Curriculum

Bachelor programme in Clinical Biomechanics

University of Southern Denmark

Approved by the dean for the Faculty of Health Sciences, 23 June 2010

In accordance with the Executive Order relating to bachelor and graduate programmes at universities, no. 814 of 1 July 2010 (Education Order), the Order on admissions to bachelor programmes at the universities, no. 212 of 21 February 2012 (Bachelor Admission Order) and Order no. 666 of 24 June 2012 on the examination and grading of university courses (the Examinations Order), the following curriculum and examination for the bachelor programme in clinical biomechanics is laid down at the University of Southern Denmark.

Chapter 1 Aims

§ 1. COURSE TITLE IN DANISH AND ENGLISH

The completed bachelor programme gives students the right to the Danish title "Bachelor i Klinisk Biomekanik" (BSc. Klinisk Biomekanik) and in English, "Bachelor of Science in Clinical Biomechanics".

"Clinical" relates to the many clinical subjects in the course. "Biomechanics" relates to the biomechanics and disorders of the musculoskeletal system.

§ 2. PRESCRIBED PERIODS OF STUDY AND ENTRY REQUIREMENTS

The Bachelor programme in clinical biomechanics comprises 180 ECTS points, equivalent to three years of full-time tuition.

Para 2. According to the Admission Order's § 2-3, entry to the bachelor programme requires that the student has an upper secondary school education and meets specific entry requirements.

§ 3. ACADEMIC PROFILE

Para 1 The aims of the course

The course aims to:
1) introduce students in one or more of the scientific disciplines of the academic field, including the theory and methods of its subjects, ensuring students gain a broad knowledge and ability in their subject(s).
2) give students the subject-specific knowledge and theoretical and methodological qualifications to enable them to independently identify, formulate and solve complex problems in relevant elements of their subjects.
3) give students a basis to carry out professional functions and to qualify for the graduate programme.

Para 2 Competence profile

Graduates in the bachelor programme for clinical biomechanics will be able to:

Knowledge

(a) The field of knowledge

- Describe and analyse the structure of the body
- Demonstrate knowledge about health promotion, disease prevention and rehabilitation
- Demonstrate in-depth knowledge of the normal function of the musculoskeletal system

(b) Understanding and reflection

- Describe and analyse the function of the body
- Describe the genetic, molecular, cellular and physiological processes that regulate and maintain the normal functions of the body

- Analyse the biological variations and processes that characterise a life cycle and gender
- Analyse which external factors can affect the human organism and the human organism's reactions to these factors
- Analyse human behaviour and reaction patterns on the basis of biological, psychological, social, cultural and ethnic preconditions
- Analyse the altered structure and function of the body and its most important organ systems in a variety of diseases and conditions
- Demonstrate scientific curiosity while maintaining a critical and reflective approach to knowledge and assumptions

Skills

(a) Type of skills

- Demonstrate clinical skills in recording a case history, in objective examination and in the formulation of a management plan
- Demonstrate basic psychomotor skills necessary for the practice of chiropractic
- Carry out a thorough examination of the spine
- Carry out a basic manual/chiropractic treatment

(b) Assessment and decision

- Interpret the scientific literature, ask questions and make conclusions based on the findings
- Demonstrate basic diagnostic skills in relation to disorders of the spine
- Use scientific methods to analyse, interpret and assess the methods and principles used to form a basis for diagnosis, treatments and interventions

(c) Communication

- Use medical information technology to search and communicate knowledge

Competences

(a) Sphere of activity

- Identify and analyse ethical issues

(b) Collaboration and responsibility

- Demonstrate appropriate professional behaviour in treating patients and in working with colleagues and other personnel groups

(c) Learning

- Demonstrate ability to formulate their own learning goals and to further develop their own competences

Para 3 Course design and organisation

The course is divided into twelve modules. Each module covers eight weeks of tuition and is concluded with a module examination. At the same time, the course is split into three tracks, which run in parallel throughout the entire course: a biomedical track, an academic track and a professional track. Each of the twelve modules consists mainly of tuition elements taken from two or three of these tracks.

The biomedical track covers the course's constituent basic subjects in health science and fundamental social science subjects. The biomedical track is intended to give bachelor students extensive knowledge of the construction and function of the human body, its regulatory mechanism internally and externally, from the molecular level to the whole person and to give students the framework for

understanding health and ill-health in a social, cultural and ethical context both for the individual and from a national and international health perspective. The biomedical track constitutes 115 ECTS points.

The professional track covers clinic training, skills training and communication training. The professional track will ensure students have the basic clinical competences to receive and diagnose patients with a musculoskeletal disorders and consequential painful conditions in the spinal column, pelvis and extremities and can carry out basic chiropractic treatment. In total, the professional track consists of 31 ECTS points.

Students on the professional track of the clinical biomechanics programme must be prepared to contribute to the lessons in a state of undress. A state of undress means that students retain their underwear. The requirements for clothing are the same for all students regardless of gender. Students are permitted to wear "patient gowns" during lessons. It is important to emphasise that clinical biomechanics cannot be practised or performed on a clothed individual (no matter the region of the body in question), in a professionally responsible manner. Students who attempt to practise during the lessons on clothed students whose skin is covered with material are typically asked to ensure the patient is sufficiently undressed in relation to the procedure that is being practised. This rule may be overridden for shorter or longer periods in exceptional circumstances (e.g. in the case of a documented disorder).

The *academic track* covers scientific theory, scientific method and information competence. The academic track will ensure that students have basic academic competences, including being able to formulate hypotheses and research questions, seek answers to these, interpret their own results and the results of others, critically and analytically assess scientific literature and understand how new knowledge is created. The academic track makes up 34 ECTS points.

The course is designed so that active researchers are responsible for organising the course content and carrying out the modules. As far as possible (and where relevant), teaching is conducted by researchers from active research environments at the Faculty of Health Sciences.

The subjects in the three course tracks progress in accordance with principles that match the content of the tracks.

Progression on the biomedical track follows the principle "From cradle to grave", which is reflected in the modules' headings and content.

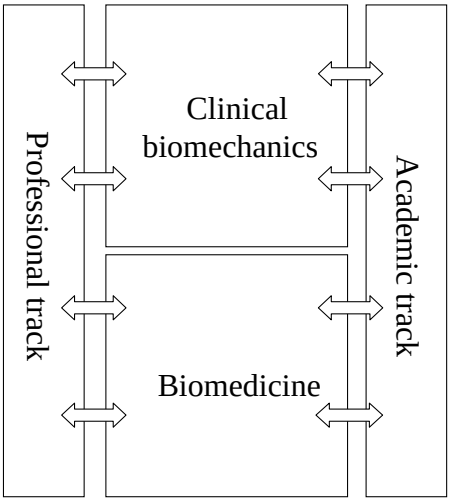
The academic track progresses from a simple scientific assignment (start of course assignment) to the final bachelor project and its defence.

The course content between the start of course assignment and final assignment is designed so as to enable the student to be able to write a scientific assignment at level 2.

Teaching in the professional track progresses from simple practical skills to more complex and analytical skills. As far as possible, the professional track is horizontally integrated with the two other tracks.

The model is intended to ensure there is cohesion and progression both in the course model and in the competences within each of the three tracks throughout the entire chiropractic course. The model design is continued into the graduate programme in clinical biomechanics. The model and the links between the bachelor programme and the graduate programme are illustrated in the figure

below.



Therefore the curriculum also aims to create continuity between the bachelor programme and the graduate programme, to create a foundation for continuity between the pre-graduate and postgraduate course, to create a basis for lifelong learning and personal development and to give students a scientifically-based foundation from which they can contribute to the continual development of chiropractic.

The table below illustrates the course's design in tracks and modules and the distribution of ECTS points.

		Biomedical track		**Professional track**		**Academic track**	
Semester	Module	Title	ECTS	Title	ECTS	Title	ECTS
1	B1	Life, health and sickness	7	Acute Emergency Response	3	Information competence: *Study start assignment*	5
	B2	From cell to individual	15				
2	B3	Knowledge and information	8	Theoretical biomechanics 1	2	Scientific theory/scientific method: *knowledge and values I*	5
	B4	Motion and work	13	Observation and palpation Motion palpation	1 1		
3	B5	Energy and vital functions	13	Theoretical biomechanics 2	2		
	B6	Nutrition and growth	10	Thoracic technique	1*	Scientific theory: Knowledge and values II	5
4	B7	Regulation and communication	10	Lumbar technique Pelvis technique	1* 1*	Manual treatment: Theory and evidence	2
	B8	Homeostasis	10	Cervical technique Communication: Ethics	2* 1	Philosophy	2
5	B9	Brain and senses	10	Orthopaedic and neurological examination Clinic Training A	2 1		
	B10	Attack and defence	10			Scientific method: *Research methodology basic course*	5
6	B11			Optional subject – clinic training Soft tissue treatment	5** 3	Scientific method/information conference: *Bachelor project*	10
	B12	From health to ill-health	9	Optional subject – Musculoskeletal diagnostics Optional subject – Global health and diagnostics (English)	5** 5**		
ECTS points total		**115**		**31**		**34**	

***** The subject is examined under Module B8

****** Two of these three course options can be chosen = 10 ECTS points in total.

Chapter 2 Course Requirements and Course Content

§ 4. TIME LIMITS

Before the first year of the bachelor programme is complete, students must participate in those examinations that, according to the curriculum, are part of the first-year examination. The first-year examination includes the following courses: 2 out of the first 4 courses (B1-B4).

Para 2: At least two of the modules from B1 up to and including B4 must be passed no later than at the end of the second study year before students can continue with the course.

Para 3: If a student does not pass the examinations in accordance with para 2, access to a fresh examination attempt is withdrawn, cf. § 15, para 1 in the Examinations Order.

Para 4: The bachelor programme must be completed within six years after commencement. Periods of leave are taken into account in relation to the total study period.

Para 5: The Board of Studies may in exceptional circumstances grant dispensation from the deadlines in paras 1-4.

§ 5. STUDENT ACTIVITY

Students must take at least one examination every study year and must pass at least one examination every other study year, with the exception of the first year's examination, where § 4, para 2 applies.

Para 2: Students who have been inactive for a year are offered counselling.

Para 3: Enrolment may be terminated if students have been inactive for a continuous period of at least two years.

Para 4: The Board of Studies may in exceptional circumstances grant dispensation from the deadlines in para 1 and para 2.

