The Faculty of Engineering and Science
The Study Board of Biotechnology, Chemistry and Environmental Engineering

AALBORG UNIVERSITET

Curriculum for the Master's Programme in Chemistry

Aalborg University
September 2017

The programme is offered in Aalborg

Preface

Pursuant to Act 261 of March 18, 2015 on Universities (the University Act) with subsequent changes, the following curriculum for the Master's programme in Chemistry is stipulated. The programme also follows the Joint Programme Regulations and the Examination Policies and Procedures for the Faculty of Engineering and Science.

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Chapter 1. Legal basis of the Study Regulations

1.1 The Ministerial Order Basis

The Master's Programme in Chemistry is organized in accordance with the Ministry of Higher Education and Science's Order no. 1328 of November 15, 2016 on Bachelor's and Master's Programmes at Universities (the Ministerial Order of the Study Programmes) and Ministerial Order no. 1062 of June 30, 2016 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 258 of March 18, 2015 (the Admission Order) and Ministerial Order no. 114 of February 3 2015 (the Grading Scale Order) with subsequent changes.

1.2 The Faculty of Science and Engineering affiliation

The Master's programme falls under the Faculty of Engineering and Science, Aalborg University.

1.3 The Study Board affiliation

The 1st to 4th semesters of the Master's programme fall under the Study Board for Biotechnology, Chemical and Environmental Engineering.

1.4 External Examiners Corps

The Master's programme is associated with Ingeniøruddannelsernes landsdækkende censorkorps – kemi.

Chapter 2. Admission, title, programme duration and competence profile

2.1 Admission

Applicants with a legal claim to admission (retskrav):

Applicants with the following degree are entitled to admission:

- Bachelor i Kemiteknologi, Aalborg University

Applicants without legal claim to admission

- Bachelor in Chemical Engineering and Biotechnology, Aalborg University

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/title in Danish, Latin and English

The Master's programme entitles the graduate to the designation civilingeniør, cand.polyt. i kemi. The English designation is: Master of Science (MSc) in Engineering (Chemistry).

2.3 The programme's specification in ECTS

The Master's programme is a 2-year, research based, full-time study programme. The programme is set to120 ECTS.

2.4 The programme's competence profile

The competence profile below will appear on the diploma:

A graduate of the Master's programme has competences acquired through a course of study that has taken place in a research environment.

The graduate of the Master's programme can perform highly qualified functions on the labour market on the basis of the educational programme. Moreover, the graduate has prerequisites for research (a Ph.D. programme). Compared to the Bachelor's degree, the graduate of the Master's programme 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 contexts. Description of qualifications:

Description of qualifications:

Individuals who attain the MSc degree in Chemistry

Knowledge	Knowledge field Have knowledge within chemistry that in selected areas, such as process technology, materials technology and polymer technology, is based on the highest international research.
	Understanding and reflection level Understand the principles of the above-mentioned areas, can reflect upon their knowledge in these areas at a scientific level, and use their knowledge to identify technological problems and industrial applications.
Skills	Type of skills Master the scientific methods, models and tools of the

above-mentioned areas and the general skills that are tied to work within the area of chemical and molecular engineering.

Evaluation and decision making
Are able to evaluate and select among scientific theories, methods, tools and general skills used in chemical engineering and technology, develop and establish new analysis protocols and solution models in industrial and laboratory settings, and participate in the development and manufacturing of novel compounds and materials based on inorganic and organic chemistry.

Communication
Are able to communicate research based knowledge and discuss professional and scientific problems with both peers and non-specialists.

Competences

Action space
Are able to carry out research, development, and manufacturing in areas of process chemistry, materials technology, and polymer technology.

Collaboration and responsibility
Are able to independently initiate and carry out discipline specific and cross-disciplinary cooperation and to assume professional responsibility within the area of chemical engineering.

Learning
Are able to independently take responsibility for own professional development and specialization.

