B (*magna cum laude*): A very good dissertation defense,
- C (*cum laude*): A good dissertation defense,
- D (*rite*): A sufficient dissertation defense,
- F (*non sufficit*): An unsatisfactory performance that does not qualify as an oral defense.

§ 13 Oral Defense

The oral defense in which students defend their dissertation is evaluated by an Examination Committee that is comprised of the Examining Board, the dissertation supervisor, and additional supervisors. If the Committee does not have a chairperson, then the chairperson of the Examining Board assumes the chair of the Examination Committee. If the chairperson of the Examining Board is also the primary dissertation supervisor, then the deputy chairperson shall assume the functions of the chairperson.

§ 14 Overall Grade, Degree, Doctoral Studies and Certificate

(1) The overall grade for the Ph.D. is comprised at a 2:1 ratio, of the evaluation of the dissertation and the oral examination, respectively.

(2) After
- Acquisition of credit points under Section 12 (at least 150 CP in the doctoral phase of the program),
- acceptance of the dissertation by the Examining Board,
- a successful oral defense, and publication of the dissertation

the Faculty of Human Sciences shall award the university degree, "Doctor of Philosophy" (abbreviated as "Ph.D.").

(3) The doctoral degree certificate is issued by the office of the president of the University of Potsdam and the dean of the Faculty of Human Sciences with the date of the oral defense in accordance with the regulations of the Faculty's currently applicable regulations for a doctoral degree.

(4) Candidates cannot use the title of "Doktor" before the certificate has been handed over.

(5) Participants who have not successfully completed the second phase of the dissertation, or who do not want to complete the doctoral degree, receive a Transcript of Records that documents the achievements they have completed. By switching back to the master's program, students can, upon application for recognition of achievements completed within the doctoral program, receive the title of M.Sc.

§ 15 Stay Abroad

We explicitly recommend that students complete a stay abroad during their studies. The third and/or fourth semester of the master's program are particularly well-suited for this. Otherwise, Section 16 of the BAMA-O applies. For the doctoral program, the fifth and/or sixth semester are particularly well-suited for a stay abroad.

§ 16 Application, Expiration and Transitional Provisions

(1) These regulations go into effect on October 1, 2017.

(2) These regulations apply to all students who enroll in the master's / Ph.D. program in CES at the University of Potsdam after these regulations go into effect.

(3) The subject-specific regulations for the master's / Ph.D. program in CES at the University of Potsdam of July 16, 2009, will become invalid on September 30, 2021. Upon application to the Examining Board, students and doctoral candidates who enrolled in the master's / Ph.D. program in CES before these regulations went into force can transfer into these regulations. Accomplishments completed during studies up to this date shall be recognized without disadvantage to the student.

Appendix 1: Module Catalog for the Master's Program

CES_BM-SME: Basic Module: Scientific Methods & Evaluation	Number of credit points (CP): 12 CP
Module type (mandatory or elective):	Mandatory module
Content and objective of module:	*Contents* - Theoretical scientific foundations for the planning of experiments - Study designs and hypotheses - Quality criteria and evaluation principles for testing procedures - Quality guidelines for scientific enquiry (GLP rules, CONSORT criteria) - Basic terminology for epidemiological studies - Quality criteria for scholarly journals (impact points, peer-review processes) - Literature databases (PubMed, ISI Web of Knowledge, Cochrane Library) - Locating literature (online access, interlibrary loan) - Systematic literature research - Literature administration software - Preparation of literature reviews - Presentation techniques, using the example of a literature review *Objectives* Participants will learn how to adequately plan the methods of scientific research projects and present scholarly subjects in an appropriate manner. They will become familiar with the relevance of basic scientific rules for the execution of research projects and will understand basic evaluation procedures. They will be able to perform independent research on the literature and administer their findings, as well as present summaries of the current state of research on a given subject.
Module examination (number, form, scope):	1 examination, 90 minutes
Independent study time (in hours):	315

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related module examination(s) (number, form, scope)
		For completing the module	For admission to the module exam	
Methods (lecture)	2	-	-	-
Literature & Presentation (Seminar)	2	1 Abstract 1 Presentation (20-30 minutes)	-	-

Offered:	Winter semester
Prerequisite for taking the module:	None
Teaching unit:	Sports science / medicine (incl. GP Sport)

