

Module Handbook

Programme

Applied Training Science

(Bachelor)

Faculty

Faculty of Applied Healthcare Science

Deggendorf Institute of Technology

MODULE HANDBOOK BACHELOR APPLIED TRAINING SCIENCE

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T-01 ANATOMY I

Module T-01

Module coordinator Prof. Dr. Jens Martin

Course number and name T1102 Inner organs and vascular system

T1101 Support and Mobility Apparatus

Teachers Prof. Dr. Jens Martin

Semester 1

Module length 1 Semester

Module frequency Annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Self-studying and virtual content: 90 h

Total: 150 h

Type of examination 90 min

Type of examination written 90 min

Course language German

Qualification objectives

Qualification objectives of the entire module

The module teaches the student in detail how the human body is built and how it works. The content of this course is to teach students to recognize and apply the various morphological dependencies for movement-induced morphological adaptability in a healthy body.

After passing the module Topographical Anatomy, students have achieved the following specific, personal and methodical competencies:

- They know the detailed morphological structure of the healthy human body
- Students are made acquainted to anatomical terms and jargon in German and Latin
- Students learn to analytically describe the topographical structure of the human body in relation to its systemic functionality
- Students are capable to functionally link anatomical structures and organ systems

O Students know the essentials about the active and passive musculoskeletal system with its names in German and scientific nomenclature. Students can localize structures and know their function

O They know the basics about structural load-carrying capacity

Usable in this course

Topographical Anatomy II

Entry qualifications and recommendations

Basic biological knowledge, intermediate Latin certificate

Content

Anatomy (Musculoskeletal system)

O Introduction, terminology and planes of movement

O Osteology/ Arthrology

O Musculoskeletal system upper limbs

O Musculoskeletal system lower limbs

O Central skeleton, lower spine, pelvis, hips region, muscles of the torso and the pelvis

O Skull structure, important muscles on the skull

Anatomy (Inner organs, vascular system)

O Cardio vascular System, lymph system

O Respiration apparatus

O Digestive organs

O Urogenital system

O Histology

O Secretory System

Teaching and learning methods

Students are taught the respective content in lectures with practical examples, 3-D visualizations and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Titel, K.; 2012, Beschreibende und funktionelle Anatomie, 15. Überarb. Auflage, Kiener-Verlag, München
- o Schünke, M. et alii 2011, Prometheus Lernatlas der Anatomie, 3. Auflage, Thieme, Stuttgart
- o Huch R., Jürgens K.D.: Mensch Körper Krankheit, 4. Aufl., Elsevier GmbH, Urban & Fischer, München
- o Huch R., Jürgens K.D.: Biologie Anatomie Physiologie 5. Aufl., Elsevier GmbH, Urban & Fischer, München
- o Laurenz J. Wurzinger et al, Duale Reihe Anatomie 2., überarbeitete Auflage 2010, Georg Thieme Verlag, Stuttgart
- o Präpkurs-Lernprogramm zur Dualen Reihe Anatomie, 3.Aufl., Georg Thieme Verlag, Stuttgart 2014

T1102 INNER ORGANS, VASCULAR SYSTEM

Type of examination

Part of the module exam

T1101 MUSCULOSKELETAL SYSTEM

Type of examination

Part of the module exam

T-02 PHYSIOLOGY I

Module T-02

Module coordinator Prof. Dr. Jens Martin

Course number and name T1103 Physiology basics

T1104 Specific physiology I

Teachers Prof. Dr. Jens Martin

Semester 1

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Self-studying and virtual content: 90 h

Total: 150 h

Length of module exam 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the entire module

The module enables the student in detail how the human body is built and how it works. The content of this course is to teach students to recognize and apply the various morphological dependencies for movement-induced morphological adaptability in a healthy body.

After passing the module Topographical Anatomy, students have achieved the following specific, personal and methodical competencies:

- O They know the basic functions of the human body on a cellular, organic and organ systemic level morphological structure of the healthy human body

- O The students are taught about the various organ systems on the basis of bio chemical and bio physical laws.

- O Students learn to analyse the functions of the human body on various structural levels

O They are capable of understanding the synthesis of organ-related and overall-organic functions and interplay.

O Students know the fundamental functional interdependencies between immunological processes on the basis of cytological and humoral structures.

O They know the basics of embryology and phylogenetic.

Usability in this course

The module physiology I teaches basic knowledge for all health-related courses of study.

Entry qualifications and recommendations

Basic biological knowledge

Intermediate Latin certificate

Content

Physiology (Physiology basics)

O Introduction into the tasks and the departments of physiology

O Cytology: Cell organs and cell walls

O Tissue types: Chondrology, Myology

O Embryology, Phylogenetic

O Electro physiology of muscles, DVZ

Physiology (Specific physiology I)

O Heart mechanics and cardiac nervous conduction, ECG

O Breath regulation and capacities

O Resorption, energy turnover, Calorimetry

O Excretion, kidney function, reproduction

O Blood

O Immunology

O Hormonal regulatory mechanisms

Teaching methods

Students are taught in lectures with practical demonstrations and the use of visuals. Group and project works, as well as practical use of the taught content are carried out constantly.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

o Güllich, A., Krüger, M.; 2013, Sport, Das Lehrbuch für das Sportstudium, 1. Auflage, Springer-Verlag, Berlin- Heidelberg

o Huch, R.; 2011, Mensch, Körper, Krankheit, 6. Auflage, Urban & Fischer, München

o Markworth, P.; 2010, Sportmedizin-Physiologische Grundlagen, 24. Auflage, Nikol-Verlagsgesellschaft, Hamburg

o Bartels, R., Bartels, H., 2004, Physiologie, 7. Auflage, Elsevier- Verlag, München

T1103 PHYSIOLOGY BASICS

Types of examination

Part of the module exam

T1104 SPECIFIC PHYSIOLOGY I

Types of examination

Part of the module exam 9

T-13 TRAINING SCIENCE I

Module T-13

Module coordinator Prof. Dr. Jens Martin

Course number and name T3101 Terminology, training science, training methods und training means

Teachers Nadine Nurasyid

Semester 3

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module exam 180 min

Type of exam written exam 180 min

Course language German

Qualification objectives of the module

The module teaches students to identify the basic components of performance, training load, training routine and planning. They learn training science principles regarding strength, endurance, speed, flexibility and coordination.

Students learn about the different fields of competence in training science to systematically identify suitable training programmes for different contexts

After passing the module Training Science I, students have the following professional, personal and method competencies:

O Students know the basic principles and fields of competence of training science and the corresponding terminology

O They know the importance of the different kinds of motoric stress: strength, endurance, speed, flexibility and coordination and their interdependence

O They are capable of analysing the specific stress level and performance of a certain sport and to value the stress components acc. to their importance for sport-specific performance

O Students can combine different means and methods of training to put together training schedules

O They know about objectives and content of historical and contemporary training scientific works

Usability in this course

The module training sciences I teaches basic knowledge for all sport-science-related courses of study in health

Entry requirements / recommendations

Modules T-02, T-04

Content

Training science

O Terminology and tasks

O Components of sports performance

O Motoric stresses

Strength,

Endurance

Speed

Flexibility

Coordination

O Trainings principles

O Stress control

O Training means

O Training planning

Learning and teaching methods

Lectures with seminar elements and practice-oriented examples

Small group or project work and permanent practical application of the material

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Empfohlene Literaturliste

- o Harre, H.-D., Krug, J.: Trainingslehre - Trainingswissenschaft: Leistung - Training – Wettkampf, 3. Aufl. Meyer & Meyer Verl. 2014
- o Weineck, J.: Optimales Training, Spitta-Verlag Balingen, 16. Aufl. 2010
- o Eisenhut ,A., Zintl, F.: Ausdauertraining. Grundlagen, Methoden, Trainingssteuerung, 1. Aufl., BLV-Buchverlag 2007
- o Grosser, M.: Schnelligkeitstraining: Grundlagen, Methoden, Leistungssteuerung, Programme für alle Sportarten, 1. Aufl. BLV-Buchverlag 2007
- o Grosser, M., Starischka, S., Zimmermann, E.: Das neue Konditionstraining. Grundlagen, Methoden, Leistungssteuerung, Übungen, Trainingsprogramme, 12. Aufl. BLV-Buchverlag 2015

T3101 TERMINOLOGY, TRAINING SCIENCE, TRAINING SMETHODS AND TRAINING MEANS

Type of examination

Written exam 180 min

T-04 SPECIFIC NATURAL SCIENTIFIC ESSENTIALS

Module T-04

Module coordinator Dr. Melanie Kappelmann

Course number and name T1106 Bio chemistry

T1107 Bio physics

Teachers Dr. Melanie Kappelmann

Semester 1

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of the module exam 90 min

Type of exam written exam 90 min

Course language German

Qualification objectives of the module

The module enables students to recognize the relevance of bio chemistry and bio physics for the health industry. The content enables students to understand bio chemical and bio physical basics and to apply the theory to body functions.

After passing the module, students have achieved the following specific, personal and methodical competencies:

They know the essential bio chemical and bio physical functions and can apply and explain them to health care

They know the biochemical and bio physical terminology and laws and know their various functions

They know the individual biochemical and bio physical processes and their relevance in terms of functionality in the human body

They can apply bio chemical and physical principles to the human body

- O They know the molecular biological structure of the human body and the cellular processes of biochemical and biophysical processes
- O They know the basics of genetics and the signal flow in the human body

Entry qualifications and recommendations

The human biological, physical and chemical knowledge from secondary education

Content

Biophysics

- O Terminology introduction
- O Material structure
- O Mechanics
- O Electrical science
- O Thermo-dynamic Systems
- O Thermo-chemistry: Energy turnover in chemical reactions
- O Entropy, free enthalpy and chemical equilibrium
- O Electro chemistry
- O Reactionary kinetics
- O Waves and frequency
- O Radioactivity and nuclear physics

Biochemistry

Basic biochemistry

Cell structure

Central molecules of life

- O Carbohydrates
- O Lipids
- O Nucleic acids --> DNA, RNA
- O Ammonia acids --> Proteins (Enzyme)

Metabolism

- O Catabolism
- O Anabolism, biosynthesis of cell parts

Integration of cellular processes

- O Principles of metabolism regulation
- O Cellular transport
- O Signal transduction

Learning and teaching methods

Students are taught the respective content in lectures with practical examples and project work.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Königshoff, M.; Brandenburger, T., 2012, Kurzlehrbuch Biochemie, 3. Überarb. Auflage, Thieme, Stuttgart
- o Christen, P.; Jaussi R., 2004, Biochemie: Eine Einführung mit 40 Lerneinheiten, Springer
- o Schünemann, V., 2004, Biophysik, Springer
- o Mäntele, W., 2012, Biophysik, 1. Auflage, UTB GmbH

T1106 BIOCHEMISTRY

Type of examination

Part of the module exam

T1107 BIOPHYSICS

Type of examination

Part of the module exam

T-05 SOCIAL EDUCATIONAL COMPETENCIES

Module T-05

Module coordinator Prof. Dr. Stephanie Hecht

Course number and name T1108 Communication, interdisciplinary work

Teachers Prof. Dr. Stephanie Hecht

Semester 1

Length of module 1 Semester

Frequency of module annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module exam 90 min

Type of exam written exam 90 min

Course language German

Qualification objectives of the module

Social educational competencies help the students to find their role in the sports and health industry. Students know about the importance of scientific work, team work and communication against the background of working interdisciplinary and in multi-professional teams.

