Programme specifics
MASTER OF SCIENCE
CHEMICAL ENGINEERING

2021-2022

DELFT UNIVERSITY OF TECHNOLOGY

Administrative data

Nomenclature in CROHO	**MSc Chemical Engineering**
CROHO registration number	**60437**
Orientation and level of the programme:	**Higher education, Academic Master level**
Number of credits	**120 EC, 2 years**
Mode(s) of study	**Fulltime**
Period of NVAO accreditation	**1 January 2019 until 31 December 2024**

THIS DOCUMENT

This document is part of the Teaching and Examination Regulations and applies for the Master's degree programme in Chemical Engineering.

LIST OF CONTENTS

Article 1 – The programme's final attainment levels

The Chemical Engineering MSc programme at Delft University of Technology is intended to educate students with knowledge, insights and skills to become independent and responsible researchers or engineers in the field of Chemical Engineering.

In addition to the general attainment levels described in article 4 of the teaching and examination regulations, and in line with the EFCE Bologna recommendations of the European Federation of Chemical Engineering (http://efce.info/Bologna_Recommendation.html), MSc Chemical Engineering graduates should fulfil the following qualifications:

1. Knowledge and Understanding
   The graduates have acquired the fundamental principles of chemical engineering for the modelling and simulation of chemical reactions and molecular processes, of energy, mass and momentum transport processes, and of separation processes. They are familiar with the principles of experimental measurement techniques and control thereof.
   The graduates have acquired extensive and profound knowledge of a selected area of chemical engineering (Process Engineering or Chemical Product Engineering) and related sciences, which enable them to carry out scientific work and to act responsibly in their professions and in society. They are aware of new developments in their field.

2. Engineering Analysis
   The graduates are able to:
   - identify and analyse chemical engineering problems scientifically, even if the definitions are incomplete or are formulated in an unusual way and show competing specifications;
   - abstract and formulate complex problems from a new or a developing field;
   - select and apply suitable, innovative, methods of analysis, modelling, simulation and optimisation, based on fundamental principles and taking into account economic and environmental aspects.

3. Engineering Design
   The graduates are able to:
   - develop concepts and solutions to chemical engineering problems based on fundamental principles but also to problems which are posed in an unusual way, if necessary involving other fields;
   - understanding of design methods and the ability to apply them;
   - develop new products, equipment, processes or methods;
   - use library and web resources for the acquisition of information regarding equipment characteristics and design methods, chemical and physical properties and data;
   - use their powers of judgment as engineers in order to work with complex and possibly incomplete information, to recognise discrepancies or feasibility concerns and to deal with them.

4. Investigations/Research
   The graduates are able to:
   - tackle a real chemical engineering problem by a scientific approach;
   - recognise the need for information, to find and critically assess information;
   - make an appropriate safety assessment before starting experimental work;
   - formulate, plan and carry out theoretical or experimental research at the forefront of a specific chemical engineering area;
   - evaluate data critically and to draw conclusions from it;
   - examine and evaluate the application of new and emerging technologies.

5. Engineering Practice
   The graduates are able to:
   - combine theory and practice in order to analyse and solve problems of engineering science using methods based on fundamental principles;
   - apply their knowledge in different areas, taking safety measures and ecological and economic demands into account;
   - classify knowledge from various fields methodically and draw systematic conclusions from it and also to deal with the complexity of different demands and boundary conditions;
   - think systematically about the non-technical effects of an engineer's job and to include these aspects responsibly in what they do.

6. Transferable Skills

   The graduates are able to:

   - present the results of their work in written and oral form in a scientifically sound and effective manner;
   - organise and carry out projects;
   - function effectively as a member of a multicultural team composed of different disciplines and/or levels;
   - work and communicate effectively in national and international contexts, with specialists and non-specialists;
   - understand professional and ethical responsibility, and act accordingly;
   - learn on their own, and recognise the need for life-long learning.

Article 2 – Admission to the programme

2.1 The general admission criteria are set by the executive board in the "Policy on fees and enrolment" document, in Appendix 1 of the Student Charter (central part), and are clarified in Part 1.2 " Entrance and admission" of the mentioned Student Charter.

The Chemical Product Engineering and Process Engineering tracks are respectively referred to as Product and Process track for short.

