AALBORG UNIVERSITET

MASTER OF SCIENCE (MSC) IN ENGINEERING (CHEMISTRY), 2017, VERSION 2 2018

MASTER OF SCIENCE (MSC) IN ENGINEERING
AALBORG

Link to this studyline

TABLE OF CONTENTS

§ 1: PREFACE

Pursuant to Act 261 of March 18, 2015 on Universities (the University Act) with subsequent changes, the following curriculum is established. The programme also follows the Joint Programme Regulations and the Examination Policies and Procedures for The Faculty.

§ 2: BASIS IN MINISTERIAL ORDERS

The Master's programme is organised 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. 111 of January 30, 2017 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order) with subsequent changes.

§ 3: CAMPUS

The programme is offered in Aalborg.

§ 4: FACULTY AFFILIATION

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

§ 5: STUDY BOARD AFFILIATION

The Master's programme falls under Study Board of Chemistry and Bioscience

§ 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS

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

§ 7: ADMISSION REQUIREMENTS

Applicants with a legal claim to admission (retskrav):

Applicants with the following degree are entitled to admission:

- Bachelor of Science in Engineering (Chemical Engineering), Aalborg University

Applicants without legal claim to admission

- Bachelor of Science in Chemical Engineering and Biotechnology, Aalborg University
- Bachelor of Engineering in Chemical Engineering and Biotechnology, Aalborg University
- Bachelor of Science in Chemical Engineering, Aarhus University
- Bachelor of Engineering in Chemical Engineering, Aarhus University
- Bachelor of Science in Chemical Engineering, Technical University of Denmark
- Bachelor of Engineering in Chemical Engineering, Technical University if Denmark
- Bachelor of Engineering in Chemical Engineering and International Business, Technical University of Denmark
- Bachelor og Science in Engineering (Chemistry and Biotechnology), University of Southern Denmark
- Bachelor of Engineering in Chemical Engineering, University of Southern Denmark

§ 8: THE PROGRAMME TITLE IN DANISH 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).

§ 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS

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

§ 10: 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

The Study Board can approve successfully completed (passed) programme elements from other Master's programmes in lieu of programme elements in this programme (credit transfer). The Study Board 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 Study Board based on an academic assessment. See the Joint Programme Regulations for the rules on credit transfer.

§ 11: EXEMPTIONS

In exceptional circumstances, the Study Board 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.

§ 12: RULES FOR EXAMINATIONS

The rules for examinations are stated in the Examination Policies and Procedures - published at this website: https://www.studieservice.aau.dk/Studielegalitet/

§ 13: 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 formulation and spelling 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 Study Board 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 (or another foreign language: French, Spanish or German upon approval by the Study Board). If the project is written in English, the summary must be in Danish (The Study Board can grant exemption from this). The summary must be at least 1 page and not more than 2 pages (this is not included in any fixed minimum and maximum number of pages per student). The summary is included in the evaluation of the project as a whole.

§ 14: REQUIREMENTS REGARDING THE READING OF TEXTS IN A FOREIGN LANGUAGE

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.

§ 15: COMPETENCE PROFILE ON THE DIPLOMA

The following competence profile will appear on the diploma:

A Candidatus graduate has the following competency profile:

A Candidatus graduate has competencies that have been acquired via a course of study that has taken place in a research environment.

A Candidatus graduate is qualified for employment on the labour market based on his or her academic discipline as well as for further research (PhD programmes). A Candidatus graduate has, compared to a Bachelor, developed his or her academic knowledge and independence so as to be able to apply scientific theory and method on an independent basis within both an academic and a professional context.

§ 16: COMPETENCE PROFILE OF THE PROGRAMME

The graduate of the Master's programme

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.

Competencies

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.

§ 17: STRUCTURE AND CONTENTS OF THE 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

§ 18: OVERVIEW OF THE PROGRAMME

Offered as: 1-professional					
Module name	Course type	ECTS	Applied grading scale	Evaluation method	Assessment method
1 SEMESTER					
Materials Technology	Project	15	7-point grading scale	Internal examination	Oral exam based on a project
Materials Chemistry	Course	5	7-point grading scale	Internal examination	Written or oral exam
Processing of Materials	Course	5	7-point grading scale	Internal examination	Written or oral exam
Physical Chemistry of Materials	Course	5	7-point grading scale	Internal examination	Written or oral exam
2 SEMESTER					
Industrial Application of Macromolecules	Project	15	7-point grading scale	Internal examination	Oral exam based on a project
Polymer Chemistry	Course	5	Passed/Not Passed	Internal examination	Written exam
Supramolecular Chemistry	Course	5	7-point grading scale	Internal examination	Written or oral exam
Carbohydrate Chemistry	Course	5	7-point grading scale	Internal examination	Written or oral exam
3-4 SEMESTER Option A					
Project work in an external organisation	Project	30	Passed/Not Passed	External examination	Oral exam based on a project
Master’s thesis in Chemistry	Project	30	7-point grading scale	External examination	Master's thesis/final project
3-4 SEMESTER Option B					
Extended Master's Thesis in Chemistry	Project	60	7-point grading scale	External examination	Master's thesis/final project

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

Elective Courses

On 3 - 4 semester option A or B is chosen

§ 19: 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.

All students who have not participated in Aalborg University’s PBL introductory course during their Bachelor’s degree must attend the introductory course “Problem-based Learning and Project Management”. The introductory course must be approved before the student can participate in the project exam. For further information, please see the course description

§ 20: COMMENCEMENT AND TRANSITIONAL RULES

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.

§ 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS

Minor editorial changes have been made in connection with the digitisation of the study curriculum.