AALBORG UNIVERSITET

MASTER OF SCIENCE (MSC) IN ENGINEERING (CHEMICAL ENGINEERING), 2017

MASTER OF SCIENCE (MSC) IN ENGINEERING
ESBJERG

Link to this studyline

Link(s) to other versions of the same line:

Master of Science (MSc) in Engineering (Chemical Engineering), 2021
Curriculum for the Master's Programme in Chemical Engineering, 2022
Master of Science (MSC) in Engineering (Chemical Engineering), 2020

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§ 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 Technical Faculty of IT and Design, The Faculty of Engineering and Science, and The Faculty of Medicine.

§ 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 Esbjerg.

§ 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 the external examiners corps on: Ingeniøruddannelsernes censorkorps - kemi

§ 7: ADMISSION REQUIREMENTS

Applicants with a legal right of admission (retskrav)

- Bachelor in Chemical Engineering and Biotechnology, Aalborg University

Applicants without legal right of admission

- Bachelor i Kemiteknologi, 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.

§ 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH

The Master's programme entitles the graduate to the Danish designation civilingeniør, cand.polyt. (candidatus/candidata polytechnices) i kemiteknik. The English designation is: Master of Science (MSc) in Engineering (chemical engineering).

§ 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS

The Master's programme is a 2-year, research-based, full-time study programme. The programme is set to 120 ECTS credits.

§ 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 that passed programme elements from other educational programmes at the same level replaces programme elements within this programme (credit transfer).

Furthermore, the Study Board can, upon application, approve that parts of this programme is completed at another university or a further education institution in Denmark or abroad (pre-approval of credit transfer).

The Study Board's decisions regarding credit transfer are based on an academic assessment.

§ 11: EXEMPTIONS

The Study Board's possibilities to grant exemption, including exemption to further examination attempts and special examination conditions, are stated in the Examination Policies and Procedures published at this website: https://www.studyservice.aau.dk/rules

§ 12: RULES FOR EXAMINATIONS

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

§ 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. If the project is written in English, the summary can be in Danish. 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 languages. At programmes taught in English, it is assumed that the student can read academic texts and use reference work, 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

- Has knowledge that is based on the highest international research in one or more subject areas within chemical engineering e.g.:
  - Bio energy
  - Ceramics and photocatalysis
  - Chemicals in oil and gas industry
  - Environmental technology
  - Fossil fuels and enhanced oil recovery
  - Fungal Technology
  - Natural products
  - Polymer technology

    - Spectroscopy and data analysis
- Can understand and, on a scientific basis, reflect over the above mentioned knowledge and identify scientific problems

Skills

- Masters the scientific methods, the tools and general skills related to employment within chemical engineering
- Can evaluate and select among scientific theories, methods, tools and general engineering skills and, on a scientific basis, advance new analyses and solutions
- Can communicate research-based knowledge and discuss professional and scientific problems with both peers and non-specialists

Competencies

- Can manage work and development situations that are complex, unpredictable and require new solutions
- Can independently initiate and implement discipline-specific and interdisciplinary cooperation and assume professional responsibility
- Can independently take responsibility for own professional development and specialisation

§ 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The programme is structured in modules and organized as a problem-based study. A module is a programme element or a group of programme 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 programme 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:

- Lectures
- Classroom instruction
- Project work
- Workshops
- Exercises (individually and in groups)
- Teacher feedback

AAU Micro

AAU Micro are small e-learning modules of limited, well-defined scope. AAU Micro modules are extra-curricular but may be employed to support learning in curricular course and project modules.

§ 18: OVERVIEW OF THE PROGRAMME

All modules are assessed through individual grading according to the 7-point scale *or* Pass/Fail. All modules are assessed by external examination (external grading) or internal examination (internal grading or by assessment by the supervisor only).

Offered as:						
Module name	Course type	ECTS	Applied grading scale	Evaluation method	Assessment method	Language
1 SEMESTER						
Process Analysis (K-KT-K1-18)	Project	15	7-point grading scale	Internal examination	Oral exam based on a project	English

Fluid Mechanics (K-KT-K1-7)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
Colloid and Interface Science (K-KT-K1-8)	Course	5	7-point grading scale	Internal examination	Oral exam	English
Chemometrics (K-KT-K1-9)	Course	5	Passed/Not Passed	Internal examination	Written exam	English
2 SEMESTER						
Process Modelling (K-KT-K2-15)	Project	15	7-point grading scale	External examination	Oral exam based on a project	English
Process Simulation and Instrumentation (K-KT-K2-8)	Course	5	Passed/Not Passed	Internal examination	Written or oral exam	English
Water Treatment (K-KT-K2-9)	Course	5	7-point grading scale	Internal examination	Oral exam	English
Polymers and Properties of Polymers (K-KT-K2-10)	Course	5	7-point grading scale	Internal examination	Written or oral exam	English
3-4 SEMESTER Option A						
Specialisation in Chemical Engineering (K-KT-K3-19)	Project	30	7-point grading scale	External examination	Oral exam based on a project	English
Master's Thesis in Chemical Engineering (K-KT-K4-20)	Project	30	7-point grading scale	External examination	Oral exam based on a project	English
3-4 SEMESTER Option B						
Project Work in an External Organisation (K-KT-K3-20)	Project	30	Passed/Not Passed	Internal examination	Oral exam based on a project	English
Master's Thesis in Chemical Engineering (K-KT-K4-20)	Project	30	7-point grading scale	External examination	Oral exam based on a project	English
3-4 SEMESTER Option C						
Master's Thesis in Chemical Engineering (K-KT-K3-24)	Project	60	7-point grading scale	External examination	Master's thesis/final project	English

Elective Courses

On 3 - 4 semester option A, B or C 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 and enters into force as of September 1st, 2017

Students who wish to complete their studies under the previous curriculum from 2011 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.

The Vice-dean has on November 24, 2023, approved an addition of Micro Modules in section 17, valid from spring 2024.