Chapter 3. Content of the Study Programme

The program is structured in modules and organised 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 can be organized based on the following work and evaluation methods that combine skills and reflection:

- lectures
- classroom instruction
- project work
- workshops
- exercises (individually and in groups)
- teacher feedback

Outline of the Master's programme in Chemistry

Semester	Module	ECTS	Assessment	Exam
1st	Materials Technology	15	7-point scale	Internal
	Materials Chemistry	5	7-point scale	Internal
	Processing of Materials	5	7-point scale	Internal
	Physical Chemistry of Materials	5	7-point scale	Internal
2nd	Industrial applications of macromolecules	15	7-point scale	Internal
	Polymer Chemistry	5	Pass/fail	Internal
	Supramolecular Chemistry	5	7-point scale	Internal
	Carbohydrate Chemistry	5	7-point scale	Internal
3rd	Electives • Project Work in an External Organisation	30	Pass/fail	External
4th 3rd-4th	• Master's Thesis in Chemistry • Extended Master's Thesis in Chemistry	30 60	7-point scale 7-point scale	External External
Total		120		

The study board can cancel modules if the number of enrolled students is low.

A compulsory course in Problem based learning (PBL) and student responsibility is offered as an integrated part of all project modules to students not acquainted with PBL at Aalborg University.

3.1 1st semester – Materials Technology

3.1.1 Materials Technology

English title	*Materials Technology*
Danish title	*Materialeteknologi*
Placement	Autumn, 1st semester
Prerequisites	The module adds to the knowledge obtained in Inorganic Chemistry, Unit Operations, Materials Chemistry, Materials Physical Chemistry, Processing of Materials
Aim	To solve material technological problems in connection to industrial production and development
Learning outcomes	After the project module the student should be able to Knowledge • Account for inorganic materials chemistry, synthesis and materials forming process • Clarify the relationships among production process, materials selection, microstructure and material properties within the selected project • Demonstrate insight in unit operations with respect to processing of materials for the selected problem/project Skills • Analyse and solve problems related to materials technology • Synthesize and characterize materials • Apply mathematical models for, e.g., prediction of material properties, implementation or scale-up of unit operations Competences • Select, evaluate and implement solutions for problems • related to materials processing
Content	Projects will deal with industrial problems where knowledge in materials chemistry And unit operations will be applied for the understanding and solving the problem. Projects cover materials preparation, synthesis, characterization, development, post-treatment and application. Projects should be related to optimization of materials processing or development of new materials. Objects of materials are mainly inorganic materials such as ceramics, glasses, cements, composites, refractory materials, thin films, inorganic nano-materials and hybrid-materials.
Duration	15 ECTS
Language	English or Danish
Assessment	Oral examination based on a written report
Grading	7-point scale
Assessment Criteria	As stated in the Joint Programme Regulations

3.1.2 Materials Chemistry

English title	*Materials Chemistry*
Danish title	*Materialekemi*
Placement	Autumn, 1st semester
Prerequisites	The module adds to the knowledge obtained in Inorganic Chemistry and Physical Chemistry

Aim	The purposes of the course are to introduce both fundamental chemical principles of materials and nano-materials, and main methods for developing, optimizing, post-treating and characterizing materials regarding different physical and chemical performances. The focus will be placed on the relation between chemical composition, structure and properties. The course will introduce the current status of materials and nano-materials technologies.
Learning outcomes	After the project module the student should be able to Knowledge • Understand the fundamental principles of materials chemistry and how it relates to practical use • Explain different application areas of materials and ways to optimize the production process of materials Skills • Prepare, synthesize and modify materials to reach target properties using theoretical and practical knowledge in materials chemistry • Design, synthesize, and produce nanostructured materials with given properties. • Characterize conventional materials and nano-materials
Content	Materials chemistry focuses on the fundamental principles and applications of both conventional and advanced inorganic materials. The course is divided into the following two parts. 1. General inorganic materials chemistry and characterization of inorganic materials (e.g., glass chemistry, ceramic chemistry, metal chemistry, cement industry) 2. Chemistry of organic and inorganic nano-materials (e.g., thin films, nano-crystals and –particles, nanotubes, mesoporous materials, nano wires, etc.).
Duration	5 ECTS
Language	English
Assessment	Written or oral examination
Grading	7-point scale
Assessment Criteria	As stated in the Joint Programme Regulations