CES_BM-EPR: Basic Module: Exercise in Prevention and Rehabilitation	Number of credit points (CP): 12 CP
Module type (mandatory or elective):	Mandatory module
Content and objective of module:	*Contents* - Foundations and terminology in prevention and rehabilitation - Significance and application of physical activity in prevention and rehabilitation - Epidemiology, etiology, pathophysiology, therapy and prognosis of illnesses affecting the musculoskeletal system - Epidemiology, etiology, pathophysiology, therapy and prognosis of illnesses affecting the cardiopulmonary system - Methods for evaluating the performance of cardiopulmonary system (including [spiro]ergometry) - Evaluation of muscular performance among healthy subjects and patients (including strength diagnostics, EMG, muscular function diagnosis) - Foundations of imaging diagnostics for patients - Qualitative evaluation methods (including subjective resilience, experience of pain) *Objectives* Participants will become familiar with the foundations of epidemiology, etiology and pathophysiology of musculoskeletal illnesses and diseases affecting the internal and sensory organs. Students will learn about concepts for using physical activity in the prevention and treatment of acute and chronic illnesses. They will master the use, assessment and appraisal of evaluation methods in diagnostics, as well as preventive and rehabilitative interventions for illnesses affecting the musculoskeletal system, the internal organs and the sensory organs. Students will have the ability to create and deliver scholarly presentations.
Module examination (number, form, scope):	1 examination, 90 minutes
Independent study time (in hours):	315

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Module examination (number, form, scope)
		For completing the module	For admission to the module exam	
Exercise Physiology I (lecture)	2	-	-	-
Test Procedures I (seminar)	2	1 Presentation (20-30 minutes)	-	-

Offered:	Winter semester
Prerequisite for taking the module:	None
Teaching unit:	Sports science / medicine (incl. GP Sport)

CES_BM-AS: Basic Module: Applied Science	Number of credit points (CP): 12 CP
Module type (mandatory or elective):	Mandatory module
Content and objective of module:	*Contents* - Work in clinical supervision projects involving patients and athletes - Empirical investigations of subjects from the field of diagnostic methods and therapeutic programs in prevention and rehabilitation, with supervision - Delivery of courses in the introductory study phase for bachelor's students, with supervision *Objectives* Participants will apply basic practical clinical abilities and skills pertaining to practical scholarly work. We will concentrate on the transfer of theoretical fundamentals into practice. Students will learn about the fundamentals of methodological, content-related and organizational principles in research and teaching. Furthermore, they will master communication language and techniques in a scholarly, clinical professional environment. They will expand their skills in the creation and presentation of scientific posters, based on their own research results. Moreover, students will learn how to write about their own research in scholarly publications.
Module examination (number, form, scope):	Course-related module (sub-)exams as follows:
Independent study time (in hours):	270

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related module examination(s) (number, form, scope)
		For completing the module	For admission to the module exam	
Applied Methods Project I: (project)	4	-	-	1 Poster (max. 2000 words)
Applied Methods Project II (project)	4	-	-	1 Project report (max. 4000 words)

Courses: Applied Methods Project I and Project II Elective option: MTT case studies, project work in studies, tutorial work, other fields, team player	
Offered:	Summer semester
Prerequisite for taking the module:	None
Teaching unit:	Sports science / medicine (incl. GP Sport)

CES_AM-SME Advanced Module: Scientific Methods & Evaluation	Number of credit points (CP): 12 CP
Module type (mandatory or elective):	Mandatory module
Content and objective of module:	*Contents* - Descriptive evaluation of data - Inferential statistics, parametric and non-parametric testing procedure - Selection of appropriate testing procedure - Presenting results in graphics, tables and text - Types of scientific articles - Organization of scientific articles - Reviews of scientific articles - Refereeing scientific articles *Objectives* Participants will master descriptive statistical procedures and inferential-statistical parametric and non-parametric testing procedure. They will be able to select appropriate testing procedures for specific questions and study designs and to develop solution options for special statistical issues. They will be able to produce and present scholarly posters based on their own research results. They will have the ability to create and deliver scholarly presentations.
Module examination (number, form, scope):	1 examination, 90 minutes
Independent study time (in hours):	315

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related module examination(s) (number, form, scope)
		For completing the module	For admission to the module exam	
Statistics (lecture)	2	1 Poster presentation (30 minutes)	-	-
Statistics & Papers (seminar)	2	1 Presentation (20 minutes)	-	-

Offered:	Summer semester
Prerequisite for taking the module:	We recommend Module BM-SME
Teaching unit(s):	Sports science / medicine (incl. GP Sport)