After passing the module, students have achieved the following objectives:

- they know the basics and techniques of scientific work and can estimate the scientificity of a publication.
- they can vindicate the importance of scientific work in their work field
- they can recognize the value of interdisciplinary work in their work field
- they know the most important building blocks for a successful team and the instruments for successful team leadership and are capable of applying those skills in their future jobs
- They know the importance of communication in the health industry and have the skillset to lead professional conversations

- O Study and discuss scientific texts
- O Students do group and individual work with a short presentation
- O they reflect on interactions and can apply this to their professional field of work
- O they reflect on their on team work as a team member and in a leading role
- O they learn methods for their individual professional conversations
- O they reflect important focal points and their own team work by social interaction (team work and role play)

Relevance in this course of study

The module teaches basic knowledge for all courses of study in the health industry.

Entry qualifications and recommendations

None

Content

The basics of scientific work

- O The scientific method
- O Techniques of scientific work
- O Types of publications

Team work

- O Interdisciplinary work
- O Reasons and requirements for and objectives of team work
- O Features of a functioning team and team roles
- O Team building and decisive factors for performance
- O Team leading
- O Conflicts in a team
- O Development of teams

Communication

- O Communication basics
- O Differential aspects and importance of communication in sport and health

- O Scientific models and theories of communication
- O Conversation techniques

Learning and teaching methods

Lectures, seminars, practice, group work, self-studying with materials on iLearn.

Recommended reading / references

- o Elzer, M. (Hrsg.) (2009). Kommunikative Kompetenzen in der Physiotherapie. Bern: Hans-Huber.
- o Erger, R. (2012). Teamarbeit und Teamentwicklung in sozialen Berufen. Berlin: Cornelsen.
- o Möller, S. (2010). Einfach ein gutes Team – Teambildung und –führung in Gesundheitsberufen. Berlin, Heidelberg: Springer.
- o Panfil, E.-M. (2011). Wissenschaftliches Arbeiten in der Pflege. Bern: Hans Huber.
- o Tewes, R. (2015). „Wie bitte?“ - Kommunikation in Gesundheitsberufen. Berlin, Heidelberg: Springer.
- o Mehringer, R. (2011). Benimm ist in. VHS Regen: Garhammer GmbH

T1108 COMMUNICATION AND INTERDISCIPLINARY WORK

Types of examination

Written exam 90 min

T-06 SPORT PRACTICE, SEMESTER 1

Module T-06

Module coordinator Christian Kerschl

Course number and name T1109 Sport practice, semester 1

Teachers Christian Kerschl

Nadine Nurasyid

Semester 1

Length of module 1 Semester

Frequency of module annual

Type of course compulsory

Level

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 20 min

Type of examination Presentation 20 min

Course language German

Qualification objectives of the module

- O Introduction into the theory and practice of certain sports
- O Creation of general warm up and cool down exercises regardless of the type of sport
- O Didactic and methodology of creating a training routine
- O Creating methodological sequences for technical key elements of the sport
- O Learning the application of communicative skills to lead a group or team
- O Acquiring the content for a general DOSB trainer level C license

After passing the module, students have achieved the following specific, personal and methodical competencies:

- O Practical communication skills in sport
- O The rulebook as well as basic techniques of the sport are known and fundamentals i. e. certain elements in detail can be mastered

- O Content of warm-up games can be identified methodically and applied to big games
- O For sport-specific technical key elements, the students can create methodical sequences on their own and teach them according to didactical principles
- O The basic structuring of trainings in the various stress phases is mastered
- O Acquiring the content for a general DOSB trainer level C license

Relevance in this course of study

The module is needed for the compulsory internship and for further sport practice modules.

Entry requirements and recommendations

Bavarian sports test

Content

O Learning theory and practice of the following sports:

- Swimming,
- Gymnastics,
- Badminton,
- Basketball,
- Volleyball,
- Dance

- O Theory and practice of warm-up games
- O Creation of general warm ups and cool downs
- O Basic concept of training
- O Group and individual communication in sports

Learning and teaching methods

Seminaristischer Unterricht, Praktische Übung, Gruppen- und Individualtraining

Particularities

The practice module is held in regional sports facilities by lecturers. Students can get a DOSB trainers' license type C

Recommended reading / references

- o Dressler, S. (2012), Badminton, 2. Auflage, Auer Verlag, Donauwörth

o Dornbusch, R. (2014), Basketball, Cornelsen Verlag, Berlin

o Dornbusch, R., Heyat, A. (2014), Gerätturnen kompetenzorientiert, Cornelsen Verlag, Berlin

o König, S., Husz A. (2015), Doppelstunde Handball, 2. Auflage, Hofmann Verlag, Schorndorf

o Elsäßer, A., Schulz, W., Lehr DVD: 35 Doppelstunden Volleyball

T1109 SPORTPRAXIS, SEMESTER 1

Type of examination

Presentation 20 min

T-07 ANATOMY II

Module T-07

Module coordinator Prof. Dr. Jens Martin

Course number and name T2101 Neuro anatomy

Lehrende Prof. Dr. Jens Martin

Semester 2

Module length 1 Semester

Module frequency annual

Type of course Compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

The module teaches the students a detailed understanding of the structure and the function of the human nervous system. The content of this module is conceptualized to enable students to understand the structural complexity and interaction of neural morphological structures in the healthy human body as a requirement for generating target motoric activities.

After passing the module Topographical Anatomy II, students have acquired the following competencies:

- They know the detailed morphological structure of the nervous system in the healthy human body.
- Students know the anatomic terminology for the nervous system in German and Latin
- Students learn the differentiated structure of the somatic and vegetative nervous system in a descriptive and analytic way in conjunction with its functionality.
- They are capable of combining neural structures according to integrative aspects.
- Students know the essential sensory organ structures and their names in German and in anatomical nomenclature; they can localize the structures and know their function.

Usability in this course

The module "Topographical Anatomy II" teaches basic knowledge for all health-industry-related courses of study.

Entry qualifications and recommendations

Basic biology knowledge

Intermediate Latin certificate, T-01, T-04

Content

Neuro anatomy

O Terminology and classification introduction

O Structure

of the visual sensory analyser des

of the acoustic sensory analyser des

of the vestibular sensory analyser

O Cerebrum

O Cortex

O Medulla spinalis

O Peripheral nervous system

O Somatosensory System

O Vegetative nervous system

O Higher integrative functions of the nervous system

Learning and teaching methods

Students are taught the respective content in lectures with practical examples, 3-D visualizations and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content. .

Recommended reading / references

o Titel, K.; 2012, Beschreibende und funktionelle Anatomie, 15. Überarb. Auflage, Kiener-Verlag, München

o Schünke, M. et alii 2011, Prometheus Lernatlas der Anatomie, 3. Auflage, Thieme, Stuttgart

o Huch R., Jürgens K.D.: Mensch Körper Krankheit, 4. Aufl., Elsevier GmbH, Urban & Fischer, München

o Huch R., Jürgens K.D.: Biologie Anatomie Physiologie 5. Aufl., Elsevier GmbH, Urban & Fischer, München

o Graf, C.: „Sportmedizin“, Dt. Ärzte-Verlag Köln 2. Aufl. 2012

T2101 NEURO ANATOMY

Types of examination

Written exam 90 min

T-08 FUNCTIONAL ANATOMY AND ARTHRO-KINEMATICS

Module T-08

Module coordinator Prof. Dr. Jens Martin

Course number and name T2102 Functional anatomy and arthro-kinematics

Teachers Prof. Dr. Jens Martin

Christian Kerschl

Nadine Nurasyid

Semester 2

Length of the module 1 Semester

Frequency of the module annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Types of examination written 90 min

Course language German

Qualification objectives of the module

The module enables students to understand the interaction of structures in the human musculoskeletal system in a sports-specific context. The content enables students to recognize measure and apply the principles of functional muscle loops and movement chains in terms of synergetic and antagonistic myo-ligamentous influences on articular structures.

After passing the module, students have achieved the following specific, personal and methodical competencies:

- O understanding the detailed morphological structure of joints and the functional anatomical characteristics of muscles in the healthy human body.
- O they learn to multi-dimensionally analyse the interaction of the various structures in the musculoskeletal system and to transfer the results to sports-related movements.
- O They are capable of summarizing myo-ligmentary and articular anatomic structures to functional muscle loops and movement chains.

- O The students know the essential clinical examination and hardware-based measurement and documentation for the active and passive musculoskeletal system.
- O They know the particularities of structural stress on the musculoskeletal system.

Entry requirement and recommendations

The module teaches basic knowledge for all movement scientific courses of study (applied training science and applied health science)

Content

O Anatomical structure and topography and innervation of articular muscle, tendon and ligament structures:

Hip, knee, ankle and foot

Shoulder, elbow and wrist

Chest, torso, spine and pelvis

O Interaction of muscle chains

O Role of muscular imbalances

O Overview of clinical examination methods of the musculoskeletal system

O Measuring technological possibilities and functionality documentation of the musculoskeletal system via:

Video-assisted walk and movement analysis

Surface-EMG

Multidimensional jumping power measuring

Isometric power measurement

O Functional transfer of anatomical muscle loops in general strength training

Learning and teaching methods

Students are taught the respective content in lectures with practical examples, 3-D visualizations and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content. .

Recommended reading / references

o Titel, K.; 2012, Beschreibende und funktionelle Anatomie, 15. Überarb. Auflage, Kiener-Verlag, München

o Schünke, M. et alii 2011, Prometheus Lernatlas der Anatomie, 3. Auflage, Thieme, Stuttgart

o Gehrke, T.; 2012, Sportanatomie, 8. Auflage, Nikol-Verlagsgesellschaft, Hamburg

T2102 FUNKTIONAL ANATOMY AND ARTHRO-KINEMATICS

Type of examination

Written exam 90 min

T-09 BIOMECHANICS

Module T-09

Module coordinator Dr. rer. nat. Melanie Kappelmann

Course number and name T2103 Biomechanics

Teachers Dr. Melanie Kappelmann

Semester 2

Length of the module 1 Semester

Frequency of the module annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of the module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

The module teaches elementary understanding of mechanical items that are relevant in the functionality, expansion and healing of the musculoskeletal system. Students are capable of estimating the stress levels and the resulting biological reactions.

After passing the module, students have achieved the following specific, personal and methodical competencies:

- o Students, due to application-oriented examples, understand what biomechanical knowledge is necessary in what areas. Thus, they know about the necessity of knowing biomechanical basics for further studies and their career.

Usability in this course of study

The module teaches basic knowledge that is relevant for all courses of study in the field of health.

Entry requirements / recommendations

T-01, T-02, T-04

Content

1. Kinematics

- Strength
- Body centre of gravity
- Impulse

2. Rotations and torsions

- Momentum
- Angular momentum

3. Movement and energy

- Energy definition
- Forms of energy
- Energy yield

Teaching methods

Students are taught in lectures with practical demonstrations and the use of visuals. Group and project works, as well as practical use of the taught content are carried out constantly.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

o Hüter-Becker A. (2011). Biomechanik, Bewegungslehre, Leistungsphysiologie, Trainingslehre, Thieme, 2. (überarbeitete) Auflage

T2103 BIOMECHANICS

Type of examination

Written exam 90 min

T-10 PHYSIOLOGY II

Module T-10

Module coordinator Prof. Dr. Stephanie Hecht

Course number and name T2104 Neurophysiology

Teachers Prof. Dr. Stephanie Hecht

Semester 2

Length of the module 1 Semester

Frequency of the module annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

Students can carry out and develop health and training related activities in the field of training science on the basis of neurophysiology.

Students have knowledge of the basic theories and scientifically relevant results in neurosciences and have understood the importance of "body and brain" for their own job.