3.1.3 Processing of Materials

English title	*Processing of Materials*
Danish title	*Materialeforarbejdning*
Placement	Autumn, 1st semester
Prerequisites	The module adds to the knowledge obtained in Materials Chemistry, Unit Operations, Modelling of heterogeneous processes
Aim	The purpose is to introduce students to knowledge about materials manufacturing, post-treatment and the impact of the manufacture conditions on the structure and properties of materials. To introduce students to the analysis of large-scale industrial systems as well as methods and principles of environmental evaluation. To enable students in chemical engineering to collaborate with mechanical engineeres
Learning outcomes	After course module the student should be able to Knowledge • Clarify the relationship among chemical composition, structure, properties and manufacturing

	Skills • Conduct calculations of manufacture parameters and mechanical, physical and chemical properties • Apply materials manufacturing technologies and their engineering applications • Predict certain properties of materials based on their manufacturing parameters • Design manufacturing and post-treatment processes that can improve physical and chemical performances of materials • Carry out analysis of large-scale production processes Competences • Use principles and methods for environmental management
Content	
	The courses cover the introduction to e.g.: • Application areas and development tendencies of plastics • Chemical performances of materials • Manufacturing technology of polymers • Manufacturing technology of ceramics, cements and glasses • Environmental analysis and management • Industrial processes by visiting relevant industries
Duration	5 ECTS
Language	English
Assessment	Written or oral examination
Grading	7-point scale
Assessment Criteria	As stated in the Joint Programme Regulations

3.1.4 Physical Chemistry of Materials

English title	*Physical Chemistry of Materials*
Danish title	*Materialers fysiske kemi*
Placement	Autumn, 1st semester
Prerequisites	The module adds to the knowledge obtained in Physical Chemistry and Analytical Chemistry
Aim	The course focuses on materials physical chemistry and electrochemistry. The course focuses on the thermodynamics, kinetics and phase transition in materials. The analytical methods for obtaining thermodynamic and kinetic data will be introduced to students. Further, the course aims to give students a deep theoretical and practical understanding of the modern electrochemistry and its applications in connection to quantitative analysis, metallic corrosion and materials manufacturing.
Learning outcomes	After the course module the student should be able to Knowledge • Understand and apply the link between electrochemistry and thermodynamics • Explain and utilize phase diagram of materials • Clarify mechanisms behind the phase transitions Skills • Solve physical chemical problems in the fields of materials science and chemical processes

	• Collect and evaluate physical-chemical data by doing experiments such as the viscometric and calorimetric measurements • Apply different types of electron-ion conductor junction to understand their electrodynamic, thermodynamic and kinetic backgrounds • Apply different analytical methods based on electrochemical reactions • Apply the knowledge about chemistry, technology and economy of electrochemical processes in materials industry • Design the processes in batteries, accumulators and fuel cells Competences • Design experimental routes for synthesis and treatment of new materials based on physical chemistry and electrochemical principles
Content	The course covers • Materials thermodynamics • Chemical reaction kinetics and dynamics in materials • Phase equilibrium in materials • Order and disorder in solid • Experimental methods for collecting thermodynamic and kinetic data of materials, e.g., viscometric and calorimetric methods • General electrochemistry • Analytical electrochemistry • Application of electrochemistry in materials science • Description of electron-ion conductor junction as electrochemical electrode • Electrolytes and their properties, redox reactions, conductivity and determination • Links between electrochemical potentials, thermodynamic parameters and concentrations • Electrochemical methods: Impedance spectroscopy, voltammetry, and other analytical methods and its instrumentation • Type of electrodes, electrode kinetics and electrode related effects • Description of the different type of batteries, accumulators and fuel cells
Duration	5 ECTS
Language	English
Assessment	Written or oral examination
Grading	7-point scale
Assessment Criteria	As stated in the Joint Programme Regulations

