Curriculum for the Master’s Program in Biomedical Engineering and Informatics
Preface:
Pursuant to Act 985 of October 21, 2009 on Universities (the University Act) with subsequent changes, the following curriculum for the Master's program in Biomedical Engineering and Informatics is stipulated. The program also follows the Framework Provisions and the Examination Policies and Procedures for the Faculty of Engineering and Science and The Faculty of Medicine.
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Chapter 1: Legal Basis of the Curriculum, etc.

1.1 Basis in ministerial orders
The Master’s program in Biomedical Engineering and Informatics is organized in accordance with the Ministry of Science, Technology and Innovation’s Ministerial Order no. 814 of June 29, 2010 on Bachelor’s and Master’s Programs at Universities (the Ministerial Order of the Study Programs) and Ministerial Order no. 857 of July 1, 2010 on University Examinations (the Examination Order) with subsequent changes. Further reference is made to Ministerial Order no. 181 of February 23, 2010 (the Admission Order) and Ministerial Order no. 250 of March 15, 2007 (the Grading Scale Order) with subsequent changes.

1.2 Faculty affiliation
The Master’s program falls under the Faculty of Medicine, Aalborg University.

1.3 Board of Studies affiliation
The Master’s program falls under the Board of Studies for Health Technology and Sports Science.
Chapter 2: Admission, Degree Designation, Program Duration and Competence Profile

2.1 Admission
Admission to the Master’s program in Biomedical Engineering requires a Bachelor’s degree in Biomedical Engineering or the like.

Students with another Bachelor's degree, upon application to the Board of Studies, will be admitted after a specific academic assessment if the applicant is deemed to have comparable educational prerequisites. The University can stipulate requirements concerning conducting additional exams prior to the start of study.

2.2 Degree designation in Danish and English
The Master’s program entitles the graduate to the designation civilingeniør, cand.polyt. (candidatus/candidata polytechnices) i Sundhedsteknologi. The English designation is: Master of Science (MSc) in Biomedical Engineering.

2.3 The program’s specification in ECTS credits
The Master’s program is a 2-year, research-based, full-time study program. The program is set to 120 ECTS credits.

2.4 Competence profile on the diploma
The following competence profile will appear on the diploma:

A graduate of the Master’s program has Competences acquired through an educational program that has taken place in a research environment.

The graduate of the Master’s program can perform highly qualified functions on the labor market on the basis of the educational program. Moreover, the graduate has prerequisites for research (a Ph.D. program). Compared to the Bachelor’s degree, the graduate of the Master’s program has developed her/his academic knowledge and independence, so that the graduate can independently apply scientific theory and method in both an academic and occupational/professional context.
2.5 Competence profile of the program:

The graduate of the Master’s program:

Knowledge and comprehension
- has knowledge of scientific communication and statistical methods (including experimental design and clinical studies) and of at least two of the following key areas within Biomedical Engineering and Informatics (BMEI), based on the highest international level of research within the areas,
  - Signal processing and image analysis,
  - Pattern recognition and decision support,
  - Clinical information systems,
  - Sensory-motor control and rehabilitation technology,
  - Physiologic modeling,
- understands knowledge within the selected key areas of BMEI and is able to reflect on a scientific basis on this knowledge, and is able to identify scientific problems, either related to clinical research or basic research, within the area;

Skills
- masters the BMEI’s scientific methods and tools, and masters general skills related to jobs within BMEI, either within the health care environment or in industry,
- is able to judge and to choose from the discipline’s scientific theories, methods, tools and general skills, and is able, on a scientific basis, to propose new models for analysis and problem solving within BMEI,
- is able to communicate research based knowledge and is able to discuss professional and scientific problems with fellow biomedical engineers, with health care personnel, including medical specialists, as well as with non-specialists;

Competences
- is able to control situations that are complex, unpredictable and which require new solutions,
- is able to independently initiate and to perform collaboration within the discipline and interdisciplinary as well, and to take professional responsibility,
- is able to independently take responsibility for his or her own professional development and specialization.