§ 6. PARALLEL STUDY

If a student has previously been registered to be taught and examined in a module and subsequently withdraws examination registration within the de-registration deadline and thus has not used an examination attempt, he/she must be able to register to take the examination in parallel with a later module without having to seek dispensation from the Board of Studies. In these cases registration for examinations in earlier modules takes place in the same way as for students who have used an examination attempt in an earlier module.

Para 2: The Board of Studies may in exceptional circumstances give dispensation from the requirements in para 1.

Competences and levels of Clinical Biomechanics (subject-related verbs apply only to the professional track)

Definition of competences (Bologna Declaration)

Competences	Description
Intellectual competences	Analytical and abstract thinking and reasoning. Knowledge-seeking attitude and ability to structure own learning process
Academic competences	Special competences in specific academic fields and multidisciplinary competences
Practical competences	Practical skills, professional ethics and responsibility

The subject-relevant verbs are based on Bloom's taxonomy.

	Intellectual and academic competences	Description
Level 1	**General verbs** • State • Define • Describe • Identify **Subject-relevant verbs** • Know • Reproduce	At this level students must be able to reproduce acquired knowledge, recognise learned knowledge, describe what they have seen/read, be able to identify what they have seen/read as belonging to or differing from something else
Level 2	**General verbs** • Explain • Use • Account for **Subject-relevant verbs** • Understand and explain • Translate • Interpret • Plan • Record	At this level students must be able to explain (causal) cohesion, combine knowledge from different areas, use knowledge to solve unknown assignments, predict and calculate results of altered preconditions for processes, etc.
Level 3	**General verbs** • Analyse • Discuss • Assess **Subject-relevant verbs** • Apply • Determine • Synthesise • Differentiate	At this level students must be able to relate to and discuss divergent information/opinions, assess their relevance, analyse complex (biological) contexts, and justify choice of method, etc.

	Practical competences	Description
Level 1	**General verbs** • Participate • Assist **Subject-relevant verbs** • Reproduce skills shown	At this level students must be able to contribute by carrying out specific assignments and procedures, without having independent responsibility for the overall handling of the assignments, e.g. assisting with the examination of the lumbar spine.

Level 2	**General verbs** • Perform under supervision **Subject-relevant verbs** • Use shown skills • Identify or localise under supervision, • Examine under supervision • Treat under supervision,	At this level students must be able to carry out specific assignments or functions while being supervised, usually by a more experienced individual.
Level 3	**General verbs** • Perform independently **Subject-relevant verbs** • Use and modify shown skills proficiently and easily • Independently identify or localise • Independently examine • Independently treat	On this level students must be able to carry out the planning and performance of specific functions, for example recording a complete medical history, carrying out an objective examination, hand sterilisation, etc.

§ 7. THE COURSE MODULES

Module B1: Life, health and disorder

Aims: The module sets the framework for how the course unfolds and provides students with a perspective of what the course will lead to. As the module progresses, it will become clear to the students that the course covers three important main tracks: a biomedical, academic and professional track. As part of an introduction to studying, students are helped to acquire a good basis on which to develop an appropriate study technique and learning strategy.
In this module students are introduced to a basic scientific understanding for the pre-conditions for life and for evolution. They learn that there is a coherent structure and order that is the basis for life. They are encouraged to reflect over what life, health and illness are and to understand biological variation. The module includes an introduction to basic cellular biology. In this way students are introduced to the principle of the cycle of life as a basis for the course's organisation, the course requiring insight into a continuum from molecules and membranes, over cells and tissue, organs and systems to individuals and groups.
Students must learn to talk about the human organism in a precise and clear manner.
Students must learn to use information and learning competence with project planning and article reading to be able to devise a start of course assignment.
Students receive training in how to administer first aid.

Contents (described in competence terms)

<u>The biomedical track</u>

Students can

- Use knowledge of molecules' basic physical and chemical properties to explain their role in biological systems
- Describe the cellular biological building blocks
- Explain the construction of the cell membrane and its significance for cell integrity and function
- Explain the molecular and structural construction of the cell and its function
- Describe the general construction of the human organism and its organs and communicate this using the relevant terminology
- Discuss what health means to the individual and to society
- Discuss how cultural differences can affect an individual's perception of illness and what it is to be ill
- Identify the most important health issues, both nationally and internationally
- Explain how the health sector is organised in Denmark

Examination form:	Written examination
Language:	Danish
Examiner:	Alternating external/internal examiner
Assessment:	Grading scale

The academic track

Students can

- Use central library databases and relevant search tools to carry out systematic and targeted information searches
- Make a justified selection of articles and other types of information
- Problematise and draw a conclusion from the selected articles/information
- Use relevant IT facilities
- Work independently and with others to solve academic assignments
- Make oral and written presentations, including meeting the structural requirements in terms of references and literature lists
- Demonstrate incipient experience of article reading
- Demonstrate the ability to critically assess health science research results

Examination form:	Portfolio evaluation and oral presentation
Language:	Danish
Examiner:	Internal
Assessment:	Passed/failed

The professional track

Students can

- Assess and prioritise assisting efforts in individual situations and more devised situations where first aid is required (acute emergency response)
- Independently, carry out first aid
- Under supervision, carry out basic resuscitation
- Collaborate on a practical situation

Examination form:	Practical examination in the form of individual examinations where students must achieve satisfactory results at stations in an "action course".
Language:	Danish
Examiner:	Internal
Assessment:	Approved/not approved

Professional track participation requirements: None

Total ECTS points:	15 ECTS points
Teaching form:	Lecture, class teaching, group work, exercises
Placing:	1st quarter, 1st semester, 1st year
Pass requirements:	The module is passed when - the written examination is passed - the start of study assignment with oral presentation is passed - the practical examination is passed

Module B2: From cell to individual

Aims: Students learn the molecular-biological processes that are fundamental for the development of the cell, how cell differentiation and tissue morphogenesis take place and result in the development of tissue and embryo. Students get an insight into cellular growth and the consequences of cellular growth disruption.

Contents: The biomedical track

Students can

- Describe purines and pyrimidines and explain information conservation (the genome's repair), copying and transmission (replication, mitosis, cytokinesis) and reading (genes, transcription and protein biosynthesis)
- Explain protein biosynthesis, yield, sub units, post translational processing and regulated decomposition
- Explain the construction, conversion, function and significance of enzymes
- Explain cellular cycle
- Explain how the influence of cell division can lead to alteration of the cell's growth, aging and death and which mechanisms the cell has with which to repair itself
- Explain how gamete cells divide and how fertilisation occurs at the cellular level
- Explain how stem cells can differentiate into different cell types and tissues
- Describe the development of the human embryo from cell to individual and explain which periods are critical for the development of the foetus
- State the construction of basic human tissue
- Explain how adaptive changes occur in tissue

Examination form:	Written examination incl. "spot" (OSCE-type examination)
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Grade scale

Total ECTS points:	15 ECTS points
Teaching form:	Lecture, class teaching, group work, exercises
Placing:	2nd quarter, 1st semester, 1st year
Pass requirements:	The module is passed when the written examination is passed

Module B3: Knowledge and information

Aims: Students learn that human genes contain information, which interacts with the external and internal environment and is the foundation on which people develop individually. Students must attain an understanding of inter-individual genetic differences that influence the occurrence of disorders, response to treatment and biological variation. In this module the students must attain

a fundamental understanding of basic statistical terms. The module trains students in how to reflect on the discussion of topics and terms which are fundamentally important to the perception of what health science is. Furthermore, students attain knowledge of the supporting tissues biomechanical properties and learn to analyse gait.

Contents: The biomedical track

Students can

- Explain how the human genome is constructed and organised
- Describe how changes in the human genome occur with the creation of gamete cells and fertilisation
- Explain how the genome affects the development of the individual's properties
- State the most important principles for changes in the human genome as a consequence of external factors
- Explain how the genetic differences between individuals and ethnic groups can lead to different susceptibility and resistance to illness and treatment, and environmental influences and life style influences
- Explain principles for diagnosing genetic disorders
- Know the principles in the most frequently used methods of molecular biological analysis and explain the methods for the identification of new genetic disorders
- Use epidemiological and statistical methods for separating genetic and non-genetic factors for disorders
- Explain how social and occupational factors affect the occurrence of specific illnesses
- Discuss and relate to ethical aspects of screening, genetic counselling and pre-implantations/foetus diagnostics
- Explain principles for genetic diagnosis and counselling in the case of pregnancy – including the options for prenatal screening and diagnostics

Examination form:	Written examination
Language:	Danish
Examiner:	Alternating external/internal examiner
Assessment:	Grading scale

The academic track

Knowledge and values I

Students can

- Explain the terms patient perspective, patient-centred treatment, compliance, empathy and view of humanity
- Separate the basic principles for humanistic and social science orientated health research
- Separate the basic principles for natural science orientated health research
- Discuss the validity of different research methods and the basic assumptions of scientific theory
- Make a scientific analysis of health science research projects
- Explain and use the concept of paradigms

- Explain basic statistical concepts, including basic divisions and statistical inferences (the hypothetical concept, test, p value)
- Explain the terms conditional risk, relative risk and repetition risk
- Explain basic probability theory methods, including Bayes' theorem and uses in diagnostics, comparison of groups, risk assessment, genetics and counselling

Examination form:	Written examination and Discussion examination
Language:	Danish
Examiner:	Internal examiner
Assessment:	Approved/not approved

The professional track

Theoretical biomechanics 1

Competence aims

Intellectual and academic competences

Students can

- Use knowledge of the supporting tissue's construction (From cell to individual, module 2)
- Explain the supporting tissue's biomechanical properties

Criteria

Intellectual and academic competences

Students can

- Use knowledge of the supporting tissues' histological composition and structure
- Explain the biomechanics of bones
- Explain the biomechanics of cartilage tissues
- Explain the biomechanics of sinews and ligaments
- Explain the histology of the spinal and peripheral nerves
- Explain the biomechanics of the spinal and peripheral nerves
- Explain the biomechanics of the musculoskeletal system

Grading scale

Grade 12 – for an excellent performance

The student can explain the supporting tissues' construction, function and biomechanical properties to an exceptional level.

Grade 2 – for an adequate performance

The student can explain the supporting tissues' construction, function and biomechanical properties to a basic level.