CES_AM-EPR Advanced Module: Exercise in Prevention and Rehabilitation	Number of credit points (CP): 12 CP
Module type (mandatory or elective):	Mandatory module
Content and objective of module:	*Contents* - Epidemiology, etiology, pathophysiology, therapy and prognosis of neurological illnesses - Epidemiology, etiology, pathophysiology, therapy and prognosis of illnesses affecting the internal organs and the sensory organs - Validated concepts for using physical activity in the prevention of acute and chronic illnesses - Evidence-based physical activity in the therapeutic treatment of acute and chronic illnesses - Methods for evaluating physical performance under laboratory and field conditions - Analysis and derivation of recommendations on intervention management from methods of determining physical performance - Simple and complex usage of experimental methods for differential diagnosis of limits on physical robustness - Quality assurance methods in preventive and therapeutic interventions *Objectives* The participants will familiarize themselves with the relevance of evidential bases and validation of programs for using physical activity in the prevention and treatment of acute and chronic illnesses. They will be able to assess the resilience and potential for adaption among healthy subjects and patients of various ages and different performance capacities. They will master the diagnosis-specific application of methods for evaluating physical performance. Students will expand their abilities in the context of preparing scholarly presentations. They will consolidate their presentation abilities and develop self-confidence in dealing with presenting their findings before junior scholars.
Module exam (number, form, scope):	1 examination, 90 minutes
Independent study time (in hours):	315

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related module examination(s) (number, form, scope)
		For completing the module	For admission to the module exam	
Exercise Physiology II (lecture)	2	-	-	-
Test Procedures II (seminar)	2	1 Presentation (20-30 minutes)	-	-

Offered:	Summer semester
Prerequisite for taking the module:	We recommend Module BM-EPR
Teaching unit(s):	Sports science / medicine (incl. GP Sport)

<table>
<tr><td colspan="3">CES_BM-SK: Basic Module: Scientific Skills</td><td colspan="2">Number of credit points (CP):
12 CP</td></tr>
<tr><td>Module type (mandatory or elective):</td><td colspan="4">Mandatory module</td></tr>
<tr><td>Content and objective of module:</td><td colspan="4">Contents
- Discussion of the latest research, including the preparation of a literature review
- Critical presentation of current studies (peer-reviewed) from international journals

Objectives
Participants will be able to rank, critically evaluate and discuss scholarly publications and current research results in the international literature. Students will expand their abilities in the context of preparing and delivering scholarly presentations. Furthermore, students will be able to summarize, in concise written form, the most important findings of their own research as well as the research of others.</td></tr>
<tr><td>Module exam (number, form, scope):</td><td colspan="4">Course-related module (sub-)exams as follows:</td></tr>
<tr><td>Independent study time (in hours):</td><td colspan="4">Journal Club: 180</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td rowspan="2">Courses (type of teaching)</td><td rowspan="2">Contact time (in semester hours)</td><td colspan="2">Supplementary exam work (number, form, scope)</td><td rowspan="2">Course-related module examination(s) (number, form, scope)</td></tr>
<tr><td>For completing the module</td><td>For admission to the module exam</td></tr>
<tr><td>Journal Club (seminar)</td><td>6</td><td>1 Written handout</td><td>-</td><td>1 Presentation (30 minutes)</td></tr>
<tr><td colspan="5">- Presentation of scholarly publications
- Write a literature review
- Moderation of a scientific discussion of literature</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="2">Offered:</td><td colspan="3">Winter semester</td></tr>
<tr><td colspan="2">Prerequisite for taking the module:</td><td colspan="3">None</td></tr>
<tr><td colspan="2">Teaching unit(s):</td><td colspan="3">Sports science / medicine (incl. GP Sport)</td></tr>
</table>

CES_AM-AS: Advanced Module: Applied Science	Number of credit points (CP): 18 CP
Module type (mandatory or elective):	Mandatory module
Content and objective of module:	*Contents* - Organization, performance and quality assurance of clinical supervision projects involving patients and athletes - Empirical investigations of subjects from the field of diagnostic methods and therapeutic programs in prevention and rehabilitation - Delivery of courses in the introductory study phase for bachelor's students *Objectives* Participants will apply practical clinical abilities and skills pertaining to practical scholarly work, acquired through theoretical study. Focus will be trained, on one hand, on the application of physical activity in medicine and sports in the context of prevention and rehabilitation among patients and athletes in fitness, recreational and elite sports. On the other hand, we will concentrate on the transfer of theoretical fundamentals into practice. Students will independently apply the fundamentals of methodological, content-related and organizational principles in research projects. Moreover, students will enhance their abilities and skills regarding the composition of scholarly publications on their own research activity, including their findings. Applied Methods "Project Work in Studies" includes the following content: Project planning, project performance and project evaluation / presentation. Elective options can also be selected.
Module exam (number, form, scope):	Course-related module (sub-)exams as follows:
Independent study time (in hours):	Applied Methods: 210