Chapter 3: Content and Organization of the Program

The program is structured in modules and organized as a problem-based study. A module is a program element or a group of program elements, which aims to give students a set of professional skills within a fixed time frame specified in ECTS credits, and concluding with one or more examinations within specific exam periods. Examinations are defined in the curriculum.
The program is based on a combination of academic, problem-oriented and interdisciplinary approaches and organized based on the following work and evaluation methods that combine skills and reflection:

- project work
- lectures
- workshops
- exercises (individually and in groups)
- feedback (from teachers and fellow students)
- academic reflection
Overview of the program:

An overview of the ECTS credit breakdown for the various semesters by modules is shown in table form below.

All modules are assessed through individual grading according to the 7-point scale or Passed/Not passed. All modules are assessed by external examination (external grading) or internal examination (internal grading or by assessment by the supervisor only).

<table>
<thead>
<tr>
<th>Semester</th>
<th>Module</th>
<th>ECTS</th>
<th>Assessment</th>
<th>Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Biomedical signals and information</td>
<td>15</td>
<td>7-point scale</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td>Scientific methods and communication</td>
<td>5</td>
<td>Passed/Not passed</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td>Elective 1.1</td>
<td>5</td>
<td>Passed/Not passed</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td>Elective 1.2</td>
<td>5</td>
<td>Passed/Not passed</td>
<td>Internal</td>
</tr>
<tr>
<td>2nd</td>
<td>Biomedical (information) systems</td>
<td>15</td>
<td>7-point scale</td>
<td>External</td>
</tr>
<tr>
<td></td>
<td>Elective 2.1</td>
<td>5</td>
<td>Passed/Not passed</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td>Elective 2.2</td>
<td>5</td>
<td>Passed/Not passed</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td>Elective 2.3</td>
<td>5</td>
<td>Passed/Not passed</td>
<td>Internal</td>
</tr>
<tr>
<td>3rd</td>
<td>Applied biomedical engineering and informatics (can be combined with 4th semester into a 60 ECTS points Master’s thesis)</td>
<td>30 or none</td>
<td>7-point scale</td>
<td>Internal</td>
</tr>
<tr>
<td>4th</td>
<td>Master’s thesis (can be combined with project 3)</td>
<td>30 or 60</td>
<td>7-point scale</td>
<td>External</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>120</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Elective courses 1.1 and 1.2 have to be chosen from
1.a Stochastic signals and processes
1.b Pattern recognition and decision support
1.c The semantics of clinical information systems
1.d Sensory systems and sensory-motor control

Elective courses 2.1, 2.2, and 2.3 have to be chosen from
2.a Advanced Signal Processing
2.b Image analysis and computer vision
2.c Methods and models in clinical information systems
2.d Rehabilitation and assistive technology
2.e Physiologic modeling
Description of the modules (projects and courses)

Title: Biomedical signals and information
      Medicotekniske signaler og information

Prerequisites: The course “Scientific methods and communication”, running in parallel with the project at the latest.

Objective: To learn to use scientific methods to carry out a project related to acquisition, processing, analysis or modeling and interpretation of physiologic / clinical information or signals.

Students who complete the module

Knowledge
- have knowledge of at least one of the areas: Signal processing, Pattern recognition and decision support, Clinical information systems, Sensory-motor control,
- understand the biological source of the relevant signal or information,
- know methods to acquire and to analyse or model the relevant signal or information,
- understand the scientific communication processes related to conference presentations and related to publishing in peer-reviewed scientific journals,
- know how to organise a scientific publication,

Skills
- are able to apply scientific methods in the chosen area of knowledge,
- are able to reflect on those methods,
- are able to interpret signals and information in terms of clinical relevance,
- are able to plan and to carry out a (minor) research study,
- can explain the process of and criteria for peer reviewed scientific communications,
- can write an abstract for a scientific meeting,
- can prepare an oral presentation for a scientific meeting,
Competences
- can set up a plan for getting an overview of existing knowledge within a scientific/technical topic,
- are able to judge and prioritize the validity of various sources of scientific information.

