1. Program overview

<table>
<tr><th>Sem.</th><th colspan="5"></th></tr>
<tr><td>1</td><td>M1: Essentials of Sports Neurology
8 ECTS</td><td>M2: Essentials of Exercise Neuroscience
8 ECTS</td><td rowspan="2">M3: Methods I – Research Skills
5 ECTS</td><td rowspan="2">M4: Methods II – Statistical Skills
5 ECTS</td><td>M5: Methods III – Measurement Skills
5 ECTS</td></tr>
<tr><td>2</td><td>M6: Applied Sports Neurology
5 ECTS</td><td>M7: Applied Exercise Neuroscience
5 ECTS</td><td rowspan="2">1 out of 2 Study Projects
M8: Study Project „Sportsmedicine“
M9: Study Project „Exercise Neuroscience”
30 ECTS each</td></tr>
<tr><td>3</td><td>M10: Internship
6 ECTS</td><td colspan="3">2 out of 3 Modules
M11: Fundamentals of Data Processing in Applied Neurosciences
M12: General Studies
M13: Intercultural Communication
5 ECTS each</td></tr>
<tr><td>4</td><td colspan="5">M14: Master Thesis
30 ECTS</td></tr>
</table>

2. Modul descriptions

<table>
<tr><th colspan="7">Essentials of Sports Neurology</th></tr>
<tr><td colspan="7">Essentials of Sports Neurology</td></tr>
<tr><td colspan="2">Module:
1</td><td>Workload (h):
240</td><td>Credits:
8</td><td>Intended stage in course of studies:
1st</td><td>Frequency at which the class is offered:
Annually</td><td>Duration of the module:
1 Semester</td></tr>
<tr><td>1</td><td colspan="6">Module Structure:
<table>
<tr><th></th><th>Courses</th><th>Teaching methods</th><th>Class time (h)</th><th>Study time (h)</th><th>Status (O/F)</th><th>Number of participants</th></tr>
<tr><td>a)</td><td>Pathophysiology and Neuroanatomy</td><td>L</td><td>30</td><td>90</td><td>O</td><td>Up to 120</td></tr>
<tr><td>b)</td><td>Neurological and Neurodegenerative Diseases and Injuries</td><td>S</td><td>30</td><td>90</td><td>O</td><td>20</td></tr>
</table></td></tr>
<tr><td>2</td><td colspan="6">Alternatives within the Module:
None</td></tr>
<tr><td>3</td><td colspan="6">Prerequisites:
None</td></tr>
<tr><td>4</td><td colspan="6">Contents:
M1 focuses on the impartment of neurological knowledge as a basis for further application and research-oriented contents of the program. First, a basic understanding of neuro-anatomical, physiological and pathophysiological mechanisms of the nervous system is established. Specific knowledge with regards to symptoms and syndromes of diseases and injuries within the nervous system (i.e., different types of dementia and epilepsy, multiple sclerosis, concussion) as well as systemic diseases with the nervous system involved (i.e., connective tissue disease, angiopathy) completes the acquisition of neurological knowledge. Students gain first experiences in presenting and discussing scientific studies.</td></tr>
<tr><td>5</td><td colspan="6">Learning outcomes / Competences:
▪ Knowledge about mechanisms of pathogenesis and maintaining health
▪ Knowledge about physiology and pathophysiology of the nervous system
▪ Deepened knowledge about specific diseases and injuries of the nervous system and ways to handle them
▪ Development of scientific communication competence through presenting and discussing scientific results</td></tr>
<tr><td>6</td><td colspan="6">Examination:
[x] One examination containing contents of courses a) and b)
<table>
<tr><th>Belongs to</th><th>Type</th><th>Duration</th><th>Emphasis for Module grade</th></tr>
<tr><td></td><td>Written exam</td><td>60-120 min.</td><td>100%</td></tr>
</table>
Information about the concrete terms and conditions of the examination is provided by the</td></tr>
</table>