2.2 The criteria for admission to each of the tracks of the MSc programme are described in the table below.

BSc diploma	Direct admission to MSc track	Remarks
MST major Technology	Process/Product	No additional requirements
MST major Materials	Product	Homologation courses (art. 2.3)
MST major Materials	Process	Homologation courses (art. 2.3) successfully completed before start of MSc programme
MST major Chemistry	No direct admission	Bridging Programme (art. 5)
Chemical Engineering 4TU or Groningen University	Process/Product	No additional requirements
Chemical Engineering (foreign university)	No direct admission	International admission procedure* (also see art. 2.5)
HBO Chemical Engineering	No direct admission	Bridging Programme (art. 5) and additional requirements (art. 2.5)
Other BSc programmes from Dutch University	No direct admission	Bridging Programme (art. 5)
Other BSc programmes from foreign University	No direct admission	Bridging Programme (art. 5) and International admission procedure* (also see art. 2.5)

* https://www.tudelft.nl/en/education/admission-and-application/bsc-international-diploma

2.3 **Homologation courses**
In certain cases (art. 2.2), it is required that the student completes the homologation courses that are shown in the table below. The homologation courses can be completed prior to the start of the MSc program, or as electives within the MSc programme, unless specified otherwise in art. 2.2.

Code	Homologation courses	Credits (ECTS)
CH3073	Separation Processes, Design and Operation	3
4052CHREKY	Chemische Reactorkunde	6

If the courses are completed as part of the MSc programme, CH3073 is considered a Chemical Engineering elective and 4052CHREKY is considered a free elective.

2.4 In order to obtain proof of admission, the student must meet or, as the case may be, possess:
a. The general relevant criteria set by the executive board in the "Policy on fees and enrolment", laid down in Appendix 1 of the Student Charter (central part), and clarified in Part 1.2 " Entrance and admission" of the mentioned Student Charter.
b. A certificate, together with the accompanying list of marks, proving that he/she possesses knowledge of a sufficiently high level and broad scope to successfully complete the MSc programme within the allocated period.

2.5 **Additional admission criteria**
a. Students in possession of a BSc degree in Chemical Engineering or equivalent from a foreign university can be admitted to the programme provided he/she has a minimum Grade Point Average of 75%.
b. Students with a diploma from India are considered for admission if they have a (minimum) four year BSc degree in Chemical Engineering or equivalent from a mainstream university (state / federal or 'deemed' institution) passed with First Class with Distinction - or First Class from one of the Indian Institutes of Technology, Birla Institute of Technology & Science (Pilani), or Institute of Chemical Technology (Mumbai).
c. Students admitted to and having passed the TU Delft Chemical Engineering bridging programme, will be admitted to the programme. Official admission by the programme management to the Bridging programme is required as laid out in article 5.
d. Students in possession of a Bachelor of Engineering degree in Chemical Technology or equivalent from a Dutch university of Applied Sciences (HBO), not having passed the TU Delft Chemical Engineering required bridging course as part of their degree, can be admitted to the bridging programme provided they have a minimum Grade Point Average of 75% and no delay of study.

e. Students who do not possess the degree requirements mentioned above are required to obtain proof of admission to the programme from the dean, who will seek the advice of the admissions officer on this matter.

Article 3 – Structure of the programme.

3.1 The MSc Chemical Engineering is a two-year programme comprising 120 EC. The programme has a core-orientation structure. Within this structure, there is a choice of tracks. The core programme comprises 90 EC and has the same structure for all students. Combining the core programme with a 30 EC orientation completes the programme.Process Engineering.

3.2 **Tracks**

The tracks within the Chemical Engineering programme are:

- Chemical Product Engineering,
- Process Engineering.

3.3 **Orientations**

Four orientations of 30 EC each, can be chosen:

- Research and Development (R&D),
- Education (Ed1/Ed2),
- Management of Technology (MoT),
- Study Abroad (SA).

3.4 **Programme additions**

- Honours programme. This is an additional challenging individual programme for students with higher than average performance (>7.5 weighted average and no study delay).
- Double degree programme Chemical Engineering – Management of Technology.
- Other additions must be approved by the board of examiners.

Article 4 – Composition of the programme

4.1 – Overview

4.1.1 The core programme of each track comprises 90 credits and is the same for each student:
- Obligatory core modules (15 credits)
- Obligatory track modules (15 credits)
- Obligatory design modules (20 credits)
- MSc thesis project (40 credits)

4.1.2 The core programme (90 credits) is combined with a 30-credits Scientific and Social Orientation (elective part) to fulfil the programme requirements.

4.1.3 The first year consists of core modules, track modules, modules belonging to the orientation part of the programme and/or a design project.
The second year consists of the MSc thesis project, and modules belonging to the orientation part of the programme and/or a design project.