3.2 2nd semester – Synthesis and Chemistry of Polymers

3.2.1 Industrial Applications of Macromoles

English title	*Industrial Application of Macromolecules*
Danish title	*Industriel anvendelse af makromolekyler*
Placement	Spring, 2nd semester
Prerequisites	The module adds to the knowledge obtained in Organic Chemistry, Physical Chemistry, Unit Operations
Aim	To give the students an extensive knowledge and competences in molecular applications of natural and synthetic macromolecules, principles of their production and characterisation of polymers from molecular architecture to properties in relation to their industrial use.
Learning outcomes	After the project module the student should be able to Knowledge • understand and account for the chemical properties of selected natural and synthetic macromolecules on molecular and macroscopic level • relate the chemical properties to the production of natural and synthetic macromolecules Skills • select relevant techniques for the characterization of macromolecules and the study of their applications • synthesize, modify and characterize macromolecules with selected physical and chemical functionalities • apply separation principles for manufacturing, purification and characterization of macromolecules Competences • analyze and solve problems related to industrial use of macromolecules, implementing knowledge of molecular ans macroscopic properties of macromolecules
Content	Projects will deal with industrial problems related to the chemistry and application of macromolecules. Projects could cover macromolecule synthesis, modification and/or characterization as well as applications of macromolecules.
Duration	15 ECTS
Language	English or Danish
Assessment	Oral examination based on a written report
Grading	7-point scale
Assessment criteria	As stated in the Joint Programme Regulations

3.2.2 Polymer Chemistry

English title	*Polymer Chemistry*
Danish title	*Polymerkemi*
Placement	Spring, 2nd semester
Prerequisites	The module adds to the knowledge obtained in Fundamental Organic Chemistry, Experimental Organic Chemistry
Aim	To introduce the students majoring in chemistry or engineering a broad knowledge of polymer chemistry, such as principles of polymerization, polymer morphologies, polymer properties and so

	on. Meanwhile, some basic experimental techniques will be included in the lab course.
Learning outcomes	After completion of the course module the student should be able to Knowledge • Account for different categories of polymers and their use in selected applications • Characterize and categorize polymers • Explain different polymerization and modificaion principles Skills • Design synthetic routes of functional monomers • Perform polymerization under various conditions • Modify polymer surfaces Competences • Characterize macromolecules: from chemical structure to molecular weights and distributions
Content	• Basic Principles: Molecular weight and polymer solutions, • Chemical Structure and Polymer Properties • Polymer Morphology • Step-reaction and ring opening polymerization and its lab course • Free radical polymerization and its lab course • Ionic Polymerization and its lab course • Vinyl polymerization with complex coordination catalysts • Characterization of polymers, Polyethers, -sulfides, and related polymers, Polyamides and related polymers. Heterocyclic polymers. Miscellaneous organic polymers, Inorganic and partially inorganic polymers. Natural Polymers. • Recent developments in the frontier research for novel polymerization technique of new materials • Basic experimental techniques will be included in laboratory exercises
Duration	5 ECTS
Language	English
Assessment	Written report
Grading	Passed/failed
Assessment criteria	As stated in the Joint Programme Regulations

3.2.3 Supramolecular Chemistry

English title	*Supramolecular Chemistry*
Danish title	*Supramolekylær kemi*
Placement	2nd semester
Prerequisites	The module adds to the knowledge obtained in Organic Chemistry and Physical Chemistry
Aim	To introduce the students to supramolecular chemistry with focus on the physical chemistry of molecular interactions.
Learning outcomes	After completion of the course module the student should be able to Knowledge • Explain the principles of design of artificial ligands • Relate similarities and differences of intra- and intermolecular forces of large molecules and aggregates

	• Describe the thermodynamics of molecular interactions and account for the importance of solvents and additives on the strength of molecular interactions Skills • Apply theories and methods for analysis of molecular interactions • Apply experimental and computational models in the study of molecular interactions Competences • Predict the molecular interactions of macromolecules and their implications on macroscopic behaviour
Content	The course includes lectures and theoretical assignments, including • The basic concepts of supramolecular chemistry • Intermolecular forces and equilibrium considerations • Thermodynamics and solvent effects • Cation-and anion-specific ligands • The supramolecular chemistry of biological systems • The self-organization of molecules • Self-assembly of macromolecules and polymers • Experimental assessment and computational modelling of molecular interactions
Duration	5 ECTS
Language	English
Assessment	Written or oral examination
Grading	7-point scale
Assessment Criteria	As stated in the Joint Programme Regulations