After passing the module, students have achieved the following specific, personal and methodical competencies:

- O They know the physiological basics of the central nervous system, of sensory physiology and senso.motoric and can apply them in the field of "health, movement and training"
- O They can apply principles from "integrative performance of the central nervous system" on practical applications in the fields "motivation & emotion", "learning and memory", and "brain and sport".
- O They can analyse scientific texts and films about the subject matter
- O They can lead group and individual work with a short presentation

- O They can design practical offers (exercises, training) under reference to neurophysiological effects
- O They reflect their own point of view on the correlation of body and mind
- O They are sensitized for the importance of neurophysiology in their future field of work

Usability in this course of study

The module physiology II teaches basic knowledge for all courses of study in the field of movement, training and health sciences

Entry requirements / recommendations

Module T-04, T-02

Content

Nervous system

1. Physiology of the central nervous system
2. Physiology of the peripheral nervous system
3. Physiology of the vegetative nervous system

Physiology of the senses

4. Functional principles of the optical, acoustic, vestibular, kinetic and tactile sensory systems

Sensomotoric

5. Posture and movement
6. Motoric learning

Integrative activities of the central nervous system

7. Neurophysiologic examination of cerebral activity
8. Language and consciousness
9. Motivation and emotion
10. Learning and memory
11. Brain and body activity

Learning and teaching methods

Lectures, seminars, practice, group work and self-studying with material on iLearn
Vorlesung,

Recommended reading / references

o Bear, F.M., Connors, B.W. & Paradiso, M.A. (2012). *Neurowissenschaften*. 3. Auflage. Berlin: Springer.

- o Behrends, J. C. et al. (2012). *Physiologie. Duale Reihe*. 2. Auflage. Stuttgart: Thieme.
- o Damasio, A. R. (2007). *Descartes` Irrtum*. 5. Auflage. Berlin: List.
- o Hannaford, C. (2013). *Bewegung das Tor zum Lernen*. 8. Auflage. Kirchzarten: VAK.
- o Haus, K.-M. (2014). *Neurophysiologische Behandlung bei Erwachsenen*. Berlin: Springer.
- o Huppelsberg, J. & Walter, K. (2013). *Kurzlehrbuch Physiologie*. 4. Auflage. Stuttgart: Thieme.
- o Hüther, G. (2013). *Bedienungsanleitung für ein menschliches Gehirn/ Die Macht der inneren Bilder/ Biologie der Angst. Limitierte Sonderausgabe*. Göttingen: Vandenhoeck & Ruprecht.
- o Kubesch, S. (Hrsg.). (2014). *Exekutive Funktionen und Selbstregulation*. Bern: Huber.
- o Pape, H.-C., Kurtz, A. & Silbernagl, S. (Hrsg.). (2014). *Physiologie*. 7. Auflage. Stuttgart: Thieme.

T2104 NEUROPHYSIOLOGY

Type of examination

Written exam 90 min

T-11 EVIDENCE-BASED TRAINING AND HEALTH SCIENCES

Module T-11

Module coordinator Prof. Dr. Armin Eichinger

Course number and name T2105 Evidence- based work, medical statistics

Teachers Prof. Dr. Armin Eichinger

Semester 2

Length of the module 1 Semester

Frequency of the module annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 30 h

Total: 150 h

Length of the module examination 90 min

Type of exam written exam 90 min

Course language German

Qualification objectives of the module

Professional competence:

- Evaluation of easy studies
- Knowledge of descriptive approaches
- Basic understanding of various methods
- Understanding of logic and significance tests
- Understanding the particularities of multi-factor experimental designs
- Knowledge of various kinds of experimental designs
- Valuation of disturbance values: teaching and subject effects

Method competence:

- Carrying out basic statistic operations
- Analysis and evaluation of methodical approaches in easy experimental designs

- O Implementation and carrying out of multi-factor study plans with methods for variance analysis and regression analysis
- O Assigning plans and evaluation methods
- O Use and evaluation of evidence-based approaches in medicine
- O Analysis and evaluation of methodical approaches with different experimental plans

Personal Competence:

- O Cooperation in practical tasks
- O Realistic valuation of own skills and limits in decision making
- O Realistic valuation of own expertise in general

Usability in this course of study

The module teaches basic knowledge for all courses of study in the field of health

Content

Level of measurement of data is explained, operationalizing is the foundation for further topics. Those are the preparation and visualization of data, average values, variances and other statistical items and include the basics of descriptive statistical evaluation.

The focus of the module is on the introduction of the different statistical methods of examining the correlation and difference between variables: Chi² test for frequency data, correlation analysis for ordinal and interval data, regression analysis for simple linear modelling of interval-scale data, t-test and single-factor variance analysis for interval-scale data and suitable non-parametric methods. The foundation for this is the statistical significance and hypothesis test.

A methodical expansion is achieved by methods and experiments with several variables: multi-factor variance analysis and multiple regression analysis.

A distinction of statistical and practical significance is carried out by discussing suitable effect strength measures.

Participants collect own data and evaluate and present their data using Excel (or SPSS), where the significant value of the data in the medical application field is evaluated.

The following aspects are other areas of focus in the course:

- O Valuation of the quality of studies: from the individual study to the systemic overview
- O Expertise: strengths, mechanism and limits
- O Decision making: dealing with uncertainty, probability and risk communication and recognition, decision distortion and heuristics

Learning and teaching methods

Lectures with seminar elements and practice-oriented examples

Small group or project work and permanent practical application of the material

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Backhaus, K., Erichson, B., Plinke, W., & Weiber, R. (2010). *Multivariate Analysemethoden: Eine anwendungsorientierte Einführung*. Berlin u.a.: Springer.
- o Backhaus, K., Erichson, B., & Weiber, R. (2013). *Fortgeschrittene Multivariate Analysemethoden: Eine anwendungsorientierte Einführung*. Berlin u.a.: Springer Gabler.
- o Bortz, J., Schuster, C. (2010). *Statistik: Für Human- und Sozialwissenschaftler*. Berlin: Springer.
- o Bortz, J. & Döring, N. (2006; 2015) *Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler*. Berlin: Springer.
- o Field, A. (2013). *Discovering Statistics Using SPSS for Windows*. London: Sage.
- o Gigerenzer, G. (2013). *Risiko: Wie man die richtigen Entscheidungen trifft*. Muenchen: C. Bertelsmann Verlag.
- o Gigerenzer, G., & Gray, J. A. M. (2013). *Bessere Ärzte, bessere Patienten, bessere Medizin. Aufbruch in ein transparentes Gesundheitswesen*. Forum Reports. Berlin: MWV Medizinisch Wissenschaftliche Verlagsgesellschaft.
- o Kahneman, D. (2012). *Schnelles Denken, langsames Denken*. München: Siedler.
- o Motulsky, H. (2013). *Intuitive Biostatistics: A Nonmathematical Guide to Statistical Thinking*. New York: Oxford Univ Press.
- o Rasch, B., Friese, M., Hofmann, W., & Naumann, E. (2014a). *Quantitative Methoden 1: Einführung in die Statistik für Psychologen und Sozialwissenschaftler (4., überarb. Aufl. 2014)*. Wiesbaden: Springer.
- o Rasch, B., Friese, M., Hofmann, W., & Naumann, E. (2014b). *Quantitative Methoden 2: Einführung in die Statistik für Psychologen und Sozialwissenschaftler (4., überarb. Aufl. 2014)*. Berlin: Springer.
- o Weiß, C., & Rzany, B. (2013). *Basiswissen Medizinische Statistik (Auflage: 6., überarb. Aufl. 2013.)*. Berlin, Heidelberg: Springer.

T2105 EVIDENCE-BASED WORK, MEDICAL STATISTICS

Type of examination

Written exam 90 min

T-12 SPORT PRACTICE, SEMESTER 2

Module T-12

Module coordinator Christian Kersch

Course number and name T2106 Sport practice, Semester 2

Teacher Prof. Dr. Jens Martin

Christian Kersch

Nadine Nurasyid

Semester 2

Length of the module 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 20 min

Type of examination presentation 20 min

Course language German

Qualification objectives of the module

- O Learning or deepening the knowledge in theory and practice of certain sports
- O Creating sport-specific warm ups and cool downs
- O didactic and methodology in creating a training
- O Creation of methodical chains for technical key elements of a sport
- O Swimming teaching ability on the basis of the DSV "swim star" programme
- O Learning of theoretical and practical competencies in rescue skills (Silver) in water sports acc. to guidelines of the BRK and DLRG

After passing the module, students have the following professional, personal and method competencies:

By involving students into the lectures (taking over parts of the lectures) personal skills, such as presence, authenticity and communicative flexibility are improved

- The guidelines and basic techniques of new sports are known and can be carried out in their basic form, i.e. certain key elements are mastered
- For advanced sports, students have a detailed understanding of the sport-specific requirements and the practical skills are honed
- The importance of trend sports in the context of the course of studies is understood and their role as modern leisure and health sport is realized
- Students have a "silver" or "gold" lifeguard certificate by the DLRG
- The skills needed to obtain the trainer's license for the DSV "Swim Star" programme have been obtained

Usability in this course of study

For the internship in a sports club and as a requirement for modules T-19, T-20

Entry requirements / recommendations

Successful passing of module T-06 Sport practice

Content

- O Learning or expanding the knowledge of the theory of the following sports: swimming, badminton, basketball, volleyball, rowing, football, handball, athletics, trend sports
- O Performance proof for certain technical key elements of the sports in detail
- O Theory and practice of lifesaving and surface water rescue in open and closed water
- O Didactic and methods of the "Swim Star" programme of the DSV

Learning and teaching methods

Seminars, practical tutorials, group and individual training

Particularities

The module is taught in sports facilities in the region by lecturers

Students have the opportunity to obtain the qualification "teaching certificate for the Swim Star Programme" by the DSV

All students have to pass the "silver" lifeguard test acc. to guidelines by the DRK and DLRG

Empfohlene Literaturliste

- o Dressler, S. (2012), Badminton, 2. Auflage, Auer Verlag, Donauwörth
- o Dornbusch, R. (2014), Basketball, Cornelsen Verlag, Berlin
- o Neumerkel, J. (2013), Fußball, 2. Auflage, Auer Verlag, Donauwörth
- o König, S., Husz A. (2015), Doppelstunde Handball, 2. Auflage, Hofmann Verlag, Schorndorf

- o Grage, W. (2012), Handball Training, 5. Auflage, Meyer und Meyer Verlag, Aachen
- o Grabow, V (2003), Grundkurs Rudern, www.uni-dortmund.de/FB16/sport/do.htm
- o Elsäßer, A., Schulz, W (2015), Lehr DVD: 35 Doppelstunden Volleyball
- o Strüder, H.K. (2013), Leichtathletik, Sportverlag Strauß, Köln

T2106 SPORT PRACTICE, SEMESTER 2

Type of examination

Presentation 20 min

T-13 BIOCYBERNETICS

Module T-03

Module coordinator Prof. Dr. Stephanie Hecht

Course number and name T1105 Systemic Medicine

Teachers Prof. Dr. Stephanie Hecht

Semester 1

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module exam 90 min

Types of exam written exam 90 min

Course language German

Qualification objectives of the entire module

The module enables the student in detail how the human body is built and how it works. The content of this course is to teach students to recognize and apply the various morphological dependencies for movement-induced morphological adaptability in a healthy body.

After passing the module, students have achieved the following specific, personal and methodical competencies:

- Determination of health and sickness
- Can explain the difference between acute and chronic diseases
- Know the most important chronic diseases (disease of civilization) and the significance of applied training science in relation to these diseases (lifestyle intervention)
- Know the importance of applied training science in the field of health science, modern medicine and lifestyle medicine
- Identifying different areas in the health industry that offer possible career opportunities for training scientists

- O deal with scientific texts
- O carry out group and individual work aiming at a short presentation
- O Understand the value of their course of study when it comes to lifestyle medicine

Usability in this course of study

This module serves the preparation for the modules "sport medicine I and II," "preventive aspects of sport I and II," "dietary medicine" and "general and specific behavioural psychology".