4.1.4 Only one track is mentioned on the degree certificate. Courses of a second track can be done as electives, or as part of the honours programme. Students are responsible for registering the track of their choice. The final choice must be made before handing in the diploma application form.

4.2 – The Chemical Product Engineering track

4.2.1 The core programme consists of the following course modules:

Code	Course Module	Credits
	Obligatory Core Modules	**15**
CH3132a	Applied Numerical Mathematics	5
CH3142	Molecular Thermodynamics	5
CH3152	Molecular Transport Phenomena	5
	Obligatory Track Modules	**15**
CH3162a	Design and Synthesis of Advanced Chemical Products	6
CH3173a	Quantum Properties and Structure of Materials (QPSM)	6
CH3372a	Soft Matter for Chemical Products	3
	Obligatory Design Modules	**20**
CH3804	Product & Process Design	5
WM0320TU	Ethics and Engineering	3
CH3843	Design project	12
CH3901	**MSc Thesis work**	**40**

4.2.2 The students form the Chemical Product Engineering track can perform their thesis research project in one of the following TU Delft Chemical Engineering research groups:
- Advanced Soft Matter,
- Catalysis Engineering,
- Materials for Energy Conversion and Storage,
- Optoelectronic Materials,
- Product and Process Engineering,
- Transport Phenomena*
- Inorganic Systems Engineering,
- Engineering Thermodynamics (P&E, 3mE)*
- Complex Fluid Processing (P&E, 3mE)*
- Radiation Science & Technology (RID)

* The programme management ensures that the project is suitable for students from the Product track and reserves the right to decline approval of projects that are not suitable.

4.2.3 In addition to the list mentioned under 4.2.2, the student may choose another option for his/her thesis work. However, this choice has to be approved by the board of examiners before the start of the project.

4.3 – The Process Engineering track

4.3.1 The core programme consists of the following course modules:

Code	Course Module	Credits
	Obligatory Core Modules	**15**
CH3132a	Applied Numerical Mathematics	5
CH3142	Molecular Thermodynamics	5
CH3152	Molecular Transport Phenomena	5
	Obligatory Track Modules	**15**
CH3043a	Process Dynamics & Control	3
CH3053	Applied Transport Phenomena	6
CH3681a	Reactors & Kinetics	6
	Obligatory Design Modules	**20**
CH3804	Product & Process Design	5
WM0320TU	Ethics and Engineering	3
CH3843	Design project	12
CH3901	**MSc Thesis work**	**40**

4.3.2 The students form the Process Engineering track can perform their thesis research project in one of the following TU Delft Chemical Engineering research groups:
- Advanced Soft Matter,
- Catalysis Engineering,
- Materials for Energy Conversion and Storage,
- Optoelectronic Materials,
- Product and Process Engineering,
- Transport Phenomena,
- Inorganic Systems Engineering,
- Radiation Science & Technology (RID),
- Complex Fluid Processing (P&E, 3mE)
- Engineering Thermodynamics (P&E, 3mE)

4.3.3 In addition to the list mentioned under 4.3.2, the student may choose another option for his/her thesis work. However, this choice has to be approved by the board of examiners before the start of the project.

4.4 – Scientific and Social Orientation

The programme includes a 30 EC of 'Orientation'. The student may opt for one of the following options:

4.4.1 **Research and Development**

This programme is especially tailored for students who will work in industry after completing their MSc education. It consists of:
- Industrial Internship (CH3702, 18 credits), and
- Electives (12 credits):
  - Suggested Chemical Engineering electives: 6-12 credits
  - Free electives (MSc level modules offered by other TU Delft programmes, and modules that focus on transferable skills): 0-6 credits

Suggested Chemical Engineering electives are obligatory track modules from a second track and modules from the list below. The choice of electives has to be approved by the board of examiners if less than 6 credits are mentioned on the list of suggested electives.