Type of instruction: Project work.
  a) A document in the form of a “camera ready” scientific manuscript (“journal paper”, with a length of maximum 10 pages), which communicates the main aspects of the project;
  b) Edited work sheets
  c) Oral presentation

Exam format: Oral exam, assessed by 7-point scale, internal.

Title: Scientific methods and communication (Videnskabelige metoder og kommunikation)

Prerequisites: None

Objective: Students who complete the module:

Knowledge
- understand the scientific communication processes related to conference presentations and related to publishing in peer-reviewed scientific journals
- are able to organize a scientific publication
- have knowledge of qualitative and quantitative research methods
- have knowledge of experimental designs
- have knowledge of validity and reliability of outcome measures
- understand bias and statistical power in experimental designs
- understand principles of epidemiological research designs
- understand evidence-based medicine
- understand and can reflect on proper conduct in scientific projects
- understand and can reflect on ethical concerns in biomedical and sports sciences

Skills
- can explain the principles of hypothesis-driven research and descriptive research
- can critically read and judge experimental protocols in scientific articles
- can design an experimental protocol in relation to a scientific project
- can discuss principles for creating new and validated knowledge
- can explain the process of and criteria for peer reviewed scientific communications
- can discuss the importance of research ethics
- can write an abstract for a scientific meeting and can respond to blind peer-review criticism
- can prepare a poster and an oral presentation for a scientific meeting
- can apply biostatistics and have practical experience in statistical software
Competences

- can set up a plan for getting an overview of existing knowledge within a scientific/technical topic
- can prioritize the validity of various sources of scientific information
- can evaluate scientific presentations from a communicative viewpoint
- can judge the validity of scientific literature

Type of instruction: Lectures and exercises

The culmination of the course is a conference, to which each student group contributes:

1) An abstract will be submitted online after which the abstract will be reviewed by an anonymous researcher. The group has to respond to the reviewers comments and change the abstract accordingly and resubmit it for publication in the conference program.

2) A poster, to be mounted and presented on the conference day.

3) A short oral presentation.

Exam format: Continuous evaluation, assessment by Passed/Not passed, internal.

Title: Stochastic signals and processes (elective 1.a)  
Stokastiske signaler og processer

Prerequisites: Knowledge of probability theory

Objective: Students who complete the module:

Knowledge
- have knowledge of stochastic processes in general,
- can describe stochastic processes and their application as models for real signals,
- can explain the defining properties of various stochastic process models,
- can identify the analytical tools for studying random phenomena in engineering systems,
- demonstrate understanding of the concepts, theories and techniques for estimating parameters of discrete stochastic processes,
- have knowledge about cross- and auto-correlation of stochastic processes,
- have knowledge about power spectral analysis of stationary stochastic processes and can estimate the power spectral density of discrete stochastic processes and understand the limitations in this estimation,

Skills
- can apply the theory of stochastic processes to model real phenomena,
- can analyze and characterize appropriate stochastic process models for a given problem,
- can apply methods for power spectral analysis and filtering to biomedical signals that can be modeled as realizations of stochastic processes,
- can estimate and analyze the power spectrum of biomedical signals that can be modeled as realizations of stochastic processes,
- can solve problems in applied sciences based on the theory for stochastic processes,

Competences
- are prepared for a wide range of courses in communication, signal processing, control and other areas in which randomness has an important role.

Type of instruction: Lectures and exercises

Exam format: Internal written or oral exam with Passed/Not passed.