Entry qualifications and recommendations

None

Content

The difference between acute and chronic diseases and the implications on the health industry

1. Terminology
2. Pathogenesis to salutogenesis (bio-psycho-social model)
3. Determinants, dimensions & significance of health
4. ICD & ICF
5. Measures and meaning of holistic intervention in the field of applied training sciences
6. Civilisation diseases:
 - High blood pressure
 - Diabetes mellitus
 - Obesity
 - Movement disorders
 - Chronical stress
7. Lifestyle medicine (Lifestyle Programme Bad Kötzing)

Learning and teaching methods

Lectures, seminars, practice, group work and self-studying with materials on iLearn

Particularities

Excursion to the health campus in Bad Kötzing (Bad Kötzing Lifestyle Programme)

Recommended reading / references

- o Franke, A. (2012). Modelle von Gesundheit und Krankheit. 3. Auflage. Bern: Hans-Huber.
- o Hurrelmann, K., Klotz, T. & Haisch, J. (Hrsg.) (2014). Lehrbuch Prävention und Gesundheitsförderung. 4. Auflage. Bern: Hans-Huber.
- o Wühr, E. (2011). Systemische Medizin. Auf der Suche nach einer besseren Medizin. Bad Kötzing: Systemische Medizin.

T1105 SYSTEMIC MEDICINE

Type of exam

Written exam 90 min

T-14 SPORTS MEDICINE I

Module T-14

Module coordinator Prof. Dr. Jens Martin

Course number and name T3102 Adaption of the organ systems

T3103 Health, mass and senior sports

Teachers Prof. Dr. Jens Martin

Nadine Nurasyid

Semester 3

Length of module 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 120 h

Total: 300 h

Type of exam seminar paper

Course language German

Qualification objectives of the module

The module teaches students to understand adaption mechanisms of the different organ systems and their therapeutic significance for activity intervention programmes

They are introduced to a broad spectrum of diseases that can be treated with movement

They learn the necessary competencies to create effective sport therapeutic training programmes in interdisciplinary environments

After passing the module sports medicine I, students have learned the following content:

O Scientific models of training-related biological adaption mechanisms and organ specific adaption mechanisms

O They know the epidemiological significance, pathogenesis and therapeutic possibilities for current diseases

O They can plan and practically implement differentiated and entity-specific therapy

O Students can articulate themselves professionally and in a team-oriented way in a multi-disciplinary, therapeutic environment

○ In regard to individual disease processes, disease-specific limits and systemic therapy goals, recommendations for group and individual training can be made

○ Multi and inter-cultural particularities for therapeutic intervention can be identified and considered sports therapeutically

Usability in this course of study

This module teaches deeper knowledge relevant for all health-related courses of study

Entry requirements / recommendations

Modules T-01, T-02, T-04, T-05 T-07, T-08, T-10, T11, T-13,

Content

Adaptation of the organ systems

○ Biological principles of adaptive processes

○ Movement-induced adaption mechanisms of the:

Cardio-vascular system

Respiratory system

Fascia, connective and supporting tissue

Muscle tissue

Nervous system

Hormone system

Immune system

Health, mass and senior sport

○ The role of mass and senior sports in modern society

○ Health sports and therapy for:

Coronary heart disease

Hypertonia, stroke, cardiac failure

Asthma bronchial, COPD

Obesity, Diabetes mellitus, metabolic syndrome

Juvenile obesity

Osteoporosis, arthrosis, chronic lumbar back pain

- Rheumatisms
- Neuro-muscular disease
- Dementia
- Depression and affective disorders
- Carcinoma

Teaching and learning methods

Students are taught the respective content in lectures with practical examples, 3-D visualizations and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Mensch Körper Krankheit, 4. Aufl., Biologie Anatomie Physiologie 5. Aufl., Elsevier GmbH, Urban & Fischer, München
- o Graf, C.: „Sportmedizin“, Dt. Ärzte-Verlag Köln 2. Aufl. 2012
- o Scheibe, J.: Sport als Therapie, Ullstein-Verlag Berlin, 2. Auflage 1999
- o Mewes, N., Reimers, C.D.: Therapie und Prävention durch Sport, Band 1: Grundlagen, Urban & Fischer Verlag/Elsevier GmbH; 2. Aufl. 2015
- o Mooren, F., Knapp, G.: Therapie und Prävention durch Sport, Band 3: Orthopädie, Rheumatologie, Urban & Fischer Verlag/Elsevier GmbH; 2. Aufl. 2015
- o Reimers, C.D., Reuter, I.: Therapie und Prävention durch Sport, Band 2: Neurologie, Psychiatrie/Psychosomatik, Schmerzsyndrome, Urban & Fischer Verlag/Elsevier GmbH; 2. Aufl. 2015

T3102 ADAPTION OF THE ORGAN SYSTEMS

Type of examination

Part of the module exam

T3103 HEALTH, MASS AND SENIOR SPORTS

Type of examination

Part of module examination

T-15 TECHNICAL ENGLISH

Module T-15

Module coordinator Prof. Dr. Jens Martin

Course number and name T3104 Technical English

Teachers Deborah Lehman-Irl

Semester 3

Module Length 1 Semester

Module Frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 45 h

Total: 150 h

Length of module exam 90 min

Type of exam written exam 90 min

Course language German

Qualification objectives of the module

This course focuses on the social and professional developments (particularly in sports, health, leisure time, fitness, dieting and diagnostics and rehabilitation) in English-speaking and other countries. Apart from recent events, background knowledge is taught. Students are taught the language and important content-related aspects.

After passing the module, students have achieved the following specific, personal and methodical competencies:

Students use textbooks and current newspaper articles as a starting point to understand relevant terms. They have improved their written and oral language skills.

The social competencies of the module were acquired in speaking in the lectures.

Acquiring language skills up to C1 GER level and teaching interdisciplinary, practice-oriented skills for the communicative managing of standardized processes in professional and academic contexts.

Reading comprehension, written language (technical tasks), oral language, 15-20 min presentation of a technical topic

Usability in this course of study

The module Technical English teaches important knowledge for the academic work in all further modules of the course.

Entry requirements / recommendations

School knowledge in written and oral English

Content

The following topics are taught in this course: Sport types, health issues and rehabilitation methods, recreation, physical education, burn-out, coaching, elite performance (mental health and motivation), impact of exercise on general well-being, senior citizens and sport training, diet and nutrition, etc.

Grammar:

Review of tenses, narrative tenses, multi-word verbs, obligation and permission, future probability, gerunds and infinitives, conditionals, relative clauses, modals, etc. (topics may vary each semester)

Various sources are used: reading texts of all sorts (newspaper articles, textbooks, and internet) as well as different listening texts (dialogues, interviews, and radio and TV news). Reading and listening comprehension is schooled and stylistic and language-related characteristics of the text are pointed out.

Learning and teaching methods

Seminars, projects, literature, speeches in English (20 Min)

Recommended reading / references

New for each semester

T3104 TECHNICAL ENGLISH

Type of exam

Written exam 90 min

T-16 SPORT PRACTICE, SEMESTER 3

Module T-16

Module coordinator Christian Kerschl

Course number and name T3105 Sport practice, Semester 3

Teachers Nadine Nurasyid

Christian Kerschl

Semester 3

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 120 h

Total: 300 h

Length of the module exam 20 min

Type of exam Presentation 20 min

Course language German

Qualification objectives of the module

O Learning or expanding the knowledge in theory and practice of chosen sports (basic structures, techniques, basic ability to perform the sport and mastering aspects of it)

O For sports that are already known, technicality is improved and skills are improved

O Apart from schooling personal competencies, students learn how to use educational material for school and club sport to improve their method competencies.

O Estimating stress and strain levels of different sports and the applicability for sport therapeutic interventions with selected orthopaedic diseases

After passing the module, students have the following competencies:

O By involving students into the lectures (taking over parts of the lectures) personal skills, such as presence, authenticity and communicative flexibility are improved

O The rules and basic techniques of new sports are known and can be performed, key elements are mastered

O For advanced sports, students have a detailed understanding of the sport-specific requirements; the individual sport-practical skills are improved

O Students can use sport-specific material from school and club sports to improve their own method competence

O They have learned to analyse sports acc. to their strain levels and applicability to sport-therapeutic intervention for orthopaedic diseases

Usability in this course

For the internship and as a requirement for the modules T-19 and T-20

Entry requirements / recommendations

Successful passing of the modules T-06, T-12 Sport practice

Content

O Learning or deepening the knowledge in theory and practice of the following sports:

Gymnastics,

Badminton,

Basketball,

Football,

Handball,

Volleyball,

Martial arts,

Climbing,

Aqua fitness,

Fitness sports

Warm-up games

O Rehabilitative aspects of sports therapy for certain orthopaedic clinical patterns

O Particularities in communication and sport therapeutic care of rehabilitation patients in post-operative states

Learning and teaching methods

Seminars, practical tutorials, group and individual training

Particularities

The module is taught at regional sports facilities by lecturers

Lectures about fitness sports take place as excursions to suitable facilities

Recommended reading / references

- o Hahn, M., Peter, B. (2011) Aquafitness, Trainingsprogramme für Fitness und Reha, BLV Verlag, München
- o Dressler, S. (2012), Badminton, 2. Auflage, Auer Verlag, Donauwörth
- o Dornbusch, R. (2014), Basketball, Cornelsen Verlag, Berlin
- o Neumerkel, J. (2013), Fußball, 2. Auflage, Auer Verlag, Donauwörth
- o Dornbusch, R., Heyat, A. (2014), Gerätturnen kompetenzorientiert, Cornelsen Verlag, Berlin
- o König, S., Husz A. (2015), Doppelstunde Handball, 2. Auflage, Hofmann Verlag, Schorndorf
- o Grage, W. (2012), Handball Training, 5. Auflage, Meyer und Meyer Verlag, Aachen
- o Mooren, F. et al. (2015), Therapie und Prävention durch Sport, Band 3, 2. Auflage, Urban und Fischer Verlag, München

55

T3105 SPORT PRACTICE, SEMESTER 3

Type of exam

Presentation 20 min

T-17 TRAINING SCIENCE II

Module T-17

Module coordinator Prof. Dr. Jens Martin

Course number and name T4101 Competitive and high-performance sport, methods of regeneration, training control and periodisation

Teachers Nadine Nurasyid

Semester 4

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Type of examination Seminar paper

Course language German

Qualification objectives of the module

Students have studied the training of sports techniques and tactics and know the terminology. They plan trainings methods and apply them systematically and evaluate the success.

Usability in this course of study

For all sports-practical modules and the internship, preparation for T-20

Entry requirements / recommendations

Module T-13

Content

Definition, systematic, fields of application and training of sports tactics

Teaching and learning methods

Students are taught the respective content in lectures with practical examples and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

o Hohmann, A., Lames, M., Letzelter, M.: Einführung in die Trainingswissenschaft, 6. Aufl. Limpert Verlag GmbH, 2014

T4101 COMPETITIVE AND HIGH-PERFORMANCE SPORT, METHODS OF REGENERATION, TRAINING CONTROL AND PERIODISATION

Type of examination

Seminar paper

T-18 PREVENTIVE ASPECTS OF SPORT I

Module T-18

Module coordinator Prof. Dr. Jens Martin

Course number and name T4102 Gender problems in sports, children and youths sports

Teachers Prof. Dr. Jens Martin

Dr. Renate Mehringer

Semester 4

Module length 1 Semester

Module frequency annual

Type of course Compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

The module "Preventive Aspects of Sports I" – with its focus on gender problems in sports and sports for children and youths is, because of its topicality, taught from different points of view (psychological, pedagogical, sociological, anthropological and cultural). This holistic approach is to analyse sensible topics, such as child and prevention, to gain comprehensive knowledge and offer valuable help to society and the individual.

The focus is, on the one hand, on children and youth and their individual development and learning process. On the other hand, the mediator, i. e. trainer, team captain, teacher etc. as well as institutions dealing with sports.