Examination form:	Written examination
Language:	Danish
Examiner:	External
Assessment:	Grading scale

Professional track participation requirements: Attended the classes in From cell to individual (module 2).

Total ECTS points: 15 ECTS points

Teaching form: Lecture, class teaching, group work, exercises
Placing: 1st quarter, 2nd semester, 1st year
Pass requirements: The module is passed when
- the written examinations are passed
- the module assignments are approved
- the discussion assignment is approved

Module B4: Motion and work

Aims: The aim of the module is for students to learn how the human musculoskeletal system is constructed and functions, so that they are able to analyse how motion occurs and the consequences of trauma on function. Students gain an insight into basic features of energy, including thermal development and temperature development related to muscle contraction, muscle activity and physical work. Students must learn the meaning of training, motion and strain for the individual's well-being, for health promotion, for the occurrence and prevention of damage and for rehabilitation. Moreover, students must attain knowledge and skills in palpation of the musculoskeletal system and motion palpation of the spinal column and at the same time commence with fine motor function training.

Contents:

<u>The biomedical track</u>

Students can

- Explain the molecular basis for muscle contraction
- Explain the transformation of energy in relation to oxidative metabolism
- Explain muscle construction and function and give an explain the resulting energy consumption
- Describe the development of the musculoskeletal system, its structures and biomechanical properties
- Explain thermal development in the case of physical work and for the temperature regulation of the body
- Explain how the peripheral, motor function, sensory and nerve system is constructed
- Analyse human motion and evaluate the structures that can be damaged by functional and motion curtailment
- Analyse how external and internal factors can affect the function of the musculoskeletal system
- Analyse the effect of training and immobility on the musculoskeletal system's tissue and function
- Analyse the impact of damage to the musculoskeletal system, both for the individual and for society
- Explain the link between motion and health

Examination form: Written examination incl. "spot" (OSCE-type examination)
Language: Danish
Examiner: Alternating external/internal examiner
Assessment: Grading scale

The professional track

Observation and palpation

Competence aims

Intellectual and academic competences

Students can

- Explain observation of the body
- Explain palpation
- Explain communication

Practical competences

Students can

- Independently carry out observation of the musculoskeletal system
- Independently carry out palpation
- Independently use treatment couch
- Independently communicate with a simulated patient

Criteria

Intellectual and academic competences

Students can

- Explain observational findings that can be consistent with actual or previous pathology
- Explain how bone palpation is included in the objective examination
- Explain how soft tissue palpation is included in the objective examination
- Explain the basic understanding of verbal and non-verbal communication in an interview with a simulated patient

Practical competences

Students can

- Localise visible changes in the skin indicating current or previous pathology
- Independently identify selected deformities in the musculoskeletal system
- Independently identify large anatomical features in the musculoskeletal system
- Independently localise and outline surface bone structures in the musculoskeletal system
- Independently localise and outline large muscles and other smaller and surface soft tissue in the musculoskeletal system
- Independently carry out palpation (soft tissue and bone) examination of the anatomical surface structures around the joints in the following regions:
    - Shoulder
    - Elbow
    - Hand
    - Neck
    - Upper back
    - Hip and pelvis
    - Lower back
    - Knee
    - Foot

- Use basic verbal and non-verbal communication in an interview with and an examination of a simulated patient
- Independently use and adjust various treatment couches

Grading scale
A pass grade is awarded for an adequate performance that demonstrates the minimal acceptable level of 50% attainment of the tested criteria.

Examination form:	Integrated OSCE
Language:	Danish
Examiner:	External
Assessment:	Grade scale

Participation requirements for the professional track: None

Motion palpation
Competence aims
Intellectual and academic competences
Students can

- Apply knowledge and skills acquired in anatomy (Work and motion, module 2) and (Observation and palpation, module 2) from the examination of range of motion in the musculoskeletal system
- Use and attain skills in anatomy and palpation with motion palpation of the pelvis and spinal column
- Explain communication in motion examination

Practical competences
Students can

- Independently carry out examination of the range of motion of the musculoskeletal system
- Independently carry out motion palpation of pelvis and spinal column
- Independently communicate with a simulated patient

Criteria
Intellectual and academic competences
Students can

- State the normal motion in the upper and lower extremities, pelvis, cervical spine, thoracic and lumbar spine
- Understand and explain mechanisms in joint motion:
    - Joint play
    - End play
    - The elastic barrier
    - Para-physiological space
- Understand and explain the principles behind static and dynamic motion palpation of pelvis and spinal column
- Explain basic understanding of verbal and non-verbal communication in the interview and in the examination of a simulated patient

Practice competences
Students can

- Independently carry out passive and active motion examinations of the joints in the following regions (ROM examination):

  - Shoulder
  - Elbow
  - Hand
  - Neck
  - Upper back
  - Hip and pelvis
  - Lower back
  - Knee
  - Foot
- Independently instruct a simulated patient how to carry out active motion
- Independently identify normal and abnormal motion found in the musculoskeletal system
- Independently carry out a static (joint play, end play) and dynamic motion palpation examination of the pelvis and spinal column
- Use basic verbal and non-verbal communication in an interview with and an examination of a simulated patient
- Exercise basic professional conduct during motion palpation

Grading scale
A pass grade is awarded for an adequate performance that demonstrates the minimal acceptable level of 50% attainment of the tested criteria.

Examination form:	Integrated OSCE
Language:	Danish
Examiner:	External
Assessment:	Grade scale

Participation requirements for the professional track: None

Total ECTS points:	15 ECTS points
Teaching form:	Lectures, interactive lectures, class teaching, group work, practical exercises
Placing:	2nd quarter, 2nd semester, 1st year
—Pass requirements:	The module is passed when - the written examination is passed - integrated OSCE is passed

Module B5: Energy and vital functions

Aims:	in this module students learn about how chemical energy is used for maintaining life processes and for growth and development with the oxidation of nutrients during the consumption of oxygen and the production of carbon dioxide. Students gain understanding of the special significance of hydrogen and bicarbonate ions in this context. Students learn that the necessary gas exchange between cells and surroundings is a function of gas exchange between air and blood as blood is transported between lungs and periphery tissue. Students gain an understanding of the mechanisms behind the effects of an adaptation to extreme environments represented by high climates, diving and weightlessness. Students learn the

consequences of deficient circulation and respiration and the significance of the haemostatic balance. Students gain knowledge of the musculoskeletal system's elements and gain insight into the normal functions of the extremities.

Contents:

The biomedical track

Students can

- Explain how the blood gases are exchanged in the lungs, circulated with blood and absorbed in tissue and cells
- Explain oxygen circulation and special factors concerning erythrocyte and the vessel wall's function
- Describe upper and lower airways, the structures and development of the ribcage, heart, lungs and vascular system
- Analyse regulation and function of circulation and respiration
- Explain adjustment of circulation and respiration during and after birth and in the case of special physical factors (hyper-environments and hypo-environments)
- Explain the construction and function of the placenta and its significance for the development of the foetus
- Analyse how energy conversion, circulation and respiration can be affected by lifestyle, external factors and disorders
- Explain symptoms and manifestations of insufficient function of circulation and respiration
- Explain the coagulation mechanisms of the blood and how it can be affected
- Describe the connection between lifestyle and development of disorders of the heart, lungs and circulation
- Use and interpret standard function tests of the heart and lungs

Examination form:	Exercises and written examination
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Approved/Not approved/Grade scale

The professional track

Theoretical biomechanics 2

Competence aims

Intellectual and academic competences

Students can

- Use knowledge about the construction of the spine (Motion and work, module 4)
- Explain the biomechanical properties (kinematic and kinetic) of the spine
- Describe and identify anatomical pathology for the spine
- Understand and explain the biomechanical properties (kinematic and kinetic) of the extremities
- Understand and explain motion patterns

- Understand and explain the biomechanics of the musculoskeletal system as a complete integrated function

Criteria

Intellectual and academic competences

Students can

- Understand and explain vertebral column – including function and stability, kinematic (play, articular surfaces related to coupled motion) and kinetic (static and dynamic for the joints) in relation to different forms/types of load
- Explain the entire spine's function and overall motion pattern both regionally and as a whole under normal conditions and under different forms of load
- Explain the biomechanics of the sacroiliac joints and pelvis as a whole – including function, stability, age-related changes and motion patterns
- Explain the biomechanics of the intevertebral disc – including function and stability related to load and motion, basic anatomical pathology (discus protrusion and slipped disc)
- Analyse motion patterns during ordinary daily work (e.g. walk cycle), sporting activities, one-sided repetitive work
- Explain kinematic (play, articular surfaces related to motion) and kinetic (static and dynamic for the joints) of the joints of extremities.

Grading scale

Grade 12 – for an excellent performance

The student can explain the spine's (including the sacroiliac joints) anatomical construction and function, biomechanical properties and motion with exceptional proficiency and with only a few insignificant deficiencies. The student can analyse motion patterns with exceptional proficiency and with only a few insignificant deficiencies. The student can understand and explain the histology, anatomy and biomechanics of intevertebral disc with exceptional proficiency and with only a few insignificant deficiencies. Furthermore, the student can analyse motion patterns and function with only a few insignificant deficiencies.

Grade 2 – for an adequate performance

The student can explain the spinal column's (including the sacroiliac joints) anatomical construction and function, biomechanical properties and motion with adequate proficiency, though with deficiencies. The student can adequately analyse motion patterns, though with deficiencies. The student can adequately understand and explain the histology, anatomy and biomechanics of intevertebral disc, though with faults. Furthermore, the student can analyse motion patterns and function at a basic level.

Examination form:	Written examination
Language:	Danish
Examiner:	External

Assessment: Grade scale
Participation requirements for the professional track:
Attended classes and examination in From cell to individual (module 2), pass in Motion and work (module 4)

Total ECTS points: 15 ECTS points
Teaching form: Lectures, interactive lectures, class teaching, group work, practical exercises
Placing: 1st quarter, 3rd semester, 2nd year
Pass requirements: The module is passed when
- the written examinations are passed

Module B6: Nutrition and growth

Aims: The aim of this module is that students learn that in addition to energy, nutrients are essential for the development and function of cells, tissue and for the individual. Students must learn the processes that are fundamental for digestion, absorption and cells' conversion and storage of nutrients. Students must learn about a healthy diet as the prerequisite for nutrition and growth and understand what the consequences of deficient nutrition and disruptions in the gastrointestinal function are for the individual at various stages of life. The module allows students to continue to develop their ability to relate to, reflect and discuss their own assumptions and values and in the practical fields of health science. On the professional track, students must acquire an in-depth knowledge of chiropractic techniques related to the thoracic spine.