Title: Pattern recognition and decision support (elective 1.b)
Mønstergenkendelse og beslutningsstøtte

Prerequisites: Knowledge of probability theory

Objective: Students who complete the module:

Knowledge
- have knowledge of statistical pattern recognition in general
- have knowledge of methods such as neural networks, Bayesian nets and rule-based systems
- are able to describe the components of a pattern recognition system
- are able to understand how patterns can be described from characteristic features extracted from one- or multi-dimensional data
- have knowledge of supervised and unsupervised learning

Skills
- are able to design and test a pattern recognition system
- are able to apply parametric and non-parametric classification techniques to univariate and multivariate data
- are able to analyse and describe the underlying density function of a data set
- are able to apply methods to reduce the dimensionality of the data
- are able to design and test a decision support system

Competences
- are able to demonstrate understanding of concepts, theories and techniques in the area of statistical pattern recognition and decision support
- are able to apply feature analysis and classification techniques to specific multi-dimensional pattern recognition problems

Type of instruction: Lectures and exercises.

Exam format: Oral or written exam assessed by Passed/Not passed, internal

Title: The semantics of clinical information systems (elective 1.c)  
Kliniske informationssystemernes semantik

Prerequisites: IT-System development on bachelor level

Objective: Students who complete the module

Knowledge
- have knowledge of standards on information and communication models in health care,
- understand classifications and terminology models in health care,
- have knowledge on terminology and semantics in clinical information systems from interface to database level,
- understand use of clinical information for primary and secondary purposes,
- have knowledge on different research approaches related to terminology and models in clinical information systems,

Skills
- can analyze the need for terminology and classifications in a given clinical information system,
- can choose appropriate standards for a given clinical information system,
- can discuss issues associated with primary and secondary use of clinical information,
- can design protocols for studies in clinical information systems,

Competences
- are able to evaluate terminology and models in clinical information systems.

Type of instruction: Lectures and exercises.

Exam format: Oral or written exam, assessed by Passed/Not passed, internal.

Title: Sensory systems and sensory-motor control (1.d)
Sensoriske systemer og sensorisk-motorisk kontrol

Prerequisites: Knowledge of basic physiology and neurophysiology

Objective: Students who complete the module

Knowledge
- understand human sensory and motor control mechanisms,
- understand neuroanatomical and physiological aspects of human sensory and motor control mechanisms,
- have knowledge about methodologies to assess the normal and pathological sensory function,
- have knowledge about methodologies to assess the normal and pathological motor control function,
- have knowledge of quantitative and qualitative methodologies used to analyse neurophysiological data in relation to normal or pathological sensory and motor control mechanisms,
- understand plasticity in sensory and motor pathways in normal and pathological conditions,

Skills
- are able to interpret neurophysiological data in relation to the normal sensory or motor pathways and underlying disease,
- are able to explain relevant sensory anatomy (e.g. vision, hearing, pain, balance, taste and olfaction, somatosensory cases) and coding of sensory information (e.g. mechanoreception, thermoreception, proprioception, nociception),
- are able to explain relevant motor neuroanatomy, including neural pathways related to control of movement and peripheral/spinal/supra-spinal control of movement,
- are able to explain relevant movement control mechanisms including postural control, motor reflexes, and sensory-motor integration of afferent and efferent information at spinal, sub-cortical and cortical level,
- are able to identify and select appropriate methodologies to assess sensory and motor control mechanisms,
- are able to identify sensory/motor pathways in selected neurological diseases,
Competences

- are able to select and motivate appropriate methodologies to assess sensory and motor control mechanisms,
- are able to judge neurophysiological data in scientific literature.

Type of instruction: Lectures and exercises.

Exam format: Oral or written exam assessed by Passed/Not passed, internal.

Title: Biomedical (information) systems  
Medicotekniske (informations)systemer

Prerequisites: Active participation in semester 1.

Objective: To learn to apply and evaluate scientific methods in modelling and/or design of biomedical systems or clinical information systems based on a realistic clinical or scientific problem.

Students who complete the module

Knowledge
- have gained knowledge of at least one of the areas: Signal processing and image analysis, Pattern recognition and decision support, Clinical information systems, Sensory-motor control and rehabilitation systems, and Physiologic modeling,
- understand knowledge within the selected area(s) and is able to reflect on a scientific basis on this knowledge.