To capture the multi-faceted nature of physical education on a preventive level, the module teaches different approaches necessary to teach the competencies needed.

After passing the module T-18, students have the following competencies:

O They are capable of teaching the activity to children and youths, know about the role model function, demonstration ability, the dealing with movement difficulties "the use of

tripping" and the age-specific pedagogical and psychological aspects of correction, methodology and didactic of motoric learning.

O They have studied topics such as: my body and my abilities = my capital, body experiences, body perception, identity development and they can transfer the significance of the potential for action in sports to other fields.

O Durch die Lehrveranstaltungen haben sich die Studierenden Kompetenzen bezüglich gender- und altersspezifischer Aspekte der Bereiche: Bewegungserziehung ein Weg zur Bewegungskultur - Die Kultur ist die Natur des Menschen (Körperlichkeit, Bewegung, Sinn und Kultur), Bewegungskompetenz als Bildungsdimension angeeignet.

Usability in this course of study

Due to the holistic and scientific approach, a transfer of the acquired competencies to the core modules of the course Training Sciences and Sports Medicine is welcome.

Entry requirements and recommendations

Module T-05 Social Educational Competencies

Content

1. Gender topic and problems (in sport, society and education)
 2. The child, the youth in a developing phase, in a learning process in a context-context analysis
 3. Trainability, training process, training of the motoric main strain phases acc. to the sensitive phases. Talent scouting and promotion
- High-performance sports: self-fulfilment or heteronomy?
4. Competencies of a mediator: trainer, teacher, educator, instructor
(Professional, social, methodological and organisational competencies)
 5. Pedagogy / the educational concept in sports
 6. Health concepts – physical activity and health for children and youths
 7. Socializing in and through sport (rules and values, peer group, personality and identity development, roles etc.)
 8. The game
(Crux of training and development - flow experience *Mihaly Csikszentmihaly*, why?)
 9. Anthropological and cultural principles of physical education
 10. Intercultural comparison / integration
 11. Looking beyond the professional and personal horizon
- Dealing with problematic children (7 basic rules, conversation as the solution)

Teaching and learning methods

Students are taught the respective content in lectures with practical examples and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

Oerter, R., Montada, L. (Hg.) (1995-3). Entwicklungspsychologie. Weinheim.

Edelmann, W. (1996-5). Lernpsychologie. Weinheim.

Kriemler, S. et al. (Hg.) (2014). Körperliche Aktivität und Gesundheit im Kindes- und Jugendalter. Grundlagen – Empfehlungen – Praxis. München.

Güllich, A., Krüger, M. (Hg.) (2013). Sport. Das Lehrbuch für das Sportstudium. Berlin-Heidelberg.

Weineck, J. (2010-16 durchgesehene A.). Optimales Training. Leistungsphysiologische Trainingslehre unter besonderer Berücksichtigung des Kinder- und Jugendtrainings. Balingen. 61

Heinemann, K. (1983-2). Einführung in die Soziologie des Sports (Sport und Sportunterricht, Bd. 1). Schorndorf.

Kürthy, T. (1978). Geschlechtsspezifische Sozialisation 1. Alte Normen und neue Vorstellungen in der Entwicklung und Erziehung von Kindern und Jugendlichen (Bd. 1). Paderborn.

T4102 GENDER PROBLEMS IN SPORTS, CHILDREN AND YOUTHS SPORTS

Type of exam

Written exam 90 min

T-19 SPORT PRACTICE, SEMESTER 4

Module T-19

Module coordinator Christian Kerschl

Course number and name T4103 Sport practice, Semester 4

Teachers Christian Kerschl

Nadine Nurasyid

Semester 4

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 120 h

Total: 300 h

Course language German

Qualification objectives of the module

- O Learning or expanding the knowledge in theory and practice of chosen sports (basic structures, techniques, basic ability to perform the sport and mastering aspects of it)
- O For sports that are already known, technicality is improved and skills are improved
- O Apart from schooling personal competencies, students learn how to use educational material for school and club sport to improve their method competencies.
- O Estimating stress and strain levels of different sports and the applicability for sport therapeutic interventions with selected orthopaedic diseases

After passing the module, students have the following competencies:

- O By involving students into the lectures (taking over parts of the lectures) personal skills, such as presence, authenticity and communicative flexibility are improved
- O The rules and basic techniques of new sports are known and can be performed, key elements are mastered
- O For advanced sports, students have a detailed understanding of the sport-specific requirements, the individual sport-practical skills are improved

O Students can use sport-specific material from school and club sports to improve their own method competence

O They have learned to analyse sports acc. to their strain levels and applicability to sport-therapeutic intervention for orthopaedic diseases

Usability in this course

For the internship and as a requirement for the modules T-19 and T-20

Entry requirements / recommendations

Successful passing of the modules T-06, T-12 Sport practice

Content

O Learning or deepening the knowledge in theory and practice of the following sports:

Gymnastics,

Badminton,

Basketball,

Football,

Handball,

Volleyball,

Martial arts,

Climbing,

Aqua fitness,

Fitness sports

Warm-up games

O Rehabilitative aspects of sports therapy for certain orthopaedic clinical patterns

O Particularities in communication and sport therapeutic care of rehabilitation patients in post-operative states

Learning and teaching methods

Seminars, practical tutorials, group and individual training

Particularities

The module is taught at regional sports facilities by lecturers

Lectures about fitness sports take place as excursions to suitable facilities

Recommended reading / references

- o Hahn, M., Peter, B. (2011) Aquafitness, Trainingsprogramme für Fitness und Reha, BLV Verlag, München
- o Dressler, S. (2012), Badminton, 2. Auflage, Auer Verlag, Donauwörth
- o Dornbusch, R. (2014), Basketball, Cornelsen Verlag, Berlin
- o Neumerkel, J. (2013), Fußball, 2. Auflage, Auer Verlag, Donauwörth
- o Dornbusch, R., Heyat, A. (2014), Gerätturnen kompetenzorientiert, Cornelsen Verlag, Berlin
- o König, S., Husz A. (2015), Doppelstunde Handball, 2. Auflage, Hofmann Verlag, Schorndorf
- o Grage, W. (2012), Handball Training, 5. Auflage, Meyer und Meyer Verlag, Aachen
- o Mooren, F. et al. (2015), Therapie und Prävention durch Sport, Band 3, 2. Auflage, Urban und Fischer Verlag, München
- o Elsäßer, A., Schulz, W.: Lehr-DVD: 35 Doppelstunden Volleyball

T4103 SPORTPRACTICE, SEMESTER 4

Type of exam

Sports-practical performance test: General test of athletic performance on the basis of the age-norms valid in the year of testing according to the Deutsche Sportabzeichen in gold.

T-20 Internship Sport of Choice

Module T-20

Module coordinator Prof. Dr. Jens Martin

Course number and name T4104 Internship Sport of Choice

Teacher Christian Kerschl

Prof. Dr. Jens Martin

Dr. Renate Mehringer

Christian Kerschl

Nadine Nurasyid

Semester 4

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 120 h

Total: 300 h

Length of module examination 180 min

Type of exam written exam 180 min

Course language German

Qualification objectives of the module

The module teaches students about training structure in high-performance sports, pre-competition preparation, training camp programmes, training control, periodisation, altitude training, regenerative measures, ethics and high-performance, dual career, talent scouting and promotion.

In terms of sport-practical competencies, students learn the theoretical and practical basics of seasonal water, winter and alpine sports.

After passing the module, students have acquired the following competencies:

O Students have expanded their knowledge in training science and gained new competencies in the field of high-performance sports.

O They know the significance, complexity and correlation of multi-factor context factors for achieving great performances in sports.

O Students are capable of defining individual, economic and social context factors for performance requirements for high-performance in sports, based on differentiated analyses of sport-specific strain structures

O Students have basic skills and practice-relevant knowledge in selected water, winter and alpine sports

Usability in this course

The module teaches in-depth knowledge of a certain sport and knowledge applicable to all training-science and sports-medicine courses of study.

Entry requirements and recommendations

Modules T-01, T-02, T-04, T-08, T-09, T-10, T-13, T-14, T-17

Content

Theory of high-performance sports

O training structure, pre-competition preparation, training camp programmes,

O training control, periodisation,

O altitude training,

O regenerative measures,

O ethics and high-performance, dual career

O talent scouting and promotion.

Internship Sport of Choice

O Beginners' course sailing / wind surfing / kite surfing

O Beginners' course diving / open-water diving

O Alpine summer sports basics / via ferrata (fixed-rope route)

O Beginners' course Nordic skiing and skating

O Beginners' course alpine downhill skiing

Learning and teaching methods

Students are taught the respective content in lectures with practical examples and the use of multi-media. Group and project work aided by specific literature teach the theory of the sport. Sport-practical skills are taught in special outdoor trainings.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

o Harre, H.-D., Krug, J.: Trainingslehre - Trainingswissenschaft: Leistung - Training – Wettkampf, Meyer & Meyer Verl., 3. Aufl. 2014

o Weineck, J.: Optimales Training, Spitta-Verlag Balingen, 16. Aufl. 2010

o Kromp, T., Mielke, O.: Modernes Tauchen, Franckh Kosmos Verlag; 3. Auflage 2015

o Lange, H., Kloos, G. : Windsurfen lernen in 10 Stunden, Delius Klasing Verl.; 5. Auflage: 2001

o Overschmidt, H., Gliewe, R.: Ich lerne Segeln: Mit Fragenkatalog zum Segelgrundschein: Delius Klasing Verl.; 14. Auflage 2015

o Schubert, P.: Klettersteiggehen - Ausrüstung, Technik, Sicherheit - Alpine Lehrschrift, Bergverlag Rother; 5. Auflage 2013

T4104 INTERNSHIP SPORT OF CHOICE

Type of examination

Written exam 180min

T-21 SPORTS MEDICINE II

Module T-21

Module coordinator Prof. Dr. Jens Martin

Course number and name T5101 Examination methods in sports medicine, anthropometry, sports damages

Teachers Prof. Dr. Jens Martin

Nadine Nurasyid

Semester 5

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 90 h

Total: 300 h

Length of module examination 120 min

Type of exam written exam 120 min

Course language German

Qualification objectives of the module

The module is designed to enable students to analyse sports according to injury patterns and one-sided strain.

Bio-mechanical and pathophysiological effect mechanisms are taught, so that students understand their disorder-centred limitation of physical strain is understood. Tests and examination methods used in sports medicine are presented to students.

After passing the module, students have the following competencies:

O They know the biomechanical and pathophysiological developing mechanism of the most important sport-specific injury patterns and dysfunctions.

O Students learn to analyse the biological and training-scientific reasons of strain-induced dysfunctions of the human organ system and the prevention as a primary and secondary preventive intervention

- O They are capable of identifying damages in time and to initiate further treatment
- O They recognize “yellow and red flags” that require immediate qualified treatment
- O They know the special requirements and limits of emergency measures for sports
- O The tests in clinical and researching sports medicine are taught interactively and applied practically

Usability in this course

The module teaches deeper knowledge for all courses of study in the field of kinesiology of sports and health.