Code	Course Module	Credits
CH3061	Multiphase Reactor Engineering	4
CH3073	Separation Processes, Design and Operation	3
CH3101	Heterogeneous Catalysis	3
CH3181	Scale Up / Scale Down	3
CH3222	Energy Storage in Batteries	4
CH3291	International Design Contest	3
CH3421	Computational Transport Phenomena	6
CH3513	Electrochemistry for Renewable Energy 1: Fundamentals (ERE1)	4
CH3531	Functional Ceramics	3
CH3542	Inorganic Materials	3
CH3563	Product and process engineering of solid (nano)particles	3

CH3622	Process Intensification	3
CH3622-PR	Process Intensification – Project	2
CH3632	Chemistry and Physics of Solar Cells	6
CH3672	Computational Materials Science	3
CH3763	Nuclear Medicine	3
CH3783	Materials Chemistry for the Nuclear Fuel Cycle	3
CH3771	Nuclear Chemistry	6
CH3982	Literature Study	3
AP3171	Advanced Physical Transport Phenomena	6
AP3252	Electron Microscopy Characterization of the Nanoscale	3
AP3371	Radiological Health Physics	6
LM3731	Biocatalysis	6
LM3311	Green Chemistry and Sustainable Technology	3
SET3070	Thermochemistry of Biomass Conversion	4
SET3085	Hydrogen Technology	4

Example free elective modules are:

Code	Course Module	Credits
AS3111	ATHENS	2
AS3121	Scientific Writing and Argumentation	3
AS3131	Art, Empathy & Ethics	4
CH3301	Foreign Excursion Tour TG	3
WM0203TU-Eng	Oral Presentations	2
WM1101TU	English for Academic Purposes-3	3
WM1102TU	Written English for Technologists-2	3
WM1112TU	Spoken English for Technologists-2	3
WM1115TU	Dutch Elementary 1	3
WM1116TU	Dutch Elementary 2	3
WM1117TU	Dutch Intermediate 1	3
WM1135TU	English for Academic Purposes-4	3
WM1136TU	Written English for Technologists-1	3
WM1137TU	Spoken English for Technologists-1	3
WM-ITAV-4010	Scientific Writing	2

4.4.2 **Education** (taught in Dutch)

The educational programme is taught in Dutch and is oriented towards the Dutch school system, including an internship at a Dutch secondary school. The programme consists of Basisdeel/Ed1 (30 EC) and Verdiepingsdeel/Ed2 (30 EC).
The minor Education (Basisdeel/Ed1) can be done during the BSc programme and leads to qualification as a tweedegraads secondary school teacher with limited qualification (beperkte bevoegdheid). If a student has done the minor Education, only the Verdiepingsdeel/Ed2 of 30 EC remains for the MSc programme orientation. The combination of the minor Education and Ed2 orientation leads to qualification as a fully-qualified eerstegraads (grade-one) secondary school teacher.

Students that didn't take the minor Education can follow the Basisdeel/Ed1 orientation as part of their MSc programme and then do the Verdiepingsdeel/Ed2 as a post-master course in order to become fully qualified. The programme has to be approved by coordinator of Science Education and Communication.

Code	Course Module	Credits
	Basisdeel/Ed1	
SL3462	Educational Sciences	6
SL4202	Professional Learning Community	1
SL4200	Pedagogy of STEM education	4
SL4230	Chemistry Teaching Methodology	4
SL4235	Chemistry Foundation Teaching Placement	15

	Verdiepingsdeel/Ed2	
SL3012	Personal Professional Development	3
SL4300	Design and Research in Education	10
SL4330	Advanced Chemistry Teaching Methodology	5
SL4335	Advanced Chemistry Teaching Placement	12

4.4.3 **Management of Technology**

This orientation is offered by the faculty of Technology, Policy and Management. The programme consists of either the first semester or the second semester of the MSc Management of Technology. A mixture of courses from both semesters is only permitted if it is a coherent set of modules that is approved by the MoT programme coordinator, dr. R.M. Verburg, in advance.

Code	Course Module	Credits
	1st SEMESTER MoT Modules (30 EC)	
MOT1412	Technology Dynamics	5
MOT1421	Economic Foundations	5
MOT1442	Social and Scientific Values	5
MOT1461	Corporate Finance	5
MOT1524	Leading and Managing People	5
MOT2312	Research Methods	5
	2nd SEMESTER MoT Modules (30 EC)	
MOT1003	Integration Moment	5
MOT1435	Technology Strategy and Entrepreneurship	5
MOT1451	Inter- and Intra-organisational Decision Making	5
MOT1531	Business Process Management & Technology	5
MOT1534	High-tech Marketing	5
MOT2421	Emerging and Breakthrough Technologies	5

4.4.4 **Study Abroad**

This programme consists of a semester at a foreign university. A package of 30 EC of courses (optionally including a research project of a maximum of 20 EC) must be done. This programme is especially recommended for students who will do a PhD after completing their MSc education. The International Office and the Programme Management are responsible for admission taking into account the average grade, feasibility of study plan and prevention of study delay. After admission, the contents of the Study Abroad programme must be approved by the board of examiners.