Skills
- are able to independently plan and carry out a research study on basis of a given problem,
- are able to apply scientific methods and tools to research within the chosen area of knowledge,
- are able to choose scientific theories and methods within the chosen area of research,
- are able to communicate problems, methods and results within the scientific area, in writing,
- are able to discuss professional and scientific problems with peers,

Competences
- are able to function in a project with a high level of complexity and which requires new solutions,
- are able to take responsibility for their own professional development.

Type of instruction: Project

Exam format: Oral exam, assessed by 7-point scale, external.

Title: Advanced signal processing (elective 2.1)
Avanceret signalbehandling

Prerequisites: 1.a Knowledge of stochastic signals and processes is recommended

Objective: Students who complete the module:

Knowledge
• have knowledge about different tools for joint-time-frequency analysis,
• demonstrate understanding of the trade-off between time and frequency resolution in the analysis of a non-stationary signal,
• can explain the relationships between time-frequency and wavelet analysis,
• have knowledge about adaptive filtering and multivariate signal processing,
• can identify different nonlinear tools that can be applied to analyze biomedical signals,
• have knowledge about methods for estimation of features from biomedical signals,

Skills
• can reflect on the choice of appropriate time-frequency distributions suitable to different biomedical problems,
• can design wavelets for multi-resolution analysis of signals with specific biomedical applications such as filtering,
• can evaluate appropriate adaptive filters suitable for the problem to solve,
• can apply multivariate tools for classification and feature space reduction,
• can analyze and describe nonlinear analysis methods,
• can analyze and describe the frequency content of a biomedical signal with respect to time,
• can handle de-noising of biomedical signals using various techniques such as wavelet and adaptive filters.

Type of instruction: Lectures and exercises

Exam format: Oral or written exam, assessed by Passed/Not passed, internal.

Title: Image analysis and computer vision (elective 2.b)  
Billedbehandling og computer vision

Prerequisites: 1.b Pattern recognition and decision support is recommended

Objective: Students who complete the module:

Knowledge
- have knowledge of basic and advanced image analysis and computer vision methods and concepts,
- have knowledge of data driven and model based techniques for analysis of 2D or 3D image data,
- have knowledge of optical and tomographic imaging geometry,
- have knowledge of linear and non-linear techniques for solving inter-subject and intra-subject image registration problems,
- have knowledge of geometrical representation of objects in 2D and 3D derived from image data,
- have knowledge of statistical and morphological image processing,
- have knowledge of multi-scale techniques,

Skills
- are able to apply image analysis and computer vision methods to extract information from the original image data,
- are able to apply intensity transformations and image filtering in the spatial and frequency domain,
- are able to detect fundamental image features from image data,
- are able to apply basic 2D and 3D image segmentation methods,
- can solve linear image registration problems,

Competences
- are able to demonstrate understanding of the concepts, theories and techniques in the area of image analysis and computer vision,
- are able to apply methods on medical image data to extract quantitative and qualitative anatomical and physiological information.

Type of instruction: Lectures and exercises

Exam format: Internal written or oral exam with Passed/Not passed.

Title: Methods and models in clinical information systems (2.c) 
Metoder og modeller i kliniske informationssystemer

Prerequisites: 1.c Databases and information systems is recommended
IT-System development on bachelor level

Objective: Students who complete the module

Knowledge
- have knowledge of different types of methods for Information System development (i.e., agile development),
- understand health care system architectures based on message communication and networks,
- have knowledge on alternative types of architectural models with specific focus on models and system integration applied in health care,
- understand different types of databases and the design of relational databases (including local, distributed, heterogeneous or homogenous databases),
- have knowledge of security, privacy and legislation in health care affecting information system development,
- understand performance in clinical information systems,

Skills
- can apply appropriate methods in information system development,
- can select appropriate architecture for a given context,
- can analyse performance issues arising from chosen architectures, databases, and security in health care,
- can design a relational database based on a given context and be able to generate queries,

Competences
- can evaluate the most appropriate methods and models to design an information system in a given health context.

Type of instruction: Lectures and exercises.

Exam format: Oral or written exam, assessed by Passed/Not passed, internal.