Contents:

<u>The biomedical track</u>

Students can

- Analyse the mechanical and metabolic processes that are prerequisite for digestion, absorption, transport and storage of nutrients
- Describe structure, function and development of exocrine glands
- Describe structure and development of the head and throat region
- Describe the structure and general development of the oesophagus, gastro intestine, liver and bile duct
- Explain the synthesising, depositing, regulating and excreting functions of the liver
- Explain nitrogen conversion
- Describe methods to monitor organ function and use this to assess liver function
- Analyse how the digestion and absorption system is regulated in the interaction between the intestine, liver, bile ducts and pancreas
- Explain blood sugar regulation
- Analyse the impact that diet's composition and nutritional value has on growth, development and health throughout an individual's lifetime

- Analyse the consequences of the loss or insufficient function of one or more organs involved in the regulation of nutrients and growth
- Explain the mechanisms of breast feeding
- Analyse how body mass is regulated and explain how weight loss occurs
- Explain metabolic change and the consequences of starvation and deficient nutrition
- Explain the nutritional requirements of special groups and individuals
- Use methods to assess nutrition and growth, including carrying out a medical history of a patient's diet

Examination form:	Written examination
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Grade scale

The academic track

Students can

- Use terms and theories of scientific theory in the analysis and discussion of forms of health science knowledge and research methods
- Discuss the reliability of health scientific research methods and health-related observations
- Discuss assumptions behind health science classification systems, disorder models and alternative treatment strategies
- Discuss competing perceptions of central terms such as truth, cause, human, life quality, health, disorder and evidence
- Use central ethical theories and terms in the analysis and discussion of selected research, clinical and political health issues
- Use basic argumentation theory in the analysis of relevant health science arguments
- Discuss ethical aspects linked with selected medical technologies and interventions

Examination form:	Two written assignments
Language:	Danish
Examiner:	Internal examiner
Assessment:	Approved/not approved

The professional track

Thoracic technique

Competence aims

Intellectual and academic competences

Students can

- Understand and explain the existing rational basis for manual treatment of the thoracic spine
- Use attained knowledge in anatomy from Motion and work (module 4) in the treatment of the thoracic spine

- Explain contra-indications for manual treatment
- Describe the term professional conduct

Practice competences

Students can

- Use relevant palpation skills from Observation and palpation (module 4) and Motion palpation (module 4) in the treatment of thoracic spine
- Independently carry out fine motor function exercises and coordination training
- Independently carry out manual treatment
- Adequately communicate with a simulated patient
- Explain contraindications and relative contraindications for manual treatment of spine
- Exercise professional conduct in relation to a simulated patient, with students and teachers

Criteria

Intellectual and academic competences

Students can

- Use knowledge of the existing basic theories around the terms joint dysfunction and the vertebral subluxation model. Explain the indications for the use of the most general manipulation techniques
- Explain the indications for the procedure for the most general manipulation techniques
- Explain the term professional conduct, including: Responsible conduct, ability to improve, initiative and social conduct
- Receive advice, instruction and constructive criticism
- Explain contra-indications for manual treatment

Practice competences

Students can

- Identify normal and abnormal findings of a motion examination
- Independently carry out generally used manipulation techniques and in relation to this, correctly use:
    - Indication
    - Rationale
    - Patient position
    - Practitioner position
    - Segmental contact point
    - Practitioner contact point
    - Practitioner contact hand
    - Practitioner stabilising hand
    - Vector
    - Procedure
- Instruct a simulated patient in the procedure in relation to the examination and treatment
- Positively communicate and integrate with a simulated patient, students and teachers
- Exercise responsible conduct
- Transform instructions and constructive criticism into improved practice

Grading scale
Grade 12 – for an excellent performance
The student can carry out a basic manual treatment of the thoracic spine with optimal proficiency, flow and patient contact.

Grade 2 – for an adequate performance
The student can independently carry out a basic manual treatment of the thoracic spine with adequate proficiency that ensures no serious errors are made in relation to the simulated patient.

Examination form:	On-going evaluation (formative assessment), integrated OSCE (lies on module B8)
Language:	Danish
Examination requirement:	On-going evaluation has to be passed before participating in the integrated OSCE
Examiner:	Internal, External
Assessment:	Passed/failed, grading scale

Participation requirements for the professional track: Pass in Motion and work (module 4), Observation and palpation (module 4) and in Motion palpation (module 4)

Total ECTS points:	16 ECTS points
Teaching form:	Small teaching group, lectures, interactive lectures, class teaching, group work, practical exercises
Placing:	2nd quarter, 3rd semester, 2nd year
Pass requirements:	The module is passed when - the written examination is passed - on-going evaluation is passed - two written assignments are approved

Module B7: Regulation and communication

Aims:

In this module students learn about the mechanisms that enable communication between the different organs and understand how the organs' functions can be controlled and determined by need. Students learn about the consequences of the loss of these hormonal communication and control mechanisms. Furthermore, students learn how medicine and other substances can affect the organism. Students gain an understanding of the principles and effect mechanisms of manual treatments and of the evidence supporting these. On the professional track, students acquire an in-depth knowledge of chiropractic techniques related to the lower back and pelvis.

Contents:

<u>The biomedical track</u>

Students can

- Describe the principles for hormones' synthesis, transport and conversion

- Explain the molecular mechanisms with which hormones and related molecules regulate cells and the organs' functions
- Describe the endocrine glands' construction, function and development
- Explain what significance hormonal changes have on the function of the body and its construction in different phases of life
- Analyse how external environmental factors or medicines can affect the body's hormonal balance
- Explain the basic principles for medicine's effect mechanisms
- Explain manifestations in the case of disruptions of the body's hormone balance
- Describe methods to assess hormone balance
- Explain principles for hormonal load examinations

Examination form:	Written examination:
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Grade scale

The academic track

Manual treatment: Theory and evidence

Competence aims

Intellectual and academic competences

Students can

- Define different forms for manual treatment
- Explain the principles behind the practical execution of the most general forms of manual treatment of the muscles, sinews and joints
- Explain indications for the use of the different treatments
- Explain effect mechanisms of manual treatments
- Explain the evidence for the use of manual treatments
- Interpret the evidence for manual treatments in relation with the evidence for other forms of treatment and no treatment
- Independently use theoretical knowledge of manual treatments' indication, mechanisms of actions and effect on clinical problems

Criteria

Intellectual and academic competences

Students can

- Explain the principles behind the practical execution of high-velocity-low-amplitude (HVLA) manipulation, joint mobilisation and manual soft tissue treatment
- Explain indications for the use of HVLA manipulation, mobilisation and manual soft tissue treatment
- Explain the mechanical and neurological mechanisms of actions of HVLA manipulation, mobilisation and manual soft tissue treatment
- Seek out and interpret scientific literature concerning mechanisms of actions of HVLA manipulation,

mobilisation and manual soft tissue treatment and interpret this knowledge in relation to clinical problems, such as back pain, neck pain and headache
- Independently seek knowledge about the effect of HVLA manipulation, mobilisation and manual soft tissue treatment on clinical problems in the spinal column and extremities
- Explain which resources in the form of literature studies, guidelines and medical technology assessment (MTV) reports that can be used to assess the indications for HVLA manipulation, mobilisation and manual soft tissue treatment
- Independently assess when HVLA manipulation, mobilisation and manual soft tissue treatment is objective and an evidence-based choice of treatment

Grading scale

Grade 12 – for an excellent performance

The student can give a comprehensive account of how HVLA manipulation, mobilisation and manual soft tissue treatment is carried out. Furthermore, the student can give a comprehensive account of contemporary knowledge about the mechanical and neurological mechanisms of actions of these treatments. The student has an overview of the evidence for the named treatments' effect on pain in the spine and extremities, knows which sources that can be used and can explain when these treatments can be used alone and as part of other treatment modalities.

Grade 2 – for an adequate performance

The student has knowledge of the execution of HVLA manipulation, mobilisation and manual soft tissue treatment. Furthermore, the student can in general terms provide an account of contemporary knowledge about the mechanical and neurological mechanisms of actions of these treatments. The student has a realistic view of the strengths and weaknesses in the evidence for the named treatments' effect on pain in the spine and extremities.

Examination form:	Written examination
Language:	Danish
Examiner:	External
Assessment:	Grade scale
Participation requirements:	None
Form of teaching:	Lectures, group assignments

<u>The professional track</u>

Lumbar technique

Competence aims

Intellectual and academic competences

Students can

- Understand and explain the existing rational basis for manual treatment in the lower back
- Use attained knowledge from: Motion and work (module 4), Observation and palpation (module 4) and in Motion palpation (module 4), Manual treatment: Theory and

evidence (module 7) in relation to the treatment of the lower back
- Describe the term professional conduct

Practice competences

Students can

- Use skills from Observation and palpation (module 4) and Motion palpation (module 4)in the lower back
- Independently carry out fine motor function exercises and coordination training
- Independently carry out manual treatment
- Adequately communicate with a simulated patient
- Exercise professional conduct in relation to a simulated patient, with students and teachers

Criteria

Intellectual and academic competences

Students can

- Use knowledge of the existing basic theories around the terms joint dysfunction and the vertebral subluxation model
- Understand and explain the assisted/resisted model for diversified manipulation treatment
- Explain the indications for the use of the most general manipulation techniques
- Explain the procedure for the most general manipulation techniques
- Explain the term professional conduct, including: Responsible conduct, ability to improve, initiative and social conduct
- Receive advice, instructions and constructive criticisms

Practice competences

Students can

- Identify normal and abnormal findings of a motion examination
- Place a patient in the correct lateral position, which ensures optimal patient stability and comfort, and complete manipulation treatments in the lateral position
- Independently carry out general manipulation techniques and for each individual manipulation technique explain:
    - Indication
    - Rationale
    - Assisted or resisted technique
    - Patient position
    - Practitioner position
    - The segmented contact point
    - Practitioner contact point
    - Practitioner contact hand
    - Practitioner stabilising hand
    - Vector
    - The procedure
- Instruct a simulated patient in the procedure related to the examination and treatment
- Positively communicate and integrate with a simulated patient, students and teachers
- Exercise responsible conduct

- Transform instructions and constructive criticism into improved practice

Grading scale
Grade 12 – for an excellent performance
The student can carry out a basic manual treatment of the lower back with optimal proficiency, flow and patient contact.