3.2.4 Carbohydrate Chemistry

Title: **Carbohydrate chemistry**

Kulhydratkemi

Objective: Students who complete the module must be able to:

Knowledge

- explain and show in depth understanding of the structure and chemical properties of mono- and disaccharides as well as oligo- and polysaccharides
- demonstrate knowledge of industrially important carbohydrates including hydrocolloids and their gelation properties
- explain essential aspects of glycobiology
- demonstrate in depth knowledge of the substrate specificity, regio- and anomeric selectivity as well as the function and catalytic mechanisms of carbohydrate active enzymes
- demonstrate knowledge of the enzymology related to degradation and modification of plant based biomass including starch, cellulose and pectin

Skills

- apply and suggest methods of carbohydrate synthesis and modifications to solve problems in industrial processes and applications
- apply knowledge to evaluate structure in relation to functional properties of carbohydrates
- carry out calculations on basic carbohydrate chemical concepts

- perform theoretical analyses of chemical and physical methods in carbohydrate chemistry
- suggest relevant chemical and enzyme catalysts for chemical reactions in carbohydrate chemistry

Type of instruction	Lectures and theoretical exercises
Exam format:	Written or oral examination
Evaluation criteria:	As stated in the Joint Programme Regulations

3.3 3rd & 4th semester – Master's thesis in Chemistry

3.3.1 Project work in an external organisation

Title: **Project work in an external organisation**
Projektarbejde i en ekstern organisation

Objective: Students who complete the module must be able to:

Knowledge
- explain the scientific basis of the work carried out by the external organisation

Skills
- master the scientific methods and general skills related to the project work in the external organisation
- write a report following the standards of the field of study, use the correct terminology and document extensive use of relevant and original scientific literature, and communicate and discuss the project's foundation, problem and results in writing, graphically and verbally in a coherent way
- critically assess and select relevant original scientific literature and current scientific methods, models and other tools used in the project and asses and discuss the problem of the project and results in relevant scientific contexts and social conditions
- evaluate the potential of the project for further development, assessing and incorporating relevant economic, ethical, environmental and other socially relevant factors

Competencies
- participate in development, innovation, and research and use scientific methods to solve complex tasks
- take professional responsibility to implement independent assignments and interdisciplinary collaborations
- independently take responsibility for own professional development and specialization

Type of instruction: Project work, supervised by an external supervisor in collaboration with an internal supervisor at Aalborg University
Project work in an external organisation must be in areas of relevance to the competence profile of the program

Exam format: Oral examination based on a written report.

Evaluation criteria: As stated in the Joint Programme Regulations

3.3.2 Master thesis project

Title: **Master's thesis in Chemistry**
Kandidatspeciale i kemi

The master thesis can be conducted as a long master thesis. If choosing to do a long master thesis, it has to include experimental work and has to be approved by the study board. The amount of experimental work must reflect the allotted ECTS

Objective: Students who complete the module must be able to:

Knowledge

- explain the scientific basis and scientific issues in chemistry and chemical engineering
- explain the highest international research within the thesis subject area

Skills

- master the scientific methods and general skills related to the thesis subject area
- write a project report following the standards of the field of study, use the correct terminology and document extensive use of relevant and original scientific literature, and communicate and discuss the project's research-based foundation, problem and results in writing, graphically and verbally in a coherent way
- critically assess and select relevant original scientific literature and current scientific methods, models and other tools used in the project and asses and discuss the problem of the project and results in relevant scientific contexts and social conditions
- evaluate the potential of the project for further development, assessing and incorporating relevant economic, ethical, environmental and other socially relevant factors

Competencies

- participate in and independently implement technological and scientific development and research, develop and implement experimental work and solve complex tasks using scientific methods
- handle the planning, implementation and management of complex and unpredictable research and/or developmental tasks and take professional responsibility to implement independent academic assignments and interdisciplinary collaborations
- independently take responsibility for own professional development and specialization

Type of instruction: Project work
A long Master's thesis of more than 30 ECTS must include work of experimental nature to an extend that corresponds to the thesis ECTS load

Exam format: Oral examination based on a written report.