Title: Rehabilitation and Assistive Technology (elective 2.d)
Rehabilitering og velfærdsteknologi

Prerequisites: 1.d Sensory-motor control is recommended

Objective: Students who complete the module

Knowledge
- know how disease in the sensorimotor system affects normal movement patterns and other functions of vital importance,
- know the effect of aging on the human body (cognitive and sensorimotor aspects),
- know how mental diseases related to aging or injury influence the functionality of the sensory-motor system,
- know ergonomics and rehabilitation in relation to the optimization of human performance and for the prevention/rehabilitation of neuro-musculoskeletal injuries and diseases
- know existing devices and methods for rehabilitation and aid, e.g. functional electrical stimulation, robots, computer technologies (e.g. biofeedback, virtual reality, augmented reality), smart house technologies, tele-rehabilitation technologies, sensory rehabilitation technologies for hearing and vision,
- know cognitive rehabilitation technologies, e.g. rehabilitation of dementia, neglect related to apoplexy, aids for communication,
- know technologies for communication between the patient and equipment/tools/surroundings, this includes brain-, tongue-, and eye-computer interfaces,
- know the integration of assistive technologies in homes/institutions,
- know ethical aspects in relation to assistive technologies,

Skills
- are able to apply knowledge about the functional effects of diseases for the choice of optimal rehabilitation and assistive technologies,
- are able to apply knowledge about the effects of aging/injury in order to identify relevant assistive technologies,

Competences
- are able to evaluate ergonomics and rehabilitation perspectives using relevant technologies,
- are able to evaluate the potential of (new) technologies for their relevance as rehabilitation and assistive devices,
are able to advice people in the health care systems about possibilities in rehabilitation and assistive technologies.

Type of instruction: Lectures and exercises.

Exam format: Oral or written exam, assessed by Passed/Not passed, internal.

Title: Physiologic modeling (elective 2.e)
Fysiologisk modellering

Prerequisites: None

Objective: Students who complete the module:

Knowledge

have knowledge about
• bioelectric models
• biochemical models
• biomechanical models

with the course both highlighting the similarity of mathematical representation across these type of models, and exemplifying these models with examples from various physiologic subsystems and therapeutic interventions including pharmacokinetics.

Skills

have obtained skills in relation to model construction, simulation, fitting and validation which includes
• building of compartmental models
• a basic understanding of other model types including finite element modeling.
• parameter estimation and numerical optimization
• identifiability and the appropriateness of model complexity.
• evaluating the goodness of model fitting – model fitting statistics

Competences

• are able to integrate skills and knowledge from different scientific fields.

Type of instruction: Lectures and exercises

Exam format: Oral or written exam, assessed by Passed/Not passed, internal.

Title: Applied biomedical engineering and informatics
Anvendt sundhedsteknologi og informatik

Prerequisites: The students must have participated actively in the first two semesters of this program.

Objective: To give the student experience in applying scientific methods or performing scientific experiments related to Biomedical engineering and Informatics at a University Department or in a company in Denmark or abroad.

With this semester the student will be able either to broaden and/or to deepen his or her experience in a specific research area.

Students who complete the module:

Knowledge
- have knowledge of at least one of the areas: Signal processing and image analysis, Pattern recognition and decision support, Clinical information systems, Sensory-motor control and rehabilitation systems, and Physiologic modeling,
- are able to reflect on a scientific basis on this knowledge,

Skills
- are able to apply scientific methods and tools to research within the chosen area of knowledge,
- are able to evaluate and to choose scientific theories and methods within the chosen area of research,
- are able to communicate problems, methods and results within the scientific area, in both oral and written form,

Competences
- are able to independently initiate or to perform collaboration within the discipline,
- are able to take responsibility for their own professional development.

Type of instruction: Project, individual or as a group of two or three students.

Exam format: Oral exam based on a project report, assessed by 7-point scale, internal.