Grade 2 – for an adequate performance
The student can independently carry out a basic manual treatment of the lower back with adequate proficiency that ensures no serious errors are made in relation to a simulated patient.

Examination form:	On-going evaluation (formative assessment), integrated OSCE
Language:	Danish
Examination requirement:	On-going evaluation has to be passed before participating in the integrated OSCE
Examiner:	Internal, External
Assessment:	Passed/failed, grading scale

Participation requirements for the professional track: Pass in Motion and work (module 4), Observation and palpation (module 4), Motion palpation (module 4) and in Theoretical biomechanics 2 (module 5).

Pelvis technique
Competence aims
Intellectual and academic competences
Students can

- Understand and explain the existing rational basis for manual treatment of the pelvis
- Use attained knowledge from: Motion and work (module 4), Observation and palpation (module 4) and Motion palpation (module 4) and Manual treatment: Theory and evidence (module 7) in relation to the treatment of the pelvis
- Describe the term professional conduct

Practice competences
Students can

- Use skills from Observation and palpation (module 4) and Motion palpation (module 4)in the pelvis
- Independently carry out fine motor function exercises and coordination training
- Independently carry out manual treatment
- Adequately communicate with a simulated patient
- Exercise professional conduct in relation to a simulated patient

Criteria
Intellectual and academic competences
Students can

- Use knowledge of the existing basic theories around the terms joint dysfunction and the vertebral subluxation model
- Explain the indications for the use of the most general manipulation techniques
- Explain the procedure for the most general manipulation techniques
- Explain the term professional conduct, including: Responsible conduct, ability to improve, take the initiative and social conduct
- Receive advice, instructions and constructive criticisms

Practice competences

Students can

- Identify normal and abnormal findings of a motion examination
- Place a patient in the correct lateral position, which ensures optimal patient stability and comfort, and complete manipulation treatments in the lateral position
- Independently carry out generally used manipulation techniques and in relation to this, correctly use:
    - Indication
    - Rationale
    - Patient position
    - Practitioner position
    - Segmental contact point
    - Practitioner contact point
    - Practitioner contact hand
    - Practitioner stabilising hand
    - Vector
    - Procedure
- Instruct a simulated patient in the procedures for the examination and treatment of the pelvis
- Positively communicate and integrate with a simulated patient, students and teachers
- Exercise responsible conduct
- Transform instructions and constructive criticism into improved practice

Grading scale

Grade 12 – for an excellent performance

The student can carry out a basic manual treatment of the pelvis with optimal proficiency, flow and patient contact.

Grade 2 – for an adequate performance

The student can independently carry out a basic manual treatment of the pelvis with adequate proficiency that ensures no serious errors are made in relation to a simulated patient.

Examination form:	On-going evaluation (formative assessment), integrated OSCE
Language:	Danish
Examination requirement:	On-going evaluation has to be passed before participating in the integrated OSCE

Examiner: Internal, External
Assessment: Passed/failed, grading scale
Participation requirements for the professional track: Pass in Motion and work (module 4), Observation and palpation (module 4), Motion palpation (module 4) and in Theoretical biomechanics 2 (module 5).

Total ECTS points: 14 ECTS points
Teaching form: Lectures, class teaching, small group teaching, skills training, group work and practical exercises
Placing: 1st quarter, 4th semester, 2nd year
Pass requirements: The module is passed when
- the written examinations are passed
- on-going evaluation is passed
- integrated OSCE is passed

Module B8: Homeostasis

Aims: The aim of this module is that students learn that the human organism has developed a series of regulatory mechanisms to ensure it remains in a state of equilibrium, such that cells and tissues function optimally despite changes in and effects from the individual's external and internal environment. Students learn the principles governing how the organism manages medicines and toxins. The module trains students in how to carry out both invasive and non-invasive clinical procedures and training in how to carry out simple laboratory analyses. Furthermore, students must reflect over classic chiropractic philosophy and its role in the modern healthcare system. On the professional track, students must attain the prerequisites for being able to act professionally and with due reflection in their communication with patients, next-of-kin and authorities and they learn to make nuanced ethical judgements . Furthermore, students attain an in-depth knowledge of chiropractic techniques related to the cervical spine.

Contents:

<u>The biomedical track</u>

Students can

- Explain membrane transport of water and salts
- Describe the structure, function and development of the kidneys, urinary tracts and genital organs
- Explain how the organism separates waste products through the kidneys
- Explain the blood’s buffer systems
- Explain how the organism maintains the balance of fluid, salts and acid-base
- Analyse the significance of regulation of equilibrium for the function of cells and organs
- Analyse how the body’s fluid, salt and acid-base balance is affected by external factors and illness
- Analyse how urinary separation and urination occur and how they can be affected by internal and external factors

- Explain how medicines and foreign substances are absorbed, distributed and eliminated
- Explain the principles for toxic mechanisms and toxicodynamic factors related to foreign substances
- Explain principles for risk assessment of foreign substances
- Analyse what significance individual variations and affects of excretive mechanisms have for the organism's management of medicines and foreign substances
- Use methods for the assessment of the function, fluid, salt and acid-base balance of the kidneys

Examination form:	Exercises and written examination
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Approved/Not approved/Grade scale

The academic track

Philosophy

Competence aims

Intellectual and academic competences

Students can

- Explain the role of philosophy in the modern healthcare system
- Explain health science philosophy in a historic perspective
- Explain classic chiropractic philosophy
- Use health science philosophy and chiropractic philosophy in a contemporary context
- Independently use philosophy in clinical and ethical reasoning
- Reflect over their own role as a clinician and healthcare figure

Criteria

Intellectual and academic competences

Students can

- Explain the main currents of thought in health science philosophy from 1850 to present day
- Explain the elements in classic chiropractic philosophy
- Explain historical factors around the use of manual treatment, the emergence of chiropractics as an independent field and the development of chiropractics through the 20th century

Grading scale

Pass: The student has some knowledge of the central terms used in modern health science philosophy and in classic chiropractics philosophy. Using examples, the student can identify philosophical and ethical terms. The student can demonstrate knowledge of the development of chiropractics from 1895 to the present day.

Examination form:	80 % attendance and group assignment

Language:	Danish
Examiner:	External
Assessment:	Passed/failed
Participation requirements:	None

The professional track

Communication: Ethics

Competence aims

Intellectual and academic competences

Students can

- Discuss and make a considered ethical assessment in specific ethical dilemmas related to interviews with patients and next-of-kin
- Relate concrete communicative issues for a general understanding of inter-personnel communication and its social situation
- Involve relevant elements from legislation and central professional ethical guidelines in considerations of the healthcare professional's communication with patients and next-of-kin in specific cases

Criteria

Intellectual and academic competences

Students can

- Demonstrate knowledge of ethical terms and theories related to communication between healthcare professionals and patients, including the ability to demonstrate understanding of the terms empathy, autonomy, paternalism, self-determination and consensus competence
- Make qualified ethical considerations and act responsibly and empathetically in communicative ethical dilemmas
- Demonstrate knowledge of relevant legislation and professional guidelines related to patient information, patient self-determination and the healthcare professional's duty of confidentiality
- Discuss the reasonableness of the content in relation to legislation and professional guidelines

Examination form:	Portfolio evaluation
Language:	Danish
Examiner:	Internal
Assessment:	Passed/failed

Cervical technique

Competence aims

Intellectual and academic competences

Students can

- Understand and explain the existing rational basis for manual treatment of the cervical spine and mandibular joint
- Use attained knowledge in anatomy from Motion and work (module 4) in the treatment of the cervical spine
- Describe the term professional conduct

Practice competences

Students can

- Use relevant palpation skills from Observation and palpation (module 4) and Motion palpation (module 4) in the treatment of the cervical spine
- Independently carry out fine motor function exercises and coordination training
- Independently master selected diversified manipulation techniques for the cervical spine
- Independently carry out a complete motion examination of the mandibular joint
- Independently carry out selected manipulation/mobilisation techniques for the mandibular joint
- Adequately communicate with a simulated patient
- Exercise professional conduct in relation to a simulated patient, with students and teachers

Criteria

Intellectual and academic competences

Students can

- Use knowledge of the existing basic theories around the terms joint dysfunction and the vertebral subluxation model
- Explain the indications for the use of selected diversified manipulation techniques (also including Toggle Recoil) for the cervical spine and mandibular joint
- Explain the procedure for the use of selected diversified manipulation techniques for the cervical spine and mandibular joint, also including Toggle Recoil
- Explain the term professional conduct, includingresponsible conduct, ability to improve, initiative and social conduct
- Receive advice, instructions and constructive criticisms

Practice competences

Students can

- Identify normal and abnormal findings of a motion examination
- Independently carry out a professionally responsible static and dynamic motion examination (joint play, motion palpation and end-play) of the mandibular joint
- Independently carry out selected diversified manipulation techniques (including Toggle Recoil), for the cervical spine and mandibular joint, and in relation to this correctly use:
    - Indication
    - Rationale
    - Patient position
    - Practitioner position
    - Segmental contact point
    - Practitioner contact point
    - Practitioner contact hand
    - Practitioner stabilising hand
    - Vector
    - Procedure
- Instruct a simulated patient in the procedure in relation to the examination and treatment
- Positively communicate and integrate with a simulated patient, students and teachers

- Exercise responsible conduct
- Transform instructions and constructive criticism into improved practice

Grading scale
Grade 12 – for an excellent performance
The student can carry out a basic manual treatment of the cervical spine with optimal proficiency, flow and patient contact.

Grade 2 – for an adequate performance
The student can independently carry out a basic manual treatment of the cervical spine with adequate proficiency that ensures no serious errors are made in relation to the simulated patient.

Examination form:	On-going evaluation (formative assessment), integrated OSCE (lies on module B8)
Language:	Danish
Examination requirement:	On-going evaluation has to be passed before participating in the integrated OSCE
Examiner:	Internal, External
Assessment:	Passed/failed, grading scale

Participation requirements for the professional track: Pass in Motion and work (module 4), Observation and palpation (module 4), Motion palpation (module 4) and in Theoretical biomechanics 2 (module 5).