<table>
<tr><td></td><td>lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>7</td><td>Course Achievement (CA) / Qualified Participation (QP):

<table>
<tr><th>Belongs to</th><th>Type</th><th>Duration</th><th>CA. / QP</th></tr>
<tr><td>a)</td><td></td><td></td><td></td></tr>
<tr><td>b)</td><td>Presentation or
Short colloquium</td><td>ca. 10 min.</td><td>QP</td></tr>
</table>

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>8</td><td>Prerequisites for participating in examinations:
None</td></tr>
<tr><td>9</td><td>Prerequisites for assigning Credits:
The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.</td></tr>
<tr><td>10</td><td>Emphasis for final grade:
8/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
None</td></tr>
<tr><td>12</td><td>Module Coordinator:
Prof. Dr. Dr. Reinsberger</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>

Essentials of Exercise Neuroscience					
Essentials of Exercise Neuroscience					
Module: 2	**Workload (h):** 240	**Credits:** 8	**Intended stage in course of studies:** 1st	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Physiology, Testing and Prescription of Exercise	L	30	90	O	Up to 120
b)	Neurophysiological Aspects of Training and Performance	S	30	90	O	20

2 Alternatives within the Module:
None

3 Prerequisites:
None

4 Contents:
This module conveys fundamentals of strength and conditioning in exercise science, as well as coordination and sensorimotor control of human movement. In particular it sheds light on a deeper knowledge in exercise neuroscience as a basis for further application and research-oriented contents of the program. First, a basic understanding of physiological mechanisms and adaptations, testing and prescription of exercises within the different motor abilities as well as their assessment and general training principles is established. Specific content with regards to exercise-induced exposure of the nervous system, respectively (i.e., injury, fatigue, expertise), completes the acquisition of basic exercise neuroscience knowledge. Due to the application of different teaching and learning arrangements, comprehensive soft skills will be enforced, incorporating different types of presenting or working effectively in small groups.

5 Learning outcomes / Competences:
- Knowledge about essentials, concepts and applications of exercise science
- Deepened knowledge about specific exposures to the nervous system due to performance
- Ability to use different sources of information, such as textbook chapters, journal articles on original studies and overview papers to acquire knowledge and to question them critically
- Development of interpersonal skills and communication competence through working in small groups and presenting results

6 Examination:
[x] One examination containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
	Written exam	60-120 min.	100%

<table>
<tr><td></td><td>Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>7</td><td>Course Achievement (CA) / Qualified Participation (QP):

<table>
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<tr><td>a)</td><td></td><td></td><td></td></tr>
<tr><td>b)</td><td>Presentation and/or
Written homework</td><td>ca. 10 min.
ca. 5 pages</td><td>QP
QP</td></tr>
</table>

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>8</td><td>Prerequisites for participating in examinations:
None</td></tr>
<tr><td>9</td><td>Prerequisites for assigning Credits:
The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.</td></tr>
<tr><td>10</td><td>Emphasis for final grade:
8/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
None</td></tr>
<tr><td>12</td><td>Module Coordinator:
Prof. Dr. Jochen Baumeister</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>

Methods I – Research Skills					
Methods I – Research Skills					
Module: 3	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 1st and 2nd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 2 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Developing a Research Problem	L	30	60	O	Up to 120
b)	Reporting and Presenting Research Results	S	15	45	O	20

2 Alternatives within the Module:
None

3 Prerequisites:
None

4 Contents:
M3 focuses on the understanding of research processes in general and the development of working proficiently and systematically in neuroscientific settings in detail. These competences include the identification of a research problem, the development of a research question together with corresponding hypotheses. Based on that the ability to summarize the current state of research by purposeful searching, analyzing and assessing literature (i.e., evidence-based medicine) represents a key competence for future studies. In addition, different ways of presenting research results appropriately, together with critically deliberating, add to further scientific skills which are practiced and enforced in this module. Due to the implementation of different presenting settings, comprehensive key skills like presenting and communication competences, or working effectively on one's own or in small groups are developed.