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related module examination(s) (number, form, scope)
		For completing the module	For admission to the module exam	
Applied Methods "Project Work in Studies" (project)		-	-	1 Project report (max. 4000 words)

Elective options:
- Team player
- Tutor activity
- Administration

Offered:	Winter semester
Prerequisite for taking the module:	BM-AS Module
Teaching unit(s):	Sports science / medicine (incl. GP Sport)

Appendix 2: Module Catalog for the Doctoral Program

<table>
<tr><td colspan="3">CES_QM-SW: Qualification Module in Scientific Writing</td><td colspan="3">Number of credit points (CP): 30 CP</td></tr>
<tr><td>Module type (mandatory or elective):</td><td colspan="5">Mandatory module</td></tr>
<tr><td>Content and objective of module:</td><td colspan="5">Contents
- Computer-assisted statistical analysis of own data in the context of recording measurement values during projects
- Independent composition of original work, from data that students have gathered themselves, that is fit to publish

Objectives
Participants will be able to interpret and summarize articles published in international journals and compare these findings with their own research and study results. Students will be able to analyze, properly and with the aid of statistics, data collected in studies, and summarize these findings in a manuscript fit for publication.</td></tr>
<tr><td>Module exam (number, form, scope):</td><td colspan="5">An ungraded scholarly manuscript, fit to publish, of a maximum of 5,000 words</td></tr>
<tr><td>Independent study time (in hours):</td><td colspan="5">810</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td rowspan="2">Courses (type of teaching)</td><td rowspan="2">Contact time (in semester hours)</td><td colspan="2">Supplementary exam work (number, form, scope)</td><td rowspan="2">Course-related module examination(s) (number, form, scope)</td></tr>
<tr><td>For completing the module</td><td>For admission to the module exam</td></tr>
<tr><td>Seminar: Publication
- Data analysis / preparation
- Discussion of research results
- Composition of a manuscript</td><td>2</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Scientific Writing (seminar)</td><td>2</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Advanced Statistics I (seminar)</td><td>2</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td colspan="2">Offered:</td><td colspan="4">Summer semester</td></tr>
<tr><td colspan="2">Prerequisite for taking the module:</td><td colspan="4">BM-AS Module</td></tr>
<tr><td colspan="2">Teaching unit(s):</td><td colspan="4">Sports science / medicine (incl. GP Sport)</td></tr>
</table>

CES_VM-AS: Advanced Module: Applied Science				Number of credit points (CP): 20 CP
Module type (mandatory or elective):	Mandatory module			
Content and objective of module:	*Contents* - Development of a research group with joint development of a research question - Evaluation of diagnostic methods and therapeutic programs in prevention and rehabilitation - Empirical investigations of subjects from the fields of diagnostic methods and/or therapeutic programs in prevention and rehabilitation *Objectives* Participants will deepen their skills and abilities in practical scholarly activities by participating in the organization and conduct of research projects. Priorities here are the transfer of theoretical foundations and practical enhancements, as well as the interweaving of methodologies, content, and organizational principles in research. Students will continually learn how to develop a scholarly research group in which collected data is discussed and published jointly. Students will be able to compose original scholarly work for publication in national and international peer-reviewed journals, as well as present the results of their own studies and research.			
Module examination (number, form, scope):	Ungraded achievements in the context of participation in a scholarly project with the production of: - a "trial" fit for publication (internal review process), - a final presentation in the form of a conference presentation (thematic poster symposium) - a manuscript fit for publication (in the sense of submission to a publication)			
Independent study time (in hours):	510.5			
Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related module examination(s) (number, form, scope)
		For completing the module	For admission to the module exam	
Applied Methods "Team Player" - Establishment of a research group - Data analysis and discussion within a research group - Production of project reports	6 2 (2) (2)	-	-	-
Offered:	Winter and summer semester			
Prerequisite for taking the module:	BM-AS Module			
Teaching unit(s):	Sports science / medicine (incl. GP Sport)			