Total ECTS points:	15 ECTS points
Teaching form:	Lectures, class teaching, small group teaching, skills training, group work and practical exercises, role play
Placing:	2nd quarter, 4th semester, 2nd year
Pass requirements:	The module is passed when - the written examinations are passed - exercise reports are approved - portfolio is passed - on-going evaluation

Module B9: Brain and senses

Aims:	The aims of this module are that students learn how the human organism senses external and internal signals, how these sensations are processed and interpreted in the central nervous system and how the central nervous system monitors and controls the functions and reactions of the individual. Students gain the prerequisites for understanding the principles of pain treatment and at the same time learn about the mechanisms behind the development of dependency. On the professional track, students learn about the orthopaedic and neurological tests related to the spine in detail and are introduced to a chiropractor's daily clinical routine
Contents:	

The biomedical track

Students can

- Analyse the molecular and cellular processes that characterise the function of nerve cells, including specialised cells such as sensory cells
- Describe the skull and the structure and development of the central nervous system
- Analyse the regulatory mechanisms of the central nervous system used to protect the brain
- Analyse the consequences of lesions in the central nervous system
- Explain how the function of the periphery nervous system and the central nervous system are integrated
- Analyse the somato-sensory system and account for the principles for pain modulation
- Describe structure, function and development of the sensory organs
- Analyse the neurobiological basis for basic functions and higher cognitive functions
- Explain manifestations of effects on the function of brain cells in different phases of life
- Describe the principles for the modulation of the function of the nerve system
- Analyse the term stress as a biological, societal/cultural and psychological phenomenon
- Explain dependency mechanisms
- Describe critical periods in the development of the nervous system and explain the consequences of damaging affects
- Analyse conduct by using the psychological method

Examination form:	Written examination:
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Grade scale

The professional track

Orthopaedic and neurological examination

Competence aims

Intellectual and academic competences

Students can

- Use knowledge attained about the musculoskeletal system's anatomy and physiology from Motion and work (module 2) and Theoretical biomechanics 1 and 2 (module 3 and 5)
- Explain the rationale behind selected examination techniques for the spine, pelvis and extremities
- Interpret and assess orthopaedic and neurological examination findings for spine, pelvis and extremities
- Acquire and use relevant basic knowledge of neuro-anatomy from Brain and senses (module 9)
- Describe and recognise symptoms and examination findings that indicate neurological disorder
- Assess a given lesion level in the nervous system on the basis of symptoms and findings

- Grade neurological findings in terms of seriousness

Practice competences

Students can

- Use skills from Observation and palpation (module 4) and Motion palpation (module 4)in relation to orthopaedic and neurological examinations
- Independently carry out orthopaedic examination techniques for the spine, pelvis and extremities
- Independently carry out a basic neurological examination of the trunk and extremities

Criteria

Intellectual and academic competences

Students can

- Explain the biomechanical mechanisms of action of the examined tissue in the case of orthopaedic and neurological testing
- Describe and recognise normal, uncertain and abnormal findings in the case of orthopaedic and neurological testing
- Integrate several findings from orthopaedic and neurological examinations as part of an objective examination
- State diagnoses associated with abnormal findings
- Prioritise and recognise serious findings in the case of orthopaedic and neurological examination
- Describe and recognise general symptoms and indications of pathological changes of sensitivity, strength and reflexes in the trunk and extremities
- Describe grading of muscle strength
- Describe grading of reflexes
- Recognise indication of upper motor neuron lesion
- Describe and recognise neurological symptoms and findings that may be associated with permanent loss of function and state the correct further diagnosis
- Assess when a neurological lesion requires immediate referral for a neurological diagnosis on the basis of subjective and objective examination findings

Practice competences

Students can

- Adequately communicate with a simulated patient during an orthopaedic examination
- Interpret non-verbal patient communication
- Adjust the examination to the simulate patient’s condition
- Exercise professional conduct
- Localise the tissue that must be examined
- Carry out/complete an examination procedure that ensures adequate testing of the tissue that is desired to be examined
- Examine the spine, for e.g.:
    - Space occupying processes/conditions
    - Instability
    - Nerve or nerve membrane irritation
    - Fractures
    - Deformities
    - Ankylosis

    - Pain-triggering tissue
- Examine posture
- Examine gait
- Independently carry out a basic sensory examination of the trunk and extremities
- Independently carry out a motor function examination of nerve roots (C5-S2) and consequential periphery nerves in the extremities in the form of isometric muscle strength testing of the relevant muscles
- Independently examine deep sinew reflexes
- Independently examine relevant cutaneous reflexes for upper motor neuron lesion.
- Independently examine muscle tone.
- Independently examine for clonus

Grading scale

Grade 12 – for an excellent performance

The student can explain rationale and normal/abnormal findings for specific orthopaedic examination techniques of the spine with exceptional proficiency and with only a few insignificant deficiencies. The student can carry out comprehensive orthopaedic examination procedures of the spine with exceptional proficiency and with only a few insignificant faults. Furthermore, the student can give a nuanced and detailed interpretation of given orthopaedic findings with only a few insignificant faults and at the same time can integrate and prioritise findings when required.

On the basis of subjective and objective findings, the student can assess the neurological lesions most probable location at an exceptional level.

The student can carry out comprehensive basic examination procedures of the trunk and extremities with exceptional proficiency and with only a few/no insignificant deficiencies.

Grade 2 – for an adequate performance

The student can explain rationale and normal/abnormal findings for specific orthopaedic examination techniques of the spine at a level that ensures no serious errors are made. The student can carry out orthopaedic examination procedures of the spine with adequate skills that ensures no serious errors are made. Furthermore, the student can interpret given orthopaedic findings at a level and degree of overview that ensures no serious errors are made.

On the basis of subjective and objective findings, the student can determine whether the lesion is in the nature of a neurological consequence at a level that ensures no serious errors are made. Serious errors are neurological symptoms and findings potentially associated with permanent function loss (e.g. progressive paresis, gait disorder, widespread neurological findings, perineum/buttock numbness, loss of sphincter control, etc.)

The student can carry out basic neurological examination of the trunk and extremities with adequate skills at a level that ensures no serious errors are made.

Examination form:	OSCE
Language:	Danish
Examiner:	External
Assessment:	Grade scale

Participation requirements for the professional track: Pass in Motion and work (module 4), Observation and palpation (module 4), Motion palpation (module 4) and Theoretical biomechanics 1 and 2 (modules 3 and 5).

Clinical training A

Competence aims

Intellectual and academic competences

Students can

- Describe and reflect upon a specific patient's and/or next-of-kin's situation in relation to the course of an illness or health problems
- Describe variations of job functions carried out by a chiropractors
- Explain when particular focus must be given to duty of confidentiality
- Assess and take responsibility for their own learning needs and work in a targeted fashion with a portfolio

Criteria

Intellectual and academic competences

Students can/have

- Describe their own observations and reflections upon a specific patient's meeting with the healthcare system after having observed the respective patient's first consultation(s)
- Make an analysis (including refined assessment and contextualisation) of patients' experiences when they meet the healthcare system
- Describe their own observations and reflections upon a specific chiropractor's functions and clinical practice after having accompanied the chiropractor for two working days
- Analyse their own descriptions with other students with a view to assessing the scope and variation of chiropractic practice
- Give an account of observed clinical situations where a particular degree of attention and duty of confidentiality was required by the chiropractor or other professional healthcare personnel

Grading scale

A pass grade is awarded for an adequate performance that demonstrates the minimal acceptable level of 50% attainment of the tested criteria.

Examination form:	Attendance, portfolio evaluation and report
Language:	Danish
Examiner:	Internal
Assessment:	Passed/failed

Participation requirements for the professional track: Pass in Observation and palpation (module 4), Motion palpation (module 4), Lumbar and pelvis technique (module 7) and Theoretical biomechanics 1 and 2 (modules 3 and 5).

Total ECTS points:	13 ECTS points
Teaching form:	Lectures, class teaching, small group teaching, skills training, group work and practical exercises, clinical training
Placing:	1st quarter, 5th semester, 3rd year
Pass requirements:	The module is passed when - the written examination is passed - clinical training and report are approved - mini OSCE is passed

Module B10: Attack and defence

Aims: As individuals, human exist in interaction with their surroundings and this module aims to allow students to learn how microorganisms can pose a risk to the individual and what defence mechanisms the human individual has against its own and external microorganisms Students learn how wounds heal. Students learn that the immune system and the inflammation reaction can be inappropriate for the individual in the development of allergies and autoimmunity. Students learn the principles for prevention and treatment of infections. During the module, students learn the basic principles for epidemiological and statistical methods of analysis in healthcare research science.

Contents:

<u>The biomedical track</u>

Students can

- Explain similarities and differences in structure, life cycle and growth requirements for human pathogens and microorganisms
- Analyse antimicrobial medicine’s mechanisms of actions and how microorganisms develop resistance
- Explain the principles for the rational use of antimicrobial medicines
- Analyse the inflammation process
- Analyse molecular and cellular mechanisms in the body's immune system
- Describe the structure and development of the organs that protect the body against external influence: skin, mucous membrane, immune system
- Analyse the immune system’s development, adaptation, tolerance, organisation and regulation and the possibility of being affected by medicines
- Analyse the body’s reactions against microorganisms
- Analyse how infections occur, develop and run their course
- Explain the body’s tissue and blood type antigens and the principles for transfusion and transplantation
- Explain wound healing

- Explain pathogenesis in the case of allergy, autoimmunity and alloimmunity
- Analyse how infections can be prevented for the individual and for the population
- Explain the principles for microbiological and immunological analysis methods
- Analyse infection transmission routes, modes of infection and outbreak of infectious disorders
- Use selected methods for microbiological and immunological diagnostics

Examination form:	Written examination:
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Grade scale

The academic track

Students can

- Explain central quantitative research methods
- Explain central types of data collection and processing
- With supervision, read scientific articles
- Relate critically to research results and possible sources of error
- With supervision, make a basic, critical assessment of statistical analysis methods and their use in scientific articles (basic distribution goals, parametric and non-parametric tests, p-values and confidence intervals)
- Analyse and evaluate simple data material

Examination form:	Portfolio evaluation and written examination
Language:	Danish
Examiner:	Internal examiner
Assessment:	Grade scale

Total ECTS points:	15 ECTS points
Teaching form:	Lectures, class teaching, small group teaching, skills training, group work, exercises
Placing:	2nd quarter, 5th semester, 3rd year
Pass requirements:	The module is passed when - the written examinations are passed - portfolio is passed - integrated OSCE (cervical and thoracic technique from module B6 and B8) are passed

Module B11: Bachelor project

Aims:	The bachelor project is a major independent assignment. Completion of the project allows students to acquire special insight in a limited subject/field/problem that is central in relation to the contents of the bachelor programme in clinical biomechanics. During the project students demonstrate their competences in finding, evaluating and incorporating research-

based scientific literature related to a field of research they wish to research within the quantitative research tradition. In working with the bachelor project, students must show a progression from learning and information competences and competences in research method that is used in relation to the start of studies and other modules. Students gain in-depth knowledge of soft tissue treatment and its use in the musculoskeletal system disorders.