5 Learning outcomes / Competences:
- Basic understanding of scientific skills in research settings
- Capability of searching, analyzing and assessing literature
- Competences in gathering and conveying research results
- Development of (inter-) personal skills, methodological and (scientific) communication competences

6 Examination:
[x] 4 partial examinations

Belongs to	Type	Duration	Emphasis for Module grade
a)	Abstract	ca. 1 page	25%
b)	Presentation Scientific Poster + short Presentation Review	ca. 10min. 1 page + ca. 3 min. 5-8 pages	25% 25% 25%

<table>
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<tr><td>8</td><td>Prerequisites for participating in examinations:
None</td></tr>
<tr><td>9</td><td>Prerequisites for assigning Credits:
The assignment of credits is restricted until all component examinations are passed.</td></tr>
<tr><td>10</td><td>Emphasis for final grade:
5/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
no</td></tr>
<tr><td>12</td><td>Module Coordinator:
Dr. Reinecke</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>

Methods II – Statistical Skills					
Methods II – Statistical Skills					
Module: 4	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 1st and 2nd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 2 Semester

1 Module Structure:

	Courses	**Teaching methods**	**Class time (h)**	**Study time (h)**	**Status (O/F)**	**Number of participants**
a)	Understanding Different Statistical Methods and Concepts	L	30	60	O	Up to 120
b)	Applied Statistics in Neuroscientific Research Settings	S	30	30	O	20

2 Alternatives within the Module:
none

3 Prerequisites:
none

4 Contents:
M4 focuses on the exposure to research methods in biostatistics with a strong neuroscientific emphasis. The impartment of a theoretical understanding of statistical concepts (i.e., descriptive – test statistics; parametrical – non-parametrical; epidemiology; regression analysis; testing for differences or correlations) and its purposeful application, are key abilities to achieve in this module. Through the implementation of Blended Learning in course b) the theoretical understanding is proved and developed by dealing with concrete statistical examples. The presentation and discussion of statistical results represent further important learning objectives. Besides statistical competences, comprehensive key skills like working self-organized alone and in small groups, will help develop problem solving strategies.

5 Learning outcomes / Competences:
- Deepened knowledge about research methods in the field of neuroscience and biostatistics
- Capability of planning, accomplishing, analyzing, interpreting and evaluating experiments / scientific data
- Development of problem-solving strategies, self-organization as well as communication and presenting competences

6 Examination:
[x] One examination containing contents of courses a) and b)

Belongs to	**Type**	**Duration**	**Emphasis for Module grade**
	Written exam	60-120min.	100%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

<table>
<tr><td>7</td><td>Course Achievement (CA) / Qualified Participation (QP):

<table>
<tr><th>Belongs to</th><th>Type</th><th>Duration</th><th>CA. / QP</th></tr>
<tr><td>a)</td><td></td><td></td><td></td></tr>
<tr><td>b)</td><td>Presentation or
ca. 5-7 homeworks</td><td>ca. 10 min.
1-2 pages each</td><td>QP</td></tr>
</table>

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5/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
none</td></tr>
<tr><td>12</td><td>Module Coordinator:
Prof. Dr. Dr. Reinsberger and Dr. Reinecke</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>

Methods III – Measurement Skills

Methods III – Measurement Skills

Module: 5	**Workload (h):** 240	**Credits:** 8	**Intended stage in course of studies:** 1st	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	**Teaching methods**	**Class time (h)**	**Study time (h)**	**Status (O/F)**	**Number of participants**
a)	Developing Methodological Competences in Applied Neurosciences	L	45	75	O	Up to 120
b)	Applying Methodological Competence in Neuroscientific Settings	S	30	90	O	20

2 Alternatives within the Module:

none

3 Prerequisites:

none

4 Contents:

M5 focuses on the impartment of knowledge and skills regarding neuroscientific measurement techniques. A basic understanding of medical and technical correlations of different methods (i.e., EEG, MRT, PET, EMG, ANS-diagnostics) is fundamental to achieve before students can apply that mainly theoretical understanding in planning, conducting and analyzing small experiments on their own in the lab and in the field. Working in small groups and dealing with problems regarding methodological problems or surrounding conditions during the experimental periods enforce the development of problem-solving strategies, communication and (inter-) personal skills.