Evaluation criteria: As stated in the Joint Programme Regulations

3.4 Problem-based Learning (PBL) and Student Responsibility at Aalborg University

3.4.1 Problem-based Learning (PBL) and Student Responsibility at Aalborg University

English title *Danish title*	*Problem-based Learning (PBL) and Student Responsibility at Aalborg University* *Problembaseret læring og studerendes ansvar for læring på Aalborg University*
Placement	Spring, 2nd semester
Prerequisites	None, but the course is compulsory for students not acquainted with the Aalborg PBL model
Aim	To introduce the students majoring in chemistry or engineering a broad knowledge of polymer chemistry, such as principles of polymerization, polymer morphologies, polymer properties and so on. Meanwhile, some basic experimental techniques will be included in the lab course.
Learning outcomes	After completion of the course the student should Knowledge • know about the organization at Aalborg University and where to ask for help in different matters • know about how to communicate both in the project groups and during courses • know how a semester is structured and for the different examination forms used at Aalborg University • know how project work and laboratory work are carried out at Aalborg University including safety issues in the laboratories • know about issues concerning plagiarism and its consequences • know about the software which is used during the study • know about the IT systems used and how to get started • know about the specialist student counselors and how they may provide assistance Skills • be able to use problem-based learning and group work in project and courses at Aalborg University • be able to use Moodle to find lecture plans, timetables, and other relevant information Competences • be able to apply the concepts, theories and methods for problem-based learning and group work • be able to account for the considerations involved in the process of formulating project reports in practice.
Content	Lectures, discussions and group work. The course will take place during two Wednesday afternoons.
Duration	
Language	English
Assessment	Internal assessment during the course/class participation according to the rules in the Examination Policies and Procedures, Addendum to the Framework Provision of the Faculty of Engineering and Science, Aalborg University. In this case the assessment is primarily based on the oral performance during the course. This means that the student has to be active during the course time and participate in discussions. The course is an integrated part of the project and a precondition for participation in the project examination for those

	who are not acquainted with the Aalborg PBL model. Consequently, no diploma will be issued for the course nor will it appear on the academic transcripts.
Grading	Passed/failed
Assessment criteria	As stated in the Joint Programme Regulations

Chapter 4. Entry into force, interim provisions and revision

The curriculum is approved by the Dean of The Faculty of Engineering and Science and enters into force as of September 1st 2017.

Students who wish to complete their studies under the previous curriculum from 2013 must conclude their education by the summer examination period 2018 at the latest, since examinations under the previous curriculum are not offered after this time.

Chapter 5. Chapter 5: Other rules

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.[1] If the project is written in English, the summary must be in Danish.[2] 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 programme at a university in Denmark or abroad

In the individual case, the Board of Studies can approve successfully completed (passed) programme elements from other Master's programmes in lieu of programme elements in this programme (credit transfer). The Board of Studies can also approve successfully completed (passed) programme elements from another Danish programme or a programme outside of Denmark at the same level in lieu of programme elements within this curriculum. Decisions on credit transfer are made by the Board of Studies based on an academic assessment. See the Joint Programme Regulations 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 Engineering and Science on their website.

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 Rules and requirements for the reading of texts

At programmes taught in Danish, it is assumed that the student can read academic texts in modern Danish, Norwegian, Swedish and English and use reference works, etc., in other European. At programmes taught in English, it is assumed that the student can read academic text and use reference works, etc., in English.

[1] Or another foreign language (upon approval from the Board of Studies.
[2] The Board of Studies can grant exemption from this.

5.6 Additional information

The current version of the curriculum is published on the Board of Studies' website, including more detailed information about the programme, including exams.