Contents:

The academic track

Students can

- Devise problem statements and project descriptions (under supervision)
- Independently find, assess and select relevant sources
- Independently read scientific articles and relate critically to research results and possible sources of error
- Independently make a basic, critical assessment of methods of statistical analysis and their use in scientific articles
- Select and calculate relevant effect goals
- Carry out a simple statistical analysis and test
- Critically assess results and discuss sources of error
- Present the project and results orally and in writing, incl. creating relevant tables and graphical data presentations

Examination form:	Written assignment followed by individual oral presentation
Language:	Danish
Examiner:	Internal examiner
Assessment:	Grade scale

The professional track

Soft tissue treatment

Competence aims

Intellectual and academic competences

Students can

- Discuss the different types of soft tissue interventions
- Discuss the use of soft tissue treatment in relation to general postural syndromes

Practice competences

Students can

- Independently carry out selected soft tissue techniques
- Use acquired skills in anatomy and palpation in the examination of soft tissue and use of soft tissue techniques

Criteria

Intellectual and academic competences

Students can

- Discuss the principles and explain indications/contraindications for the use of the following modalities:
    - Trigger point therapy/ischemic compression
    - Cross-fibre massage

- Muscle Energy Techniques (MET) techniques
- Cryptotherapy

- Discuss how soft tissue treatment can be used to treat "upper crossed syndrome", "lower crossed syndrome" and "layer syndrome".

Practice competences
Students can

- Independently carry out the following soft tissue techniques:
  - Trigger point therapy/ischemic compression
  - Cross-fibre massage
  - MET techniques

Grading scale
Grade 12 – for an excellent performance
The student can discuss a variety of soft tissue interventions and analyse and interpret objective soft tissue findings at an exceptional level. Furthermore, the student can independently carry out selected soft tissue techniques with exceptional proficiency, flow and patient contact.

Grade 2 – for an adequate performance
The student can describe a variety of soft tissue interventions and interpret objectively soft tissue findings at a level that ensures no serious errors are made. Furthermore, the student can reproduce selected soft tissue techniques at a level that ensures no serious errors are made.

Examination form:	OSCE
Language:	Danish
Examiner:	External
Assessment:	Grade scale

Participation requirements for the professional track: Pass in Motion and work, and Observation and palpation (module 4).

Optional subject – Clinical training

Aims: The aim of this subject is to introduce students to chiropractic clinical training and activity on the basis of an integration of the proficiency already gained on the biomedical and professional track.

Contents:

In the clinic students are introduced to:

- Recording a patient's medical history
- Objective examination
- Paraclinical examinations
- Mutual weighting of the above

Placing: Module B11:

Duration: Five days

Teaching form: Clinic training at an ECCE approved chiropractor (in a foreign country also possible).

Time of implementation: Module B11:

Evaluation: Approved and signed portfolio, 100% participation, internal examiner, passed/failed.

Participation requirements: None, but recommended that it is taken with module B11.

Total ECTS points:	18 ECTS points
Teaching form:	Lectures, small group teaching, skills training and group work.
Placing:	1st quarter, 6th semester, 3rd year
Pass requirements:	The module is passed when - the written report and oral presentation is passed - approved and signed portfolio - mini OSCE is passed

Module B12: From health to ill-health

Aims:

The aim of this module is to prepare students for the transition to the clinical part of the course and the course will primarily be focused around ageing, ill-health and treatment from a societal and cultural perspective, the diagnostic process, development and diagnosis of malignant disorders.
Students learn how malign disorders develop, are diagnosed and treated. Students learn to assess different examinations and screening methods and demographic determinations. Students learn to understand the principles in the diagnostic process. Students are trained to integrate and assess information acquired from different sources (medical history, objective examination, paraclinical examinations) to make an overall assessment of a person who is suffering from ill-health or who is healthy. Furthermore, students are trained so they can integrate knowledge and skills acquired from the professional track to make differential diagnoses and treatment plans.

Contents:

<u>The biomedical track</u>

Students can

- Analyse the changes that occur in an organism as a result of aging
- Explain principles and methods in the diagnostic process
- Explain the concept of risk, place this in relation to prevention and treatment, and recognise its use in the case of prenatal diagnostics
- Describe how the significant disorders are distributed demographically and epidemiologically. Explain the overall principles for classification of disorders and their significant pathological mechanisms
- Identify general pathological organ changes

- Analyse the results of the generally used methods to monitor disorders
- Explain non-neoplastic and neoplastic growth change and the concept of malignancy
- Explain the most significant macroscopic, microscopic, molecular biological and genetic manifestations in the case of growth changes
- Explain the principles for classification, grading, stage subdivision, therapy and prognoses for malign disorders
- Analyse prevention and early intervention for major and/or serious disorders
- Analyse the social, psychological and economic consequences of acute and chronic disorders
- Describe factors that are included in healthcare economic analyses
- Discuss how the interaction of background, lifestyle and personality cause different individuals and groups to have different perceptions of ill-health and health

Examination form:	Written examination:
Language:	Danish
Examiner:	Alternating external/internal examiners
Assessment:	Grade scale

The professional track

Optional subject - Musculoskeletal diagnostics

Competence aims

Intellectual and academic competences

Students can

- Plan a basic chiropractic medical history
- Plan a basic clinical examination for the entire spine
- Synthesise differential diagnoses for general musculoskeletal spinal disorders
- Explain contraindications for manual treatment
- Plan a course of treatment for general musculoskeletal disorders
- Understand and explain how and when another diagnosis and referral is relevant

Practice competences

Students can

- Record a basic chiropractic medical history

Criteria

Intellectual and academic competences

Students can

- Understand and explain a written medial history
- Plan a medical history taking for cervical, thoracic and lumbar spine and the pelvis, which includes:
    - Pain characteristics
    - Symptom patterns
    - General health
    - Course of specific symptoms
    - Earlier disorders/course of disorder

    - Social and family histories
- Define when the medical history is satisfactorily completed
- Analyse information in a medical history
- Recognise ‘danger signals’ in the recording of a medical history
- Plan a complete clinical examination of the cervical, thoracic and lumbar spine and the pelvis
- Explain when the objective examination is comprehensively complete
- Analyse information in an objective examination
- Synthesise differential diagnoses for general musculoskeletal disorders of cervical, thoracic and lumbar spine and the pelvis
- Differentiate between vascular and neurogenic claudication
- Rank and justify differential diagnoses
- Select and justify the selection of a working diagnosis
- Understand, explain and use the principles behind diagnostic triage for back pain in the categories: simple lower back pains, nerve root pain, serious spinal pathology
- Prioritise/plan further diagnosis/examination on the basis of a given medical history and/or objective examination
- Plan a professionally responsible course of treatment for general cervical, thoracic and lumbar and the pelvis lesions in chiropractics
- Assess the relevance of incorporating prevention initiatives in a course of treatment
- Determine whether in the medical history there is a basis for extra care in the case of a physical examination or manual treatment (relative contraindications)
- Determine whether in the medical history there are absolute contraindications for manual treatment
- Explain complications and contraindications for manual treatment
- Explain ‘danger signals’ in relation to musculoskeletal conditions

Practice competences

Students can

- Record a professional responsible medical history for cervical, thoracic and lumbar spine and the pelvis that attempts to pinpoint a lesion that has a mechanical, neurological, inflammatory, malign, visceral or systematic origin

Grading scale

Grade 12 – for an excellent performance

The student can comprehensively plan and record a medical history and plan a relevant objective examination for normal occurrences of musculoskeletal diagnoses and syndromes. On the basis of the above, the student can thus synthesise differential diagnoses, select an optimal working diagnosis, and make a respective course of treatment and prevention initiatives based on the subjective and objective findings at an exceptional level. Furthermore, the student can with optimal proficiency

explain contraindications for manual treatment and when a patient should be referred elsewhere.

Grade 2 – for an adequate performance
The student can plan and record a medical history and plan and objective examination at a level that ensures no serious errors are made. Furthermore, the student can synthesise differential diagnoses, select an appropriate working diagnosis, and devise an associated course of treatment based on the subjective and objective findings at a level that ensures no serious errors are made. Furthermore, the student can explain with minimal proficiency contraindications for manual treatment and when a patient should be referred further.

ECTS points:	5 ECTS points
Examination form:	Written examination and passes in submitted assignments
Language:	Danish
Examiner:	External and internal
Assessment:	Grade scale and passed/failed

Participation requirements for the professional track: All earlier subjects on the professional track and manual treatment: theory and evidence must be passed

Optional subject - Global health and diagnostics (English)
Competence aims
Intellectual and academic competences
Students can
- Explain biomechanical disorders from a global perspective
- Explain international differences in the dealing with musculoskeletal disorders
- Plan a patient history and objectively examination for musculoskeletal disorders
- Synthesise differential diagnoses and plan course of treatment for musculoskeletal disorders
- Explain contraindications for manual treatment
- Understand and explain how and when another diagnosis and referral is relevant

Practice competences
Students can
- Record a basic chiropractic medical history

Criteria
Intellectual and academic competences
Students can
- Explain epidemiological differences in the spread of biomechanical disorders
- Explain the different ways that countries manage various biomechanical disorders
- Understand and explain a written medical history
- Plan a medical history for the spine and the extremities
- Recognise ‘danger signals’ in the recording of a medical history

- Plan and analyse the construction of a complete clinical examination of the spine and extremities
- Synthesise differential diagnoses and make a working diagnosis for general musculoskeletal disorders
- Understand, explain and use the principles behind diagnostic triage
- Plan a professionally responsible course of treatment for general spinal lesions in chiropractics
- Assess the relevance of prevention initiatives
- Determine if there are contraindications for manual treatment in the medical history and/or objective examination
- Account for 'danger signals' in relation to musculoskeletal conditions

Practice competences

Students can

- Record a professionally responsible medical history for the spine that attempts to pinpoint a particular lesion that has a mechanical, neurological, inflammatory, malign, visceral or systematic origin

Grading scale

Grade 12 – for an excellent performance

The student can give a detailed account of epidemiological differences in the spread of biomechanical disorders and the links between differing ways of treating them. Furthermore, the student can record a medical history and plan a relevant objective examination, synthesise differential diagnoses, select an optimal working diagnosis and devise a respective course of treatment at an exceptional level. The student can explain contraindications for manual treatment.