5 Learning outcomes / Competences:

- Deepened knowledge about neuroscientific measurement techniques
- Capability of the appropriate application and evaluation of selected neuroscientific measurement techniques, as well as interpretation and presentation of results
- Development of problem-solving strategies

6 Examination:

[x] One examination containing contents of courses a) and b)

Belongs to	**Type**	**Duration**	**Emphasis for Module grade**
	Oral exam	10-30min.	100%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 Course Achievement (CA) / Qualified Participation (QP):

<table>
<tr><td></td><td>
<table>
<tr><th>Belongs to</th><th>Type</th><th>Duration</th><th>CA. / QP</th></tr>
<tr><td>a)</td><td></td><td></td><td></td></tr>
<tr><td>b)</td><td>Written homework or presentation</td><td>2-3 pages ca. 10 min.</td><td>QP</td></tr>
</table>

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.
</td></tr>
<tr><td>8</td><td>Prerequisites for participating in examinations:
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<tr><td>9</td><td>Prerequisites for assigning Credits:
The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.</td></tr>
<tr><td>10</td><td>Emphasis for final grade:
8/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
no</td></tr>
<tr><td>12</td><td>Module Coordinator:
Prof. Dr. Dr. Reinsberger and co-workers</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>

Applied Sports Neurology					
Applied Sports Neurology					
Module: 6	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 2nd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Treating Diseases with Sports and Exercise	S	30	60	O	20
b)	Applying Sports and Exercise in the Treatment of Neurological Diseases	S	30	30	O	20

2 Alternatives within the Module:
none

3 Prerequisites:
Module 1 is passed.

4 Contents:
M6 focuses on research and occupation-oriented application of the theoretical knowledge based on the contents of M1. First, mode of action of sports and exercise in neurological therapy is imparted and discussed based on recent literature. Students critically appraise current scientific literature and develop evidence-based and appropriate exercise programs for neurological patient groups. At the same time, students get the opportunity to experience and apply sports in the setting of neurological and neurodegenerative diseases in small groups. Furthermore, students will get in contact with patients with neurological or neurodegenerative diseases in rehabilitation sports settings (i.e., dementia, epilepsy, MS). Evaluating and critically reflecting these experiences is a key element for future occupational practice. Experiencing the application of previously acquired knowledge (i.e., behavior as a trainer) in small groups and working with patients with different physical and / or cognitive impairments is supposed to improve (inter-) personal as well as communication skills with regards to the "therapist – patient" relationship.

5 Learning outcomes / Competences:
- Knowledge about the mode of action of sports and exercise in the neurological therapy and prevention
- Transfer of knowledge into practice with patients; development of didactic competences
- Acquisition of occupational competences related to prescription and application of sports and exercise in therapy and prevention settings
- Development of (inter-) personal and communication skills through working with patients
- Ability to develop appropriate evidence-based exercise programs for patients with neurological/ neurodegenerative diseases

6 **Examination:**

[x] One examination containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
	Report	10-15 pages	100%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 **Course Achievement (CA) / Qualified Participation (QP):**

Belongs to	Type	Duration	CA. / QP
a)	Presentation or Short colloquium	ca. 10min.	QP
b)	Protocols (work experience) or Short colloquium	3-5 pages each ca. 10 min.	QP

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.

8 **Prerequisites for participating in examinations:**

None

9 **Prerequisites for assigning Credits:**

The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.