Entry requirements and recommendations

Modules T-01, T-02, T-04, T-07, T-08, T-10, T-13, T-14, T-17, T-20

Content

Sports injuries and damages

- O Terminology and legal foundations
- O Damages to:
 - upper limbs
 - lower limbs
 - torso, spine
 - Loins, pelvis, hips
- O diseases associated with sports
- O medical emergencies in sports

Examination methods in sports medicine

- O Spiroergometry in lab and field diagnostics
- O Lactate measurement
- O Chemical laboratory analysis methods
- O Molecular biological and genetic examinations
- O Anthropometry
- O Metabolic regulation test via BIA

Teaching and learning methods

Students are taught the respective content in lectures with practical examples, 3-D visualizations and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

O Müller-Wohlfahrt H.-W. et al.: Muskelverletzungen im Sport, Thieme Verl., 2. vollständig überarbeitete und erweiterte Auflage 2014

O Graf, C.: „Sportmedizin“, Dt. Ärzte-Verlag Köln 2. Aufl. 2012

O Badtke, G.: Lehrbuch der Sportmedizin, J.-A.-Barth Verlag Heidelberg, 3. Aufl. 1995

O Neumann, G.; Schüler, K.P.: Sportmedizinische Funktionsdiagnostik, Barth Verl., 2. Auflage 1994

T5101 EXAMINATION METHODS IN SPORTS MEDICINE, ANTHROPOMETRY, SPORTS DAMAGES

Type of examination

Written exam 120 min

T-22 DIETARY MEDICINE

Module T-22

Module coordinator Prof. Dr. Jens Martin

Course number and name T5102 Sports and competition diets, eating disorders in sports

Teachers Prof. Dr. Jens Martin

Semester 5

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 45 h

Total: 150 h

Type of exam seminar paper

Course language German

Qualification objectives of the module

The module teaches students the specialties of a balanced diet against the background of performance retention and increase. The differentiated use of specific nutrients in certain training phases and for the dietary intervention in regard to civilisation diseases is taught. Problems, such as eating disorders, supplements and the use of non-doping, performance-enhancing substances are debated. The module builds on knowledge from training science, sports medicine and competitive sport and requires comprehensive understanding of anatomy and physiology.

After passing the module, students have the following competencies:

- Students have studied the key elements of dietary medicine and understand its terminology, content and principles.
- They know the significance of a balanced diet and effective energy balance
- They are capable of systematically designing, documenting and individually adjusting effective diet plans for preventive and rehabilitative purposes
- Students know about sports, basis, pre-competition and competition diets
- Sport-specific dietary guidelines and the use of supplements can be applied in a differentiated way

O Students know the indicators of eating disorders and the possible preventive and therapeutic intervention measures

Usability in this course

The module teaches general knowledge and a deep understanding for all health and training-related as well as sports-medicine-related courses of study

Entry requirements and recommendations

Modules T-01, T-02, T-04, T-08, T-09, T-10, T-13, T-14, T-17, T-20

Content

- O The influence of diet on health and performance
- O Diet and regeneration
- O Energy balance
- O The balance of energy-producing basic nutrients
- O Digestion and performance
- O Energy strategies in practice
- O Basic nutrition
- O Pre-competition diet
- O Competition diets
- O Sport-specific dietary guidelines
- O Use of nutrient concentrates
- O Methods of weight-cutting in sport
- O Eating disorders Sport
- O Dietetics for certain diseases

Teaching and learning methods

Students are taught the respective content in lectures with practical examples and the use of multi-media. Group and project work, as well as practical application of the material by lab applications are consistently carried out. Up-to-date textbooks are used to deepen the knowledge.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Konopka, P.: Sporternährung, blv Buchverlag München, 14. Auflage 2013
- o Harre, H.-D., Krug, J.: Trainingslehre - Trainingswissenschaft: Leistung - Training – Wettkampf, 3. Aufl. Meyer & Meyer Verl. 2014
- o Weineck, J.: Optimales Training, Spitta-Verlag Balingen, 16. Aufl. 2010

T5102 SPORTS AND COMPETITION DIETS, EATING DISORDERS IN SPORTS

Type of examination

Seminar paper

T-23 PREVENTIVE ASPECTS OF SPORT II

Module T-23

Module coordinator Christian Kerschl

Course number and name T5103 Prevention, health promotion and fitness sports

Teachers Christian Kerschl

Semester 5

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 120 min

Type of examination written exam 120 min

Course language German

Qualification objectives of the module

O Students acquire the foundations and concepts of prevention, health promotion and get acquainted with particularities of certain target groups and settings

O Against the backdrop of health political implementation and legal foundations, cost structures, financing models, quality control and benefactors are analysed with regard to social laws

O In the practice-oriented implementation of prevention, students are taught how to instruct "medical Nordic walking" groups and back therapy groups in different settings and contexts

After passing the module, students have the following competencies:

O They know the different kinds of prevention, their effectiveness and intervention settings

O They have understood the different ways of intervention for prevention and promotion and can assign various intervention strategies.

O The principle of individual and collective health gain on the basis of a lifestyle intervention has been understood

O They are capable of identifying salutogenetic risk factors and coordinating respective prevention measures in the context of team-oriented prevention

O They know the most important disease progressions and can individually apply correctly timed prevention intervention

O They are familiar with the foundations of social laws and the historical and contemporary health political framework

O Students have the practical and theoretical knowledge needed to apply for an instructor's license for medical Nordic walking and back therapy

Usability in this course of study

Necessary for the modules T-30 and T-31

Zugangs- bzw. empfohlene Voraussetzungen

Successful passing of the modules T-03, T-13

Content

O Foundations and concepts of prevention and health promotion

O Prevention, concepts and strategies throughout life

O prevention of somatic, psychological and psychosomatic diseases

O Particularities in health promotion in individual and public contexts

O Health politics and social law

O Instructor's course "Medical Nordic Walking"

O Training to back therapist acc. to KddR on the basis of the holistic approach "New Back Therapy"

Learning and teaching methods

Seminars, practical exercises, group and individual training

Particularities

The practical part of the module may be carried out by visiting lecturers. Courses, such as fitness sports and courses about therapeutic topics may be held as excursions to suitable facilities such as clinics, gyms etc.

Recommended reading / references

Hurrelmann, K.: Lehrbuch „Prävention und Gesundheitsförderung“, Verlag: Hans Huber; 4. Auflage 2015

Steinbach, H. „Gesundheitsförderung: Ein Lehrbuch für Pflege- und Gesundheitsberufe“
Verlag: Facultas; 4. Auflage, 2014

T5103 PREVENTION, HEALTH PROMOTION AND FITNESS SPORTS

Type of examination

Written exam 120 min

T-24 SPORT PRACTICE, SEM 5

Module T-24

Module coordinator Christian Kerschl

Course number and name T5104 Sport practice, Semester 5

Teachers Christian Kerschl

Nadine Nurasyid

Semester 5

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 120 h

Total: 300 h

Length of module examination 30 min

Type of examination oral exam

Course language German

Qualification objectives of the module

O Learning or deepening the knowledge in theory and practice of certain sports (basic structures and techniques of new sports, basic skills to carry out this sport and mastering certain key elements)

O Deepening the thus far learned athletics skills and expanding the sport-practical competencies to disciplines of combined athletics (decathlon etc.)

O Sport therapeutic lectures focus more on sport-therapeutic interventions for orthopaedic disease patterns and include certain further diseases

O The age-specific differences in planning and carrying out sports therapy are addressed

O The multi-disciplinary teamwork addressed in the third semester is now put into practice in various rehabilitation facilities

After passing the module, students have the following competencies:

O The rules and basic techniques of new sports are known and the basic skill set and certain key elements are mastered

O In the field of athletics, students have a detailed understanding of sport-specific requirements, the individual sports-practical skills are expanded to combined athletics (decathlon etc.)

O Students are capable of analysing sports according to their transferability to sport-therapeutic interventions for certain neurological and cardiovascular disease patterns

O They can plan sport-therapeutic interventions for groups and individuals with regard to sport-specific strain and disease-related changes to individual strain

O They have worked in different post-acute care facilities and evaluated the necessity, as well as the pros and cons of inter-disciplinary teamwork

Usability in this course

Necessary for module T-29

Entry requirements and recommendations

Successful passing of the sport practice modules T-06, T-12, T-19, T-20 and T-04 social educational competencies and T-14 Sports medicine I

Content

Studying and deepening the knowledge of the following sports:

O Ice hockey,

O Snowshoeing,

O Athletics,

O Theory and practice of warm-up games,

O Parkour

O Fitness

Sport therapy for

- Orthopaedic diseases of:

O upper limbs

O lower limbs

O spine

-psychological diseases

-children

-elderly people

-Internistic diseases

O CHD

O Diabetes mellitus

-Neurological diseases

Learning and teaching methods

Seminars, practical exercises, group and individual training and supervision

Particularities

The module is taught in sports facilities in the region by visiting lecturers

Sport therapeutic lectures are held as excursions to suitable clinical facilities.

Recommended reading / references

Mooren, F. et al. (2015), Therapie und Prävention durch Sport, Band 3, 2. Auflage, Urban und Fischer Verlag, München

T5104 SPORT PRACTICE, SEMESTER 5

Types of examination

Vindication of internship documentation 30 minutes

T-25 SPORTS PSYCHOLOGY

Module T-25

Module coordinator Prof. Dr. Armin Eichinger

Course number and name T6101 Sports psychology

T6102 Team leading

Teachers Prof. Dr. Armin Eichinger

Dr. Patrizia Mayer

Semester 6

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 90 h

Total: 300 h

Length of module examination 90 min

Types of examination written exam 90 min

Course language German

Qualification objectives of the module

The module is designed to teach students to understand and address human behaviour on the basis of perception processes, social context and information processing processes. Inner processes are analysed from a psycho-actional point of view and psychological parts of sport-related actions can be differentiated.

The module consists of the main focal areas behavioural science, general sports psychology and team leading. After passing the module, students have the following competencies:

- O They know psychological phenomena and mechanisms of perception
- O Students learn about the mostly subconscious influences of social situations on human behaviour
- O They are capable of identifying cognitive processes and understand human beings as complex information-processing systems

- O On the basis of the module contents, students can predict and evaluate the results of verbal and non-verbal intervention
- O Content, objectives and perspectives of sports psychology are known
- O Current processes in person-situation relations in sports and training-relevant contexts can be identified and influenced through planned behaviour strategies
- O Students are familiar with the development of sport scientific personality research
- O They have acquired competencies for team leading in sports

Usability in this course

The module teaches basic intervention approaches for all areas of kinesiology, health sciences and social sciences in which psychological aspects play a role

Entry requirements and recommendations

T-07 Neuro anatomy, T-05 Social educational competencies, T-10 Neuro physiology, T-17 Training sciences II

Content

Basics of perception and social psychology

- O Models and processes
- O psychophysics
- O Situational influences on behaviour
- O Basic posits of sport psychological action theory

Cognitive Psychology

- O Learning and memory
- O Decision-making processes
- O Action-regulating systems and action phase models in sports
- O Heuristics and distortions

Behavioural interventions

- O Psychology of influencing
- O Relation to "evidence based working": test planning, evaluation and ethical aspects
- O Personality development through sports
- O Classical and operant conditioning

Team leading

O Theoretical and practical foundations

Learning and teaching methods

Lectures with practical demonstrations, the use of multi-media material and group work, exercises and presentations

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Gigerenzer, G. (2013). Risiko: Wie man die richtigen Entscheidungen trifft. München: C. Bertelsmann Verlag.
- o Jonas, K., Stroebe, W., & Hewstone, M. (2014). Sozialpsychologie. (M. Reiss, Trans.) (6., vollst. überarb. Aufl. 2014). Berlin: Springer.
- o Kahneman, D. (2012). Schnelles Denken, langsames Denken. München: Siedler.
- o Müsseler, J. (2015). Allgemeine Psychologie (2nd ed.). Springer.
- o Baumann, Sigurd: Psychologie im Sport, Verlag: Meyer & Meyer; 6. Auflage

T6101 SPORTS PSYCHOLOGY

Types of examination

Part of the module exam

T6102 TEAM LEADING

Type of examination

Part of the module exam

T-26 SPORTS EQUIPMENT TECHNOLOGY

Module T-26

Module coordinator Christian Kerschl

Course number and name T6103 Sports equipment technology

Teachers Christian Kerschl

Stefan Lehner

Semester 6

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of the module exam 90 min

Type of examination written 90 min

Course language German

Qualification objectives of the module

The module introduces students to the theory and practice of sporting equipment and product development in sports. It enables students to understand sports equipment from a user's point of view and from a physical-mechanical point of view. The students are introduced to the basic principles of materials engineering and materials testing. The necessity and organisation forms of an integrated product development and their business administrative effects are taught as well. A central element is enabling students to understand the effects and correlation between modifying equipment from an industrial design standpoint by the manufacturer and the output and performance of the user.

