# Semester Description of Study Programme at Aalborg University

## Semester description for 4th semester, Master in Biomedical Engineering and Informatics, Spring 2019

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## Semester framework theme

*This should include an elaborated description in a prose form of the focus of the semester, activities implemented to fulfill the competence objectives and the thematic(s) of the semester. In other words, the semester description includes the “framework theme” that the students will be exposed to during the semester. The role of the semester and its contribution to students’ academic progression should also be described.*

The 4th semester is the final semester of the Master in Biomedical Engineering and Informatics education. The scope of the semester is to acquire knowledge at the highest international level within selected research areas and work on problems that require non-deterministic and innovative solutions. Other keywords are interdisciplinarity and professional responsibility.

## Semester organisation and time schedule

*This must be a short description of the different activities of the semester, their mutual connections and the way in which they support each other and also support students in reaching their goals; such activities may be study trips, internship periods, project modules course modules, including laboratory activities, cooperation with external stakeholders, possible cross-disciplinary cooperation relations, any guest lectures and other events.*

The semester includes a 30 ECTS project. At the end of the semester the students must hand in a project corresponding to 30 ECTS project work. The project is done in groups of one to three students. The main supervisor must be an experienced supervisor from the Dept. of Health Science and Technology. Any projects of 60 ECTS (over 3rd and 4th semester) are only possible upon approval by the study board.

Before semester start, the semester coordinator will inform all students about formalities regarding the master thesis. The students are expected to identify a project idea and find a supervisor. The semester coordinator will be helpful in this process if requested. The students may refer to the project proposals from the 1st and 2nd semester and approach the project proposers to inquire if the project can be adapted to the learning objectives of the 4th semester.

The students are invited to a semester start meeting where the semester coordinator will introduce the semester. The semester coordinator will invite the students to suggest relevant activities during the semester (e.g. seminars, meetings, information, etc.). A few semester group meetings will be scheduled. Also, a status seminar will be scheduled.

The date for handing in the project will become available in the beginning of the semester.

Also, please see the [study boards’ information on confidentiality in projects](#).

## Semester coordinator and secretariat assistance

*Names of anchor person (teaching staff), course coordinator, semester coordinator (or similar title) and secretariat assistance provider(s).*
Module title, ECTS credits (and possibly STADS code)
Master's thesis / Kandidatprojekt
30 ECTS

Location
Master, Biomedical Engineering and Informatics, 4th semester
Study board for Health, Technology and Sports Science

Module coordinator
The academic staff member responsible for the organisation and execution of the module.
The module leader may be the same person as the semester coordinator. If a person responsible for exam is pointed out, please state name and e-mail address here.

Maciej Plocharski, mpl@hst.aau.dk, Department of Health Science and Technology.

Type and language
Module type (e.g. study subject module, course module, project module etc.)
Language of instruction.

Project module. All communication/instructions in the semester is in English. In the presence of non-Danish-speaking members of a project group, the project report is written in English. The report must take the form of a monograph.

Objectives
Description of the content and objectives of the course as regards learning objectives of the students in the module. This comprises a transcript of the knowledge, skills and competences described in the study regulations and curriculum. Reference can be made to elaborations on semester Moodle site.

From Curriculum:
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 modelling
- 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
### Academic content and conjunction with other modules/semesters

A brief and general description of the academic content of the module as well as the basis and motivation for the module; i.e. a brief review of the content and foundation of the module. The intention is to provide students with an overview of each module and to create understanding of the module in relation to the semester and the entire programme.

Compared with previous project modules in the Biomedical Engineering and Informatics BSc education and the previous Biomedical Engineering and Information semester, the academic content of the typical project on this semester is expected to be at a high scientific level within the selected research area with a greater amount of independence and being able to take responsibility in e.g. collaboration. The project will also typically incorporate a higher degree of interdisciplinarity and elements that are complex, non-deterministic and require innovative solutions.

### Scope and expected performance

The expected scope of the module in terms of ECTS load. This comprises number of teaching hours, exercises, preparation time, travel activity (if applicable) etc.

The expected student work load is 30 ECTS corresponding to 900 hours of work per student. This includes all aspects of project work including supervisor meetings, literature reading, experimental work, data analysis, report writing, preparation of project presentation.

### Participants

Indication of the participants in the module, particularly if they include several year groups, programmes or another type of co-teaching.

Participants are students in the 4th semester Master in Biomedical Engineering and Informatics.

### Prerequisites for participation

Description of the prerequisites for students' participation in the course, i.e. previous modules/courses in other semesters etc. The overall intention is to emphasise the coherence of the programme. This may be a transcript of the text in the study regulations and curriculum.

Participants must have knowledge, skills and competences from 1st, 2nd and 3rd semester.

### Module activities (course sessions etc.)

Supervisors for this project module are from the Department of Health Science and Technology (HST). Co-supervisors may come from other departments, institutions, hospitals and companies.

The students are expected to work in close collaboration with their project supervisor. Any projects matters related to confidentiality, IP, ethics, legal issues, etc. must be respected by both students and supervisor.

### Examination

Please see the guide to project examination (in Danish), the exam policies and procedures and the video on project exam.

Further, the exam plan is available at [www.smh.aau.dk](http://www.smh.aau.dk)