10 **Emphasis for final grade:**

5/120

11 **Utilization for other study programs:**

no

12 **Module Coordinator:**

Prof. Dr. Dr. Reinsberger

13 **Language:**

Teaching language English

Applied Exercise Neuroscience					
Applied Exercise Neuroscience					
Module: 7	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 2nd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Neuroscience and Performance	S	30	60	O	10
b)	Exercise Science and Performance	S	30	30	O	20

2 Alternatives within the Module:
none

3 Prerequisites:
Module 2 is passed.

4 Contents:
This module looks from different perspectives at research and applications from exercise science and neuroscience based on the contents of M2. The mode of action of training and performance within the nervous system is imparted and discussed based on recent literature for motor abilities and coordination in different conditions (e.g., injury, fatigue, expertise). Selected examples from current research will be replicated in small groups, utilizing relevant mobile brain and body imaging methods (e.g., EEG, EMG) in a laboratory setting to provide valuable insights into the opportunities and limitations of neurophysiological research applications and exposures during sports & exercise. At the same time, students conceptually develop, practically conduct and subsequently evaluate training and performance with regard to a neuroscientific perspective in different populations (e.g. elite sports, children, elderly, prevention, rehabilitation). Evaluating and critically reflecting these experiences in exercise neuroscience is a key element for future occupational practice.

5 Learning outcomes / Competences:
- Knowledge about mobile brain and body imaging methods in sports and exercise
- Knowledge about exposures to the nervous system in the context of sports and exercise
- Ability to plan, apply and evaluate training and performance with regards to the demands of different populations
- Ability to conduct, interpret and report small pilot studies
- Ability to use different sources of information, such as textbook chapters, journal articles on original studies and overview papers to acquire knowledge, to question them critically and to transfer them into practical contexts of action

6 **Examination:**

[x] 2 partial examinations containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
	Report	10-15 pages	100%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 **Course Achievement (CA) / Qualified Participation (QP):**

Belongs to	Type	Duration	CA. / QP
a)	Presentation and/or Conduct of a pilot study	ca. 10min.	QP
b)	Presentation or Short colloquium	ca. 10 min.	QP

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.

8 **Prerequisites for participating in examinations:**

None

9 **Prerequisites for assigning Credits:**

The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.

10 **Emphasis for final grade:**

5/120

11 **Utilization for other study programs:**

no

12 **Module Coordinator:**

Dr. Tim Lehmann

13 **Language:**

Teaching language English

Study Project „Sportsmedicine“					
Study Project „Sportsmedicine“					
Module: 8	**Workload (h):** 900	**Credits:** 30	**Intended stage in course of studies:** 2nd and 3rd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 2 Semesters

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of Participants
a)	Project Introduction	S	30	810	F	20
b)	Group Discussion and Report	S	60		F	20

2 Alternatives within the Module:
none

3 Prerequisites:
Modules 1 and 5 are passed.

4 Contents:
Neurological topics within current research questions in the area of sports medicine are implemented in theoretical and practical (experimental, conceptual) small group work. Topics are either research or occupation related and allow the transfer of theoretical knowledge into scientific work, including the application of relevant neuroscientific methods.

5 Learning outcomes / Competences:
- Competences in developing a relevant research question within the area of sports neurology and using appropriate methods to answer that question based on an experimental design, or a conceptual framework
- Deepened competences in working in small groups
- Competences in scientific writing

6 Examination:
[x] 2 partial examinations containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
a)	Oral exam	ca. 30 min.	50%
b)	Report	50-70 pages	50%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 Course Achievement (CA) / Qualified Participation (QP):

Belongs to	Type	Duration	CA. / QP
a)	2-4 Presentations or written homeworks	10-15 min. 2-3 pages	QP

	b)	Experimental demonstration	ca. 30 min.	QP

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.