Title: Master’s thesis (4th semester)  
Speciale projekt (4. Semester)

Prerequisites: All exams from semesters 1, 2 and 3 must be passed. If the Master thesis is combined with the project module on 3rd semester, then semesters 1 and 2 must be passed, and an informal mid-term evaluation of the combined project must have been performed.

Objective: The Master thesis is the last element of the scientific education, and thereby an opportunity to integrate and to deepen previously acquired skills and to display the ability to perform scientific work.

Students who complete the module:

Knowledge
• have knowledge, at the highest international level of research, of at least one of the areas: Signal processing and image analysis, Pattern recognition and decision support, Clinical information systems, Sensory-motor control and rehabilitation systems, and Physiologic modeling,

• are able to reflect on a scientific basis on this knowledge,

Skills
• are able to apply scientific methods and tools to research within the chosen area of knowledge,

• are able to evaluate and to choose scientific theories and methods and to identify scientific problems within the chosen area of research,

• are able to communicate problems, methods and results within the scientific area, in both oral and written form,

Competences
• are able to control situations that are complex, unpredictable and which require new solutions,

• are able to independently initiate and to perform collaboration within the discipline and interdisciplinary as well, and to take professional responsibility,

• are able to independently take responsibility for his or her own professional development and specialisation.

Type of instruction: Project, individual or as a group of two or three students.

Exam format: Oral exam, assessed by 7-point scale, external

Chapter 4: Entry into Force, Interim Provisions and Revision

The curriculum is approved by the Dean of the Faculty of Medicine and enters into force as of September 2010.

Students who wish to complete their studies under a previous curriculum must conclude their education by the summer examination period 2012 at the latest, since examinations under the previous curriculum are not offered after this time.

In accordance with the Framework Provisions and the Handbook on Quality Management for the Faculty of Engineering and Science and The Faculty of Medicine at Aalborg University, the curriculum must be revised no later than 5 years after its entry into force.

Chapter 5: Other Provisions

5.1 Rules concerning written work, including the Master’s thesis

In the assessment of all written work, regardless of the language it is written in, weight is also given to the student’s spelling and formulation ability, in addition to the academic content. Orthographic and grammatical correctness as well as stylistic proficiency are taken as a basis for the evaluation of language performance. Language performance must always be included as an independent dimension of the total evaluation. However, no examination can be assessed as ‘Pass’ on the basis of good language performance alone; similarly, an examination normally cannot be assessed as ‘Fail’ on the basis of poor language performance alone.

The Board of Studies can grant exemption from this in special cases (e.g., dyslexia or a native language other than Danish).

The Master’s thesis must include an English summary. If the project is written in English, the summary must be in Danish. The summary must be at least 1 page and not more than 2 pages. The summary is included in the evaluation of the project as a whole.

5.2 Rules concerning credit transfer (merit), including the possibility for choice of modules that are part of another program at a university in Denmark or abroad

In the individual case, the Board of Studies can approve successfully completed (passed) program elements from other Master’s programs in lieu of program elements in this program (credit transfer). The Board of Studies can also approve successfully completed (passed) program elements from another Danish program or a program outside of Denmark at the same level in lieu of program elements within this curriculum. Decisions on credit transfer are made by the Board of Studies based on an academic assessment. See the Framework Provisions for the rules on credit transfer.

5.3 Rules for examinations

The rules for examinations are stated in the Examination Policies and Procedures published by the Faculty of Medicine on its website.

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1 Or another foreign language (upon approval from the Board of Studies).
2 The Board of Studies can grant exemption from this.
5.4 Exemption
In exceptional circumstances, the Board of Studies study can grant exemption from those parts of the curriculum that are not stipulated by law or ministerial order. Exemption regarding an examination applies to the immediate examination.

5.5 Completion of the Master’s program
The Master’s program must be completed no later than four years after it was begun.

5.6 Rules and requirements for the reading of texts
It is assumed that the student can read academic texts in his or her native language as well as in English and use reference works etc. in other European languages.

5.7 Additional information
The current version of the curriculum is published on the Board of Studies’ website, including more detailed information about the program, including exams.