4.4.5 **Double Degree**

Students opting for a double degree (second MSc) after having obtained permission from the programme managements of both MSc programmes are allowed to dedicate the Scientific and Social Orientation (30 EC) of Chemical Engineering on modules from the second MSc programme. Double degree programmes are always subject to the restrictions imposed by the university and have to be approved by the board of examiners (in case it deviates from the standard programmes e.g. double degree with MoT). In line with the university's restrictions, the double degree programme has to comprises at least 180 EC of which at least 60 EC must be unique for each programme. The student should produce two thesis projects with two distinct thesis reports for each programme (thesis requirements apply). In case of a joint thesis project (combined thesis project for both programmes), the student hands in two separate reports, one per programme, or one final report where the (non)overlapping parts per programme are clearly indicated. Joint projects need to be approved by the board of examiners based on the content and scope of the project.

4.5 – Honours Programme

The Honours Programme consists of at least 20 EC in addition to the regular MSc programme of 120 EC. The individual programme contains a 5-EC course for all TU Delft honours track students plus a coherent package of at least 15 EC of challenging courses or projects composed by the student.

Programme		Credits
Collective Part – obligatory		
UD2010, Critical Reflection on Technology		
OR		5
UD2012, Business Leadership for Engineers		
Individual Part		15
Examples:		
Company Oriented HPM		
AS1011HPM	Applied Sciences Company Project	12
AS1021HPM	Applied Sciences Honours Classes	3
Research Oriented HPM		
AS1031HPM	Applied Sciences Research Project	9-15
x	Project related course	0-6
Design Oriented HPM		
x	PDEng courses (ST6xxx)	15
Courses		
	coherent package of courses	15

4.6 – Double degree programme Chemical Engineering– Management of Technology

This is a three year programme Chemical Engineering – Management of Technology of the Faculties of Applied Sciences (AS) and Technology, Policy and Management (TPM).
Students finishing a MSc Chemical Engineering degree with orientation MoT may decide to do an additional year of MSc MoT courses and thesis in order to obtain a double degree in both ChE and MoT. Access to this double degree programme is decided upon by the programme directors of the MSc Chemical Engineering and the MSc Management of Technology. The programme consists of:

Programme	Credits
The Chemical Engineering Core Programme	90
1st semester MoT modules (list of modules in art. 4.4.3)	30
The Chemical engineering orientation MoT / 2nd semester MoT modules (list of modules in art. 4.4.3)	30
MOT2004, Preparation for the MSc Thesis	5
MoT MSc Thesis Project (MOT2910)	30

The 120 EC Chemical engineering part of the programme consists of the 90 EC Chemical Engineering Core Programme and the 30 EC second semester MoT modules.

4.7 – The free study programme

Students may compile a free curriculum concluded by a final exam. Such a curriculum must consist entirely or mainly of modules given in conjunction with the programme. It has to comply with the final attainment levels of the programme. The curriculum must be accompanied by a justified request and submitted to the Board of Examiners for approval.

Article 5 – Bridging programmes

5.1 Students who have been admitted on the basis of a Dutch institute of Higher Education (HBO) BSc of Engineering degree Chemical Technology (or equivalent) have to complete a bridging programme consisting of the following Dutch modules before they can enrol in the MSc programme:

Code	Course Module	Credits
	Dutch	**35**
IFEEMCS011100 / IFEEMCS012100	Calculus for Science, deel 1 / Calculus for Engineering, deel 1	3
IFEEMCS011200 / IFEEMCS012200	Calculus for Science, deel 2 / Calculus for Engineering, deel 2	3
IFEEMCS010400	Lineaire Algebra	5
WI1909TH	Differentiaal vergelijkingen	3
4052FYSTRY	Fysische Transportverschijnselen	6
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
4052NUMTEY	Numerieke Technieken	3

5.2 Students who have been admitted on the basis of a BSc diploma MST with the major Chemistry or a BSc diploma in Chemistry from a Dutch university (not HBO) have to complete a bridging programme consisting of the following modules before they can enrol in the MSc programme:

Code	Course Module	Credits
4052LADIFY	Linear Algebra and Differential Equations	6
4052FYSTRY	Fysische Transportverschijnselen	6
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
4052NUMTEY	Numerieke Technieken	3

MST-students with the major Chemistry are eligible for direct admission (to either of the tracks) if they have completed these technology courses (minor Technology) as part of their BSc degree.