8	**Prerequisites for participating in examinations:** None
9	**Prerequisites for assigning Credits:** The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.
10	**Emphasis for final grade:** 30/120
11	**Utilization for other study programs:** no
12	**Module Coordinator:** Prof. Dr. Dr. Reinsberger and co-workers
13	**Language:** Teaching language English

Study Project "Exercise Neuroscience"					
Study Project „Exercise Neuroscience“					
Module: 9	**Workload (h):** 900	**Credits:** 30	**Intended stage in course of studies:** 2nd and 3rd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 2 Semesters

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of Participants
a)	Project Introduction	S	30	810	F	20
b)	Group Discussion and Report	S	60		F	20

2 Alternatives within the Module:
none

3 Prerequisites:
Modules 2 and 5 are passed.

4 Contents:
Performance and health related topics within current research questions in the area of exercise science and neuroscience are implemented in theoretical and practical (experimental, conceptual) small group work. Topics are research based and allow the transfer of theoretical knowledge into independent scientific work including proposal and ethics writing, as well as the application of relevant neuroscientific methods in the context of sports and exercise.

5 Learning outcomes / Competences:
- Competences in developing a relevant research question within the area of exercise neuroscience and using appropriate methods to answer that question based on an experimental design, or a conceptual framework
- Deepened competences in working in small groups
- Competences in scientific thinking and writing

6 Examination:
[x] 2 partial examinations containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
a)	Oral exam	ca. 30 min.	50%
b)	Report	50-70 pages	50%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 Course Achievement (CA) / Qualified Participation (QP):

Belongs to	Type	Duration	CA. / QP

	a)	2-4 Presentations or written homeworks	10-15 min. 2-3 pages	QP
	b)	Experimental demonstration	ca. 30 min.	QP
	Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.			
8	**Prerequisites for participating in examinations:** None			
9	**Prerequisites for assigning Credits:** The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.			
10	**Emphasis for final grade:** 30/120			
11	**Utilization for other study programs:** no			
12	**Module Coordinator:** Prof. Dr. Baumeister and co-workers			
13	**Language:** Teaching language English			

Internship					
Internship					
Module: 10	**Workload (h):** 180	**Credits:** 6	**Intended stage in course of studies:** 2nd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 4 weeks

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Internship			160	O	individual
b)	Colloquium		5	15	O	20

2 Alternatives within the Module:

none

3 Prerequisites:

none

4 Contents:

Through observing and self-contained working in a potentially relevant occupational field, the internship is supposed to create the possibility for students to compare the choice of academic study with the occupational reality and furthermore, help realizing a proper occupational decision.

The internship is designed full-time for four weeks. In well-grounded conditions it is possible to split the four weeks. It is based on an individual preference of the students whether the internship takes place in an English-speaking setting.

5 Learning outcomes / Competences:

- Knowledge about occupational settings
- Integrating learning outcomes from the study program into occupational practice
- Consequences for occupational orientation

6 Examination:

[x] One examination containing contents of courses a)

Belongs to	Type	Duration	Emphasis for Module grade
a)	Report	10-15 pages	100%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 Course Achievement (CA) / Qualified Participation (QP):

Belongs to	Type	Duration	CA. / QP

	Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.
8	**Prerequisites for participating in examinations:** None
9	**Prerequisites for assigning Credits:** The assignment of credits is restricted until the examination is passed.
10	**Emphasis for final grade:** 6/120
11	**Utilization for other study programs:** no
12	**Module Coordinator:** Dr. Reinecke
13	**Further notes:** none

Fundamentals of Data Processing & Analysis					
Data Processing & Analysis					
Module: 11	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 3rd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Computational Methods for the Analysis of Behavioral and Physiological Data	S	30	45	F	20
b)	Practical Course – Data Processing	S	30	45	F	20

2 Alternatives within the Module:
none

3 Prerequisites:
M5 is passed

4 Contents:
M11 provides a broad introduction to computational methods for the analysis of behavioral and (neuro-) physiological data. In particular, the seminar will develop a general understanding of the structures and common characteristics of biological data. In this regard, the computational manipulation and analysis of specific data types, based on given research interests, will be one key element of the seminar. Furthermore, the practical course will emphasize a hands-on experience with neural data processing and analysis. Students will gain basic competences in scientific programming for the manipulation of behavioral or biological data. Accompanying programming exercises further aim to acquire skills for the automatization and standardization of computational processes in the analysis of different experimental data sets and for reporting data or quantitative results in publication-quality graphical visualizations.