Grade 2 – for an adequate performance

The student can give a basic explain epidemiological differences in the spread of biomechanical disorders and the connection between the differing ways that they are managed. Furthermore, the student can record a medical history and plan a relevant objective examination, synthesise differential diagnoses, select an optimal working diagnosis and devise a respective course of treatment that ensures no serious errors are made. The student can explain contraindications for manual treatment with minimal proficiency.

ECTS points:	5 ECTS points
Examination form:	Written examination and passes in submitted assignments
Language:	Danish
Examiner:	External
Assessment:	Grade scale

Participation requirements for the professional track: All earlier subjects on the professional track and manual treatment: theory and evidence must be passed

Total ECTS points: 14 ECTS points

Teaching form:	Lectures, class teaching, small group teaching, skills training, group work, clinical training
Placing:	2nd quarter, 6th semester, 3rd year
Pass requirements:	The module is passed when - the written examinations are passed - submitted assignments are passed

§ 8. OPTIONAL SUBJECTS

During the bachelor programme in clinical biomechanics, students must take at least two optional subjects, equivalent to 10 ECTS points. The optional subjects are included under the professional track.
Para 2: Only an optional subject approved by the Board of Studies for clinical biomechanics may be included.
Para 3: The optional subjects are placed on the 6th semester.
Para 4: The optional subjects are described under §7 Education modules
Para 5: A minimum of 5 attendants is required for establishing an elective course. However there is no requirement for a number of attendants in the Optional subject in Clinical training.

§ 9. WRITTEN ASSIGNMENTS

Students must complete a start of course assignment. The assignment is placed in module B1. The assignment must be passed for the module to be passed.
Para 2: Exercise reports must be completed for a series of modules and these reports must be approved for the module to be passed.
Para 3: Students must write a bachelor project in the last year of the course. The project constitutes 10 ECTS points. The bachelor project must be submitted and assessed before the end of module B11. A Danish and a Nordic summary must be written and both of them will be part of the assessment.The written paper forms the basis for an evaluation. Together with the oral presentation the evaluation forms the basis of the final grade so that there will be conducted a global assessment.
Para 4: If an assignment or report is failed, the teacher sets a new re-submission deadline.
Para 5: In the case of written work, the subject content is given the highest priority, cf. Examinations Order § 24, Para 1.
Para 6: The student's proficiency in spelling and linguistic expression count for 25% of the overall assessment of the examination performance in written assignments.
Para 7: The Board of Studies may under exceptional circumstances give dispensation for the deadline in para 3.

§ 10. CREDITS

After an application has been approved, the Board of Studies may determine that certain course elements passed on another course in Denmark or abroad are equivalent and superseded course elements on the graduate programme in clinical biomechanics.
Decisions will be based on an academic assessment.

Chapter 3 Examination

§ 11. GENERAL EXAMINATION PROVISIONS

Examinations are held and conducted in accordance with Provision no. 666 of 24 June 2012 on examination and grading of university courses (Examinations Order), Provision on the grade scale and other assessment, no. 250 of 15 March 2007.

Para 1: A minimum of 1/3 of the total number of ECTS-points must be examined by an external examiner.

§ 12. EXAMINATION REGISTRATION

Examination registration must take place within the registration deadline. Students register themselves for examinations, and the examination registration deadline is published on the Faculty of Health Sciences website.

In the case of electronic registration, students are responsible for ensuring they are registered and have an electronic receipt that confirms that registration has taken place.

§ 13. EXAMINATION DE-REGISTRATION

A student can de-register himself/herself from the examination. Students who wish to withdraw their registration must do so in writing at the latest on the weekday prior to the examination. De-registering at the wrong time (after the de-registration deadline) means that the examination will be counted as an examination attempt.

§ 14. WRITTEN EXAMINATIONS (DIGITAL)

Please find the necessary information on the following website:
http://www.sdu.dk/Information_til/Studerende_ved_SDU/Eksamen/generelt_om_eksamen/under_eksamen/Skriftlig_proeve_digital

§ 15. EXAMINATION RESULT

The overall examination result is expressed as an average quotient. Each individual grade has a weighting of 1. Only subjects with a number grade are included in the calculation.
All course modules must be passed for the bachelor programme to be completed.
Para 3: For a module to have been passed, all of its requirements must be approved/passed.

§ 16. OSCE EXAMINATION

A detailed description of the various OSCE examinations on the professional track, including their scheduling and the minimal requirements to pass a “track”, is provided in the document “Description of OSCE examinations on the professional track”. The document is available on the University of Southern Denmark website under “Your course” >>> practical information. Under § 7 The course modules, the type of OSCE examination to be taken is described under each single subject.

§ 17. ILLNESS AND ABSENCE

In the event of an unforeseen withdrawal from the examination, the examination attempt may be annulled if:
1) Illness occurred after the final deadline for registering withdrawal had expired. The student must report this to the Examinations Office.
2) Illness occurred during the examination. The student must summon the supervisor. The student and the supervisor sign a declaration that the examination has been interrupted because of illness.
Para 2: A medical note from a doctor confirming the illness must be produced. The doctor's medical note must be written by the student's customary doctor, unless there are special circumstances. The Examinations Office must have received the doctor's medical note within three days of the date of the examination.
Para 3: If the registration of illness and the doctor's medical note are received in due time, the respective examination is not counted as an examination attempt.
Para 4: If the student fails the resit, he/she is not entitled to another resit.
Para 5: Unregistered absence or absence due to illness will count as an examination attempt. Absence does not entitle the absentee to take a re-examination.

§ 18. New examination

In order to qualify for a re-examination, it is a requirement that the student has previously participated in the subject's ordinary examination. A resit or new ordinary examination takes place within six months of the ordinary examination being held.

Students can personally register for a re-examination (no more than 2 re-examinations per semester) for one of the module's subsequent ordinary examinations or with re-examination in August (NB in February in the case of the subjects Theoretical Biomechanics and Clinical Biomechanics from the professional track). An ***integrated*** OSCE counts for only one examination as the examination is conducted as one.

Para 2 Re-examination in the first year's subjects are held in accordance with the Examinations Order § 18.
Para 3: Students cannot resit any examinations they have passed.
Para 4: Students must register to resit an examination within one week of the publication of the results of the ordinary examination. De-registration from a resit must take place no later than on the weekday before the date of the resit. In accordance with § 16, if the student becomes ill again at the resit, he/she is not entitled to another resit.

§ 19. AIDS

The uses of examination aids are prohibited, unless otherwise indicated.
Para 2: Students are not allowed to use their own computers in the examination.
Para 3: The Board of Studies can in exceptional circumstances, e.g. physical disabilities, grant permission for the use of a computer in one or more

examinations.

§ 20. CHEATING IN EXAMINATIONS

Refer to University of Southern Denmark rules on examinations and to the "Examinations Order".

§ 21. SPECIAL EXAMINATION CONDITIONS

The Board of Studies may - according to the “Examinations Order” § 7 - offer special examination conditions for students with physical or mental disabilities and for students with a mother tongue other than Danish.

Application including relevant attachments ex. medical documentation should be submitted to the study board secretary at the beginning of the semester in question.

§ 22. EXAMINATION APPEAL

Examination appeals or appeals against other judgements that impact on an examination must be made by students and submitted to the Examinations Office and presented to the Dean of the Faculty of Health Sciences. All appeals must be justified and made in writing.

Para 2: Students may appeal against

1) Legal issues
2) The basis of the examination
3) The course of the examination
4) The result

Para 3: Appeals must be made no later than two weeks after the day results are published. However, that day will be no earlier than the date given for publication of the assessments. The university may grant dispensation from the required deadline.
In general, refer to the Examinations Order, Chapter 7.

§ 23. TOTAL NUMBER OF EXAMINATION ATTEMPTS

Students are entitled to a maximum of three attempts to pass an examination. The university may allow further attempts in exceptional circumstances. In the assessment of whether there are appropriate exceptional circumstances, the question of the student’s eligibility for the course cannot play a part.

Reference is made to “Examinations order” § 13 para 2.

§ 24. OTHER EXAMINATION PROVISIONS

The University of Southern Denmark examination rules apply to any other

circumstances that are not named in the Examinations Order.

Para 2: The Board of Studies may under exceptional circumstances give dispensation from the university's curriculum rules. (Examinations Order § 27, no. 12, para 2).

Para 3: In the case of illness or a resit, the form of the examination may be altered in relation to the ordinary examination.

Chapter 4 Other Provisions

§ 25. DISCHARGE FROM STUDIES

Students are discharged from their studies when they

1) Have completed the bachelor programme in clinical biomechanics
2) Are precluded from continuing the course because they have used all of their examination attempts (§ 23 para 1) or they have not passed the first year examination (§ 4 para 2)
3) Are precluded from continuing the course as a consequence of expired deadlines ((§ 4 part 4) or because of activity requirements (§ 5)
4) Withdraw from the course
5) Are permanently dismissed from the university

§ 26. LEAVE

Students may apply for a leave of absence from the bachelor programme in clinical biomechanics in accordance with the "Rules on leave of absence for students at the University of Southern Denmark"

Para 2: Leave of absence may only be granted after students have completed the first year of the bachelor programme and have passed the examinations placed in the course's first year, unless the application for leave of absence is due to pregnancy, adoption or National Service.

Para 3: The university may under exceptional circumstances give dispensation from the requirements in para 2.

§ 27. ADVISORY COMMITTEE

The Advisory Committee consists of partners (course students) and new graduate(s).

§ 28. DATE OF IMPLEMENTATION

The above named curriculum entered into force on 01 09 2010 and applies to students who have commenced the course after this date.