<table>
<tr><td colspan="3">CES_WM-SQ: Science Module: Scientific Qualification</td><td colspan="2">Number of credit points (CP): 20 CP</td></tr>
<tr><td>Module type (mandatory or elective):</td><td colspan="4">Mandatory module</td></tr>
<tr><td>Content and objective of module:</td><td colspan="4">Contents
- Differentiated statistical analysis and discussion of own research results
- Introduction and leadership of a discussion on research results (moderation of scholarly colloquia)
- Presentation of scholarly overviews
- Writing scholarly congress articles
- Composing scholarly project applications and final reports

Objectives
In regular workshops, participants will expand and deepen their scholarly skills. Students will summarize their own research results in project reports, manuscripts or conference reports, and situate them in the international literature. The focus here is the completion of a scholarly project from the submission of an application to the presentation of results.</td></tr>
<tr><td>Module examination (number, form, scope):</td><td colspan="4">Ungraded project report (e.g., application, final report, conference report, manuscript)</td></tr>
<tr><td>Independent study time (in hours):</td><td colspan="4">510</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td rowspan="2">Courses (type of teaching)</td><td rowspan="2">Contact time (in semester hours)</td><td colspan="2">Supplementary exam work (number, form, scope)</td><td rowspan="2">Course-related module examination(s) (number, form, scope)</td></tr>
<tr><td>For completing the module</td><td>For admission to the module exam</td></tr>
<tr><td>Seminar: Scientific Qualification
- Writing and Submitting Applications
- Advanced Statistics II
- International Peer Review Data Presentation
- Defense of Scholarly Constructs and Data/Results
- Scientific Ph.D. Tutorial</td><td>8</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="2">Offered:</td><td colspan="3">Winter and summer semester</td></tr>
<tr><td colspan="2">Prerequisite for taking the module:</td><td colspan="3">None</td></tr>
<tr><td colspan="2">Teaching unit(s):</td><td colspan="3">Sports science / medicine (incl. GP Sport)</td></tr>
</table>

Appendix 3:

a) Sample degree progress plans for the master's program

1st semester	2nd semester	3rd semester	4th semester

5th semester	6th semester	7th semester	8th semester
BM-SME Basic Module Scientific Methods & Evaluation [12 CP]	**AM-SME Advanced Module** Scientific Methods & Evaluation [12 CP]	**BM-SK Basic Module** Scientific Skills [12 CP]	**Master's Thesis incl. Master's Colloquium** [30 CP]
BM-EPR Basic Module: Exercise in Prevention and Rehabilitation [12 CP]	**AM-EPR Advanced Module** [12 CP]	**AM-AS Advanced Module** Applied Science [18 CP]	
BM-AS Basic Module Applied Science [12 CP]			
30 CP	30 CP	30 CP	30 CP
60 CP		60 CP	
120 CP			

b) Sample degree progress plans for the doctoral program

1st semester	2nd semester	3rd semester	4th semester	5th semester	6th semester	7th semester	8th semester
BM-SME Basic Module Scientific Methods &	**AM-SME Advanced Module** Scientific Methods &	**BM-SK Basic Module** Scientific Skills [12 CP]	**QM-SW Qualification Module** Scientific Writing	**VM-AS Advanced Module** Applied Science [20 CP]		**WM-SQ Science Module** Scientific Qualification [20 CP]	

<table>
<tr><td>Evaluation [12 CP]</td><td>Evaluation [12 CP]</td><td></td><td rowspan="2">[30 CP]</td><td colspan="2" rowspan="2"></td><td colspan="2" rowspan="2"></td></tr>
<tr><td>BM-EPR Basic Module
Exercise in Prevention and Rehabilitation
[12 CP]</td><td>AM-EPR Basic Module
Exercise in Prevention and Rehabilitation
[12 CP]</td><td>AM-AS Advanced Module
Applied Science
[18 CP]</td></tr>
<tr><td colspan="4"></td><td colspan="4">Dissertation [80 CP]</td></tr>
<tr><td>30 CP</td><td>30 CP</td><td>30 CP</td><td>30 CP</td><td>30 CP</td><td>30 CP</td><td>30 CP</td><td>30 CP</td></tr>
<tr><td colspan="2">60 CP</td><td colspan="2">60 CP</td><td colspan="2">60 CP</td><td colspan="2">60 CP</td></tr>
</table>