5 Learning outcomes / Competences:
- gaining knowledge about basic structures of behavioral and neurophysiological data
- competences in handling, organizing and manipulating research data
- developing a general understanding of computational methods in applied neuroscience
- acquiring fundamental, practical experiences in scientific programming
- transferring the skills acquired in this module to other fields of sports science and neuroscience

6 **Examination:**

[x] One examination containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
	Written exam or Oral exam	60-90min. 15-30min.	100%

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 **Course Achievement (CA) / Qualified Participation (QP):**

Belongs to	Type	Duration	CA. / QP
b)	Written exercise	1 - 5 pages	QP

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.

8 **Prerequisites for participating in examinations:**

none

9 **Prerequisites for assigning Credits:**

The assignment of credits is restricted until the examination is passed.

10 **Emphasis for final grade:**

5/120

11 **Utilization for other study programs:**

no

12 **Module Coordinator:**

Dr. Tim Lehmann

13 **Language:**

Teaching language English

General Studies					
General Studies					
Module: 12	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 3rd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
	Depends on the offer and student's choice using the Campus Management System					

2 Alternatives within the Module:
none

3 Prerequisites:
none

4 Contents:
Free choice within the Campus Management System of Paderborn University.

5 Learning outcomes / Competences:
- Experiences beyond the own professional issues to broaden one's perception

6 Examination:
[x] One examination containing contents of courses a) and b)

Belongs to	Type	Duration	Emphasis for Module grade
	Depends on the selected courses / module (i.e., written exam with a maximum of 4 hours, homework with a maximum of 25 pages, oral exam with a maximum of 45 minutes)		

Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.

7 Course Achievement (CA) / Qualified Participation (QP):

Belongs to	Type	Duration	CA. / QP
	Depends on the selected module	ca. 10 min.	QP

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.

8 Prerequisites for participating in examinations:

9	**Prerequisites for assigning Credits:** The assignment of credits is restricted until the examination is passed and - if existing - Qualified Participation is verified.
10	**Emphasis for final grade:** 5/120
11	**Utilization for other study programs:** none
12	**Module Coordinator:** Dr. Reinecke
13	**Language:** Depends on the selected module

Intercultural Communication					
Intercultural Communication Training					
Module: 13	**Workload (h):** 150	**Credits:** 5	**Intended stage in course of studies:** 3rd	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Intercultural Communication	S	30	120	F	20

2 Alternatives within the Module:
none

3 Prerequisites:
none

4 Contents:
Intercultural Communication exposes students to the principles of intercultural communication to advance their efforts to understand and attribute meaning to communicative behaviors among different cultures and social groups. Students study communication and culture, intercultural messages, the role of context in intercultural communication, the impact of culture on one's identity, and communication style. Students master the practical skills necessary to improve one's intercultural communication competence in an international world.
The module is highly practical and the students work on case studies and simulations/role plays in order to develop a deeper understanding of the complex processes of intercultural interaction. Given the subject, interaction is strongly required and stimulated.

5 Learning outcomes / Competences:
The overarching goal is to provide knowledge and skills needed to communicate with people with different cultural backgrounds in multicultural environments.

Students will
- be acquainted with recent theories of culture and communication, learn to interpret case studies and apply theory in role plays and simulations,
- understand how cultural values influence attitude and behaviors
- be cultural sensitive: recognize the influence of our own cultural situation upon the sending and interpreting of messages,
- be cultural adaptive: discover the complexity of communication in an intercultural communication exchange and learn to deal with differences in communication style.