After passing the module, students have the following competences:

O They know the basic principles of sporting equipment design in the context of integrated process development.

Usability in this course

The knowledge of basic technological factors in measuring and sports equipment technology is necessary to understand certain processes in module T-31 Quality Management

Entry requirements and recommendations

Module T-04 and T-09

Content

O Introduction to the theory and practice of sporting equipment technology and manufacturing

- Principles of integrated sports equipment development
- Business administrative figures and process organisation
- Norming sports equipment
- Introduction to materials engineering and technical mechanic
- Kinematics basics and kinematics in sports equipment manufacturing
- Approval, industry norms and safety regulations in sports equipment manufacturing
- Objective and subjective features of sports equipment, using selected examples (practice evaluation)

Learning and teaching methods

Seminars, laboratory tutorials, excursions to manufacturers and equipment tests

Particularities

The module is taught in cooperation with the mechanical engineering faculty of the DIT

Recommended reading / references

Witte, K. (2013), Sportgerätetechnik, Springer Verlag, Berlin

T6103 SPORTS EQUIPMENT TECHNOLOGY

Types of examination

Written exam 90 min

T-27 ANTI-DOPING, ETHICS AND FAIRNESS

Module T-27

Module coordinator Prof. Dr. Jens Martin

Course number and name T6104 Anti-doping, ethics, prevention of sexual violence and fairness

Teachers Prof. Dr. Jens Martin

Dr. Renate Mehringer

Semester 6

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

Sports and exercise, with their focus on health, competitive and high-performance sports, are studied. Through these topics and the value system linked to them, the preventive, socializing and formative aspects of sports and exercise are deepened. Social taboo topics, such as physical and mental violence, mobbing and sexual assaults are discussed according to their relevance in sports.

What triggers are there? What systemic structures promote and prevent? The elemental character of non-hierarchical tolerance, fairness and ethics, as a requirement for a successful process in health, performance, internationality and cooperation, is taught.

The doping, i. e. anti-doping system, which is highly relevant in this context, is analysed multi-dimensionally against the background of its historic and current potential of harming the principles of sport.

After passing the module, the students have the following competencies:

O The basic content and the significance of tolerance, fairness and ethics in sports as a requirement for sustainable consistency of sports has been understood

- O The significance of performance, victory and defeat is analysed in relation to values and various socio-cultural environments
- O Reasons, as well as intervention and prevention methods for physical and mental violence, mobbing and sexual assaults are outlined and prevention strategies practiced and applied in role plays against various contexts
- O The students are aware of importance of their leading role and their pedagogic responsibility in the prevention process of socio-cultural dysfunctions
- O The history of and current problems of doping and anti-doping campaigns are known. Knowledge about social and health-related effects has been gained
- O The function and structure of national and international doping-control systems has been understood and can be practically applied

Usability in this course

The interdisciplinary character of the topic and the high significance in prevention qualifies the module for transversal competence impartation

Entry requirements and recommendations

Module T-04, T-05 and T-20

Content

1. Fairness, ethics, violence (physical, mental)
 - O Definitions, terminology and structures
2. Fairness, ethics: a pedagogic and sociological task
 - O State of conflict for the dissonance of action, cognitive dissonance
 - O Motive Motivation
3. System and action theoretical analysis of structures that promote violence and unfairness
 - O prevention and intervention strategies
 - O Involved organisations (e. g. DOSB), institutions and people
4. Violence
 - O traumatizing unfairness caused by sexual assaults in sports
 - O Background of preventive and rehabilitative measures
5. Anti-doping
 - O Socio-cultural and historical aspects of doping
 - O Banned substances and methods in sports

O Anti-doping control systems of the WADA and NADA

O People and institutions in doping

Learning and teaching methods

Students are taught in lectures with practical demonstrations and the use of multi-media. Group and project works are carried out consistently.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

Brooks, D. (2015). *Charakter. Die Kunst Haltung zu zeigen.* München.

Gülich, A., Krüger, M. (Hg.) (2013). *Sport. Das Lehrbuch für das Sportstudium.* Berlin-Heidelberg.

Copray, N. (2010). *Fairness.* Gütersloh.

Lenk, H., Pilz, G.A. (1989). *Das Prinzip Fairness.* Zürich-Osnabrück.

Copray, N. (2010). *Fairness. Der Schlüssel zu Kooperation und Vertrauen.* Gütersloh. 89

Gerhard, V., Lämmer, M. (Hg.) (1995). *Fairness und Fair play. Eine Ringvorlesung an der Deutschen Sporthochschule Köln. 2. Auflage.* Sankt Augustin.

Grupe, O., Mieth, D. (1998). *Vom Sinn des Sports. Kulturelle, pädagogische und ethische Aspekte.* Schorndorf.

Heinemann, K. (2007). *Einführung in die Soziologie des Sports (5).* Schorndorf.

Pilz, G.A. (Hg.) (1982). *Sport und körperliche Gewalt.* Reinbek.

Prävention, Zeitschrift des Bundesvereins zur Prävention von sexuellem Missbrauch an Mädchen und Jungen, Nr. 4-5, 2000.

Raschka, C.: *Doping. Klinik - Wirkstoffe - Methoden – Prävention,* Schattauer Verl., 1. Auflage 2010

Singer, A., Treutlein, G.: *Doping im Spitzensport - Sportwissenschaftlichen Analysen zur nationalen und internationalen Leistungsentwicklung (Sportentwicklung in Deutschland),* Verl. Meyer & Meyer Sport; 6. Auflage 2012

T6104 ANTI-DOPING, ETHICS, PREVENTION OF SEXUAL VIOLENCE, FAIRNESS

Types of examination

Written exam 90 min

T-28 PRACTICE IN EVIDENCE-BASED WORK

Module T-28

Module coordinator Prof. Dr. Armin Eichinger

Course number and name T6105 Evidence-based work in training science

Teachers Prof. Dr. Armin Eichinger

Semester 6

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 45 h

Total: 150 h

Type of examination Seminar paper

Course language German

Qualification objectives of the module

The module teaches students to:

O form scientific questions in training science

O find suitable operationalisations for involved constructs (i.e. translate them into measurable variables)

O carry out a reliable, scientific collection of data

O evaluate data

O interpret the results

Method competencies are built up by studying explorative processes and multivariate, inferential statistical analyses

Usability in this course

The module imparts concrete competencies for academic disciplines for the implementation of empirical research. In particular, the module prepares the students for the independent writing of scientific papers (bachelor thesis).

Entry requirements and recommendations

T-08 Evidence-based work, medical statistics

Content

Design of experiments

- O Understanding and evaluating empirical studies
- O Qualitative vs. quantitative research
- O Examination design
- O Quality attributes
- O research ethics
- O From question to elicitation
- O Designing and evaluating questionnaires

Surveys

- O Types of surveys
- O Designing questionnaires
- O Evaluation of surveys

Statistics

- O Two-factor experiment plans
- O Multiple regression analysis
- O Explorative methods: Cluster analysis, multi-dimensional scaling, factor analysis

Teaching methods

Students are taught in lectures with practical demonstrations and the use of visuals. Group and project works, as well as practical use of the taught content are carried out constantly.

Particularities

Via the learning platform iLearn, students receive further reading advice and course material for the preparation and follow-up of lectures. Blended learning contains tasks that complement lectures and promote the deeper studying of content.

Recommended reading / references

- o Backhaus, K., Erichson, B., Plinke, W., & Weiber, R. (2010). Multivariate Analysemethoden: Eine anwendungsorientierte Einführung. Berlin u.a.: Springer.

- o Backhaus, K., Erichson, B., & Weiber, R. (2013). Fortgeschrittene Multivariate Analysemethoden: Eine anwendungsorientierte Einführung. Berlin u.a.: Springer Gabler.
- o Bortz, J., Schuster, C. (2010). Statistik: Für Human- und Sozialwissenschaftler. Berlin: Springer.
- o Bortz, J. & Döring, N. (2006; 2015) Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler. Berlin: Springer.
- o Field, A. (2013). Discovering Statistics Using SPSS for Windows. London: Sage.
- o Huber, O. (2013). Das psychologische Experiment: Eine Einführung. Bern: Verlag Hans Huber.
- o Motulsky, H. (2013). Intuitive Biostatistics: A Nonmathematical Guide to Statistical Thinking. New York: Oxford Univ Press.
- o Rasch, B., Frieze, M., Hofmann, W., & Naumann, E. (2014a). Quantitative Methoden 1: Einführung in die Statistik für Psychologen und Sozialwissenschaftler (4., überarb. Aufl. 2014). Wiesbaden: Springer.
- o Rasch, B., Frieze, M., Hofmann, W., & Naumann, E. (2014b). Quantitative Methoden 2: Einführung in die Statistik für Psychologen und Sozialwissenschaftler (4., überarb. Aufl. 2014). Berlin: Springer.

T6105 EVIDENCE-BASED WORK IN TRAINING SCIENCE

Type of examination

Seminar paper

T-29 SPORT PRACTICE, SEMESTER 6

Module T-29

Module coordinator Christian Kersch

Course number and name T6106 Sport practice, Semester 6

Teachers Christian Kersch

Nadine Nurasyid

Semester 6

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written 90 min

Course language German

Qualification objectives of the module

- O Learning or deepening the knowledge in theory and practice of certain sports
 - O Cycling and volley ball skills are improved. Sport-practical competencies are expanded to planning and realizing complex competitions and tournaments.
 - O Sport-therapeutic lectures aim at improved safety and independence in terms of intervention for orthopaedic and neurological disease and complement already gained knowledge for cardiovascular and metabolic disease
- After passing the module, students have the following competencies:
- O The basic training methods, the rules, competition forms and key techniques of the sport are mastered
 - O Students have detailed understanding for the specific requirements needed for cycling and volley ball, the individual sports-practical competencies have been expanded to planning competitions

O The significance and possibilities of therapeutic riding have been learned and can be applied in specific field of actions

O Students have comprehensive knowledge in using sports and exercise as a therapeutic treatment for various injuries and diseases

O They can act socially communicative and competently in a multi-professional environment on the basis of scientific and evidence-based knowledge

Entry requirements and recommendations

Successful passing of the Sport Practice modules T-06, T-12, T-19, T-20, T-24 and T-04 Social Educational Competencies and T-14 Sports medicine I

Content

Further improving theory and practice of the following sports:

O Dance

O Beach volleyball,

O Cycling,

O Therapeutic riding

Differentiated use of sports therapy for:

- Orthopaedic diseases of the:

O Upper limbs

O Lower limbs

O Spine

-Internistic diseases

O CHD

O Diabetes mellitus

-Neurological disease

Learning and teaching methods

Seminars, practical exercise, group and individual training, supervisions

Particularities

The module is taught in sports facilities in the region by visiting lecturers.

Sport therapeutic lectures are held in suitable clinical facilities in the form of excursions.

Recommended reading / references

- o Mooren, F. et al. (2015), Therapie und Prävention durch Sport, Band 3, 2. Auflage, Urban und Fischer Verlag, München
- o Böhme, T., Haar, J. (2012), MTB Training, Bruckmann Verlag, München
- o Elsäßer, A., Schulz, W (2015), Lehr DVD: 35 Doppelstunden Volleyball

T6106 SPORT PRACTICE, SEMESTER 6

Type of examination

Written exam 90 min

T-30 HEALTH COUNSELLING AND MANAGEMENT

Module T-30

Module coordinator Prof. Dr. Stephan Gronwald

Course number and name T7102 In-house health promotion

T7101 Organisation and structure of sports

Teachers Prof. Dr. Stephan Gronwald

Semester 7

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 8

ECTS 10

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

Students are introduced to basic aspects of in-house health management and understand the significance of necessary complexity for the development of sustainable systems.