5.3 Students holding a BSc degree in Aerospace Engineering, Applied Earth Sciences, Applied Physics, Life Science and Technology, Nanobiology, or Mechanical Engineering from Delft University of Technology can be admitted to the bridging programme and complete the Chemical Engineering bridging programme for their respective BSc degrees as shown below and must do that before they can enroll in the MSc programme.

a) Bridging programme for BSc Aerospace Engineering contains at least:

Code	Course Module	Credits
4051ALACHY	Algemene en Anorganische Chemie	6
4051OCSTRY	Organische Chemie en Structuuranalyse	9
4051CHAN3Y	Chemische analysemethoden	3
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
		30

b) Bridging programme for BSc Applied Earth Sciences contains at least:

Code	Course Module	Credits
4051OCSTRY	Organische Chemie en Structuuranalyse	9
4051CHAN3Y	Chemische Analysemethoden	3
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
4052STEVMY	Structuur en Eigenschappen van Materialen	6
		30

c) Bridging programme for BSc Applied Physics contains at least:

Code	Course Module	Credits
4051ALACHY	Algemene en Anorganische Chemie	6
4051OCSTRY	Organische Chemie en Structuuranalyse	9
4051CHAN3Y	Chemische Analysemethoden	3
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
		30

d) Bridging programme for BSc Life Science and Technology contains at least:

Code	Course Module	Credits
IFEEMCS010400	Lineaire Algebra	5
WI1909TH	Diffrentiaal vergelijkingen	3
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
4052NUMTEY	Numerieke Technieken	3
		23
	For a 30 EC bridging minor courses from the minor Advanced LST can be added; e.g. LB2801, LB2961, LB2971, LB2981	

It is recommended to replace LB2532 (Transport Phenomena in the Life Sciences) by 4052FYSTRY.

e) Bridging programme for BSc Mechanical Engineering contains at least:

Code	Course Module	Credits
4051ALACHY	Algemene en Anorganische Chemie	6
4051OCSTRY	Organische Chemie en Structuuranalyse	9
4051CHAN3Y	Chemische Analysemethoden	3
4052STEVMY	Structuur en Eigenschappen van Materialen	6
4052CHREKY	Chemische Reactorkunde	6
		30

f) Bridging programme for BSc Nanobiology contains at least:

Code	Course Module	Credits
4051OCSTRY	Organische Chemie en Structuuranalyse	9
4052STEVMY	Structuur en Eigenschappen van Materialen	6
4052FYSTRY	Fysische Transportverschijnselen	6
4052CHREKY	Chemische Reactorkunde	6
4052SCHTEY	Scheidingstechnologie	6
		33

5.4 Students with a BSc degree from a Bachelor programme not mentioned in art. 5.1-5.3 have to complete a bridging programme before they can enrol in the MSc programme. The content of the bridging programme will be determined by the Director of Studies of the MSc Chemical Engineering programme.

Article 6 – Examinations

6.1 The form of the examinations and the methods of assessment

The form of the examinations and the methods of assessment are described in the (digital) study guide, http://chem.msc.studyguide.tudelft.nl.

6.2 The order of exams

6.2.1 Design project (CH3843)

A proof of full participation in the preparatory PPD course (CH3804) is required and at least 12 EC of other Chemical Engineering MSc courses/electives must have been completed to be admitted to the Design Project. Presence, making assignments and sitting for the exam is considered as proof for full participation in the PPD course.
Students doing homologation (bridging) courses as part of their MSc programme must have completed all (except at most one) of these courses.

6.2.2 Graduation Project, MSc thesis (CH3901)

The student should at least have completed the following modules before starting the Thesis Project:

1. all bridging/homologation modules,
2. the obligatory core and track modules,
3. the design module (CH3843, CH3804 and WM0320TU) or the orientation part of the programme.

The student should make a project plan with the responsible thesis supervisor and hand in the completed registration form (MEP-form) before the start of the project.

The date and time of the MSc thesis defense is determined by the thesis supervisor in consultation with the student. In exceptional cases, the board of examiners may be involved in setting this date and time. The form has to be signed by the coordinator before it can be processed by the Thesis Office of Applied Sciences. Students are not allowed to start a thesis project without having received the approval from the coordinator or thesis office. Further rules governing the MSc graduation projects can be found in the Rules and Guidelines of the Board of Examiners

Article 7 – Transition ruling Chemical Engineering

7.1 Equivalences:
CH3173A = CH3174A (name change)
CH3562 = CH3563 (name change)