6 Examination:
~~[x] One examination containing contents of courses a) and b)~~

Belongs to	Type	Duration	Emphasis for Module grade
	Portfolio	5000 words	100%

Students are required to keep a reflective learning diary in which they should collect key

<table>
<tr><td></td><td>experiences dealing with diversity and to comment them in the light of an intercultural communication approach. This individual written reflection report acts as a final exam. In the reflection report, the use of relevant theory should be discussed from the perspective of one's own multicultural experiences and challenges. Thus, the exam is a practice-related essay.
Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>7</td><td>Course Achievement (CA) / Qualified Participation (QP):

<table><tr><th>Belongs to</th><th>Type</th><th>Duration</th><th>CA. / QP</th></tr><tr><td></td><td>6-8 homeworks</td><td>1-2 pages each</td><td>QP</td></tr></table>
Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>8</td><td>Prerequisites for participating in examinations:
None</td></tr>
<tr><td>9</td><td>Prerequisites for assigning Credits:
The assignment of credits is restricted until Qualified Participation is verified and the examination is passed.</td></tr>
<tr><td>10</td><td>Emphasis for final grade:
5/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
none</td></tr>
<tr><td>12</td><td>Module Coordinator:
Prof. Dr. Radtke</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>

Master Thesis					
Master Thesis					
Module: 14	**Workload (h):** 900	**Credits:** 30	**Intended stage in course of studies:** 4th	**Frequency at which the class is offered:** Annually	**Duration of the module:** 1 Semester

1 Module Structure:

	Courses	Teaching methods	Class time (h)	Study time (h)	Status (O/F)	Number of participants
a)	Progress Reports	S	15	45	O	20
b)	Thesis		780		O	Individual
c)	Defending the Thesis		60		O	individual

2 Alternatives within the Module:
none

3 Prerequisites:
Modules 1, 2, 3, 4, 5 as well as the study project (M8/M9) are passed.

4 Contents:
The Master Thesis incorporates relevant research questions within the area of sports neurology or exercise neuroscience. Topics can emerge from former modules (i.e., study project). In the seminar students report about the progress of the thesis and problem strategies are developed.

5 Learning outcomes / Competences:
- Capability of acting appropriately in research processes
- Competences in scientific writing
- Competences in communicating and presenting

6 Examination:
[x] two component examinations

Belongs to	Type	Duration	Emphasis for Module grade
	Thesis	Max. 80 pages or research manuscript (ca. 30 pages) incl. Review (ca. 10 pages)	66,67%
	Defending the Thesis	30-45min.	33,33%

<table>
<tr><td></td><td>Information about the concrete terms and conditions of the examination is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>7</td><td>Course Achievement (CA) / Qualified Participation (QP):

<table>
<tr><th>Belongs to</th><th>Type</th><th>Duration</th><th>CA. / QP</th></tr>
<tr><td>a)</td><td>Progress report</td><td>ca. 30min.</td><td>QP</td></tr>
</table>

Information about the concrete requirements for Course Achievement or Qualified Participation is provided by the lecturer within the first 3 weeks of the lecture period.</td></tr>
<tr><td>8</td><td>Prerequisites for participating in examinations:
None</td></tr>
<tr><td>9</td><td>Prerequisites for assigning Credits:
The assignment of credits is restricted until Qualified Participation is verified and the component examinations are passed.</td></tr>
<tr><td>10</td><td>Emphasis for final grade:
30/120</td></tr>
<tr><td>11</td><td>Utilization for other study programs:
none</td></tr>
<tr><td>12</td><td>Module Coordinator:
Prof. Dr. Baumeister, Prof. Dr. Dr. Reinsberger, Dr. Reinecke</td></tr>
<tr><td>13</td><td>Language:
Teaching language English</td></tr>
</table>