By differentiating different points of view and needs of specific areas, students learn to take a leading role in interdisciplinary work

After passing the module, students have the following competencies:

Students

O Know the necessary scientific, legal and socio-political relations as a foundation for developing in-house health management.

O Can evaluate the objectives and points of view of different actors and institutions

O Can describe process steps in the building up of preventive or curative systems and have understood the significance of exercised-induced intervention in a multi-professional environment

- O Can interpret scientific analyses from companies about health and risk and identify suitable interventions
- O Have practised the methods of moderation and mediation of inter-disciplinary groups in certain contexts
- O Apply scientific working methods and techniques in collecting, processing, evaluating and publishing data
- O have experienced the necessity of a personal opinion and multi-partiality in regard to valid scientific foundations

Usability in this course

Students are prepared for their prospective working environment in regard to expertise, communication and organisational competencies

Entry requirements and recommendations

none

Content

1. Scientific and legal foundations
2. Analysis instruments, interpretations and figures
3. Staff, organisation and synergy development (networking)
4. Social insurance law and integration
5. Best Practice and application examples

Particularities

The focus is on in-house health management. A transfer to other settings is discussed.

Recommended reading / references

- o Badura, B.; Steinke, M.; 2011: Die erschöpfte Arbeitswelt. Sonderdruck der Bertelsmann Stiftung Gütersloh
- o Becker, P. (2006). Gesundheit durch Bedürfnisbefriedigung. Hogrefe Verlag Göttingen. ISBN: 3-8017-2029-2.
- o Gronwald S.; Melchart D. (2015). Gesundheitsförderung in Kleinbetrieben. Springer Medizin. Heidelberg. ISBN 978-3-658-11742-9
- o Melchart, D. (2003). Theoretische Modelle von Salutogenese und Pathogenese – Gesundheit zwischen Wissenschaft und Kunst. Verbundprojekt „Hochschulen für Gesundheit“ Druck: Hochschule Magdeburg-Stendal (FH) Magdeburg. März 2003 http://www.system2teach.de/hfg/re_ressources/2683/SalutogenesePathogenese.pdf

- o Treier, M. (2015). Betriebliches Arbeitsfähigkeitsmanagement: Mehr als nur Gesundheitsförderung (essentials). Springer. ISBN: 978-3658085704.
- o Treier, M. (2014). Gefährdungsbeurteilung psychischer Belastungen (essentials). Springer. ISBN 978-3658080181.
- o Treier et. al. (2011): Betriebliches Gesundheitsmanagement. Gesundheitsförderung in der Arbeitswelt, Springer Verlag,
- o Tempel, J.; Ilmarinen, J. (2013). Arbeitsleben 2025 VSA Verlag; ISBN 976-3-89965-464-6
- o Uhle, T.; Treier, M. 2011: Betriebliches Gesundheitsmanagement. Springer Verlag Berlin Heidelberg New York. ISBN-13 978-3-540-95933-5

T7102 IN-HOUSE HEALTH PROMOTION

Type of examination

Part of the module examination

T7101 ORGANISATION AND STRUCTURE OF SPORTS

Type of examination

Part of the module exam

T-31 QUALITY MANAGEMENT

Module T-31

Module coordinator Prof. Dr. Horst Kunhardt

Course number and name T7103 Strain monitoring

T7104 Performance diagnostics

Teachers Prof. Dr. Horst Kunhardt

Dr. Arnd Schürmann

Semester 7

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written exam 90 min

Course language German

Qualification objectives of the module

The module introduces students to sports informatics using the example of computer-assisted performance diagnostics and strain monitoring. Concepts of stationary and mobile data collecting, data organisation in data bases as well as various methods of data collecting via analogue and digital interfaces are taught. The fields of application are: biomechanical movement analyses and computer-assisted training in rehab, health and performance sports, together with competition analyses, computer-assisted technique and tactics training, as well as competition planning and documentation.

After passing the module, students have the following competencies:

Building on IT-based work, biophysics, anatomy, physiology as well as training science taught in previous modules, students understand the basic concepts of informatics and can apply them to performance diagnostics.

Students know the most important legal foundations of collecting personal data, the Medical Devices Act and the requirements for baseline security in IT.

Students can create data bases on the basis of normalized table structures, they can administrate them and evaluate them using SQL. Simple algorithms can be created and tested in an object-oriented programming language

Students can describe different hard and software solutions in rehab and sports, they can classify them and understand and apply performance and product descriptions.

Students know the phases of team-oriented software development and can transfer them to movement-analytical questions.

Students create IT solutions in a team and configure systems in the performance diagnostics laboratory to apply them in the context of sport events. Social educational skills are applied and interdisciplinary acting and thinking is promoted.

Students know and understand the significance of social educational competencies in the introduction and application of IT solutions. Result presentation in the team.

Usability in this course

More practical applications for:

Basic natural sciences

Social educational competencies

Evidence-based work / statistics

Training sciences, sports equipment technology

Entry requirements and recommendations

T-04, T-05, T-11, T-13, T-17, T-26

Content

1. Introduction to the fundamentals of informatics

Data organisation

Data banks

Object-oriented programming

Computer networks (LAN, W-LAN)

Measuring technology and sensors

Interface formats

Sports informatics

O Application areas of sports informatics

Intervention technologies (Measuring stations, video-feedback, video-coaching, Internet-coaching, virtual reality)

- Competition and training analysis (systematic game monitoring, direct or indirect position tracking systems)
- Technique and tactics training (interactive video)
- Competition planning and documentation
- Bio mechanical measuring and analysis methods (motion capture, GPS localisation)
- Data banks and portals for specific target audiences
- Computer-assisted sports equipment technology
- Practical exercises
- Model building and simulation
- Software programming and interface programming
- Data analysis and visualization in the performance diagnostics laboratory

Learning and teaching methods

Lectures and seminar tutorials

Practical exercise in the computer lab and in the performance diagnostics lab and in the field

Particularities

Guest lectures by companies in sports IT solutions

Recommended reading / references

Baca, A., Stöckl, M.: Sportinformatik, 10. Jahrestagung der dvs-Sektion Sportinformatik, 2015

Lames, M., Gegenstand und Anwendungsfelder der Sportinformatik, Schriften der Deutschen Vereinigung für Sportwissenschaften, Band 189, 2008

Online sources:

www.dvs-sportinformatik.de

T7103 STRAIN MONITORING

Type of exam

Part of the module exam

T7104 PERFORMANCE DIAGNOSTICS

Type of examination

Part of the module exam

T-32 SPECIFIC STRENGTH TRAINING

Module T-32

Module coordinator Prof. Dr. Jens Martin

Course number and name T7105 Specific strength training in health sports

Teachers Visiting lecturers

Semester 7

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 4

ECTS 5

Workload Attendance: 60 h

Total: 150 h

Length of module examination 90 min

Type of examination written 90 min

Course language German

Qualification objectives of the module

O Learning of theory and application of medical training therapy as a specific rehabilitative intervention method

O The objective of medical training therapy of restoring or stabilizing the capabilities of an injured or diseased person is understood and can be achieved by applying certain training methods

O The four phase model of medical training therapy is applied systematically and adjusted to the individual impairment and disability factors. In the first phase, mobilisation training is carried out, the second phase is about stabilisation training, followed by a function and strain training.

O By the use of training equipment-based applications, students are capable of improving functional stability and general and specific performance.

After passing the module, the students have the following competencies:

O The specific training methodical knowledge gained thus far has been expanded by the use of small and big training equipment

O They are capable of applying suitable equipment-based strength training methods specific to injuries and disease, based on evidence-based knowledge

O They have learned to independently draw up intervention plans on the basis of self-collected performance diagnostics (cardio-pulmonic performance, strength and muscle status) according to the four phase model

O They can apply different medical training therapy methods to injuries and diseases of the musculoskeletal system as well as to neurological and internistic damages

Usability in this course

Expansion and completion of theoretical and practical skills of the modules T-13, T-23 and T-31 and sports practice as a whole

Entry requirements and recommendations

Modules T-01, T-04, T-13, T-14, T-21, T-23,

Content

Organisation and application of MTT

Bio-mechanic/Kinesiology

O Indication-oriented kinetic and kinematic analysis of upper limbs

O Indication-oriented kinetic and kinematic analysis of lower limbs

O Indication-oriented kinetic and kinematic analysis of the spine

O proprioceptive training (coordination training)

O Neuro muscular training in rehab to improve strength (Phase model for orthopaedics/traumatology)

O Endurance training as a basis for rehabilitation training

O self and assisted stretching and flexibility improvement

Use of equipment

O Strength training (rehabilitation equipment)

O Endurance training equipment (ergometer, tread mills)

O Coordination training equipment (proprioception training)

O Equipment possibilities

O Strength training methods and equipment in regard to therapeutic objectives (common, variable, iso-kinetic, iso-accelerated)

O Excenter technology and muscle-physiological strain forms in strength training

- O The possibility of strain control in strength and endurance training with equipment
- O Indication-specific use of equipment

Analytical methods

Indication-oriented measures for training and therapy

Implementation of therapy and training schedules for interdisciplinary work

Complementing measures to training and therapy

O auto stabilization, "home programmes"

Learning and teaching methods

Seminars, practical exercise, group and individual training and supervisions

Particularities

The module is taught by visiting lecturers at partner institutions (outpatient and inpatient rehabilitation centres)

At the end of the module, students have the chance to sit an additional certification exam (MTT, for the benefactors' approval).

Recommended reading / references

Froböse, I., Wilke, C.: „Training in der Therapie – Grundlagen, Taschenbuch, Verlag: Urban & Fischer Verlag/Elsevier GmbH; 4. Auflage 2015

Seidenspinner, D.: Training in der Physiotherapie. Gerätegestützte Krankengymnastik - Sehen - Verstehen - Üben - Anwenden (Physiotherapie Basics), Verlag: Springer; 1. Auflage: 2005 106

Diemer, F., Sutor, V.: "Praxis der medizinische Trainingstherapie Band I: Lendenwirbelsäule, Sakroiliakgelenk und untere Extremität", Verlag: Thieme; 2. Auflage 2011

Diemer, F., Sutor, V.: "Praxis der medizinische Trainingstherapie Band I: Band 2 Halswirbelsäule und obere Extremität", Verlag: Thieme; 1. Auflage 2010

T7105 SPECIFIC STRENGTH TRAINING IN HEALTH SPORTS

Type of examination

Written exam 90 min

T-33 BACHELOR THESIS

Module T-33

Module coordinator Prof. Dr. Jens Martin

Course number and name T7106 Bachelor Thesis

Semester 7

Module length 1 Semester

Module frequency annual

Type of course compulsory

Level Undergraduate

SWS 0

ECTS 10

Workload Attendance: 0 h

Total: 300 h

Type of examination Bachelor thesis

Course language German

Qualification objectives of the module

A bachelor thesis has to be written in order to obtain a bachelor degree. Students have to prove that they can work independently, scientifically in the field of study. A problem is to be structured and systematically and scientifically analysed in time and then documented in a transparent way.

Content

The topics are individually agreed upon by the student and the supervising lecturer. Registering the topic is done by filling in the Further Education Centre's form.

Learning and teaching methods

Help to independent work according to scientific methods with individual supervision.

Recommended reading / references

Literature depends on the individually chosen topic.

For the formal part of writing to write the thesis, the Further Education Centre's guidelines for writing a bachelor thesis apply. They can be found on iLearn.

Further readings must be discussed with the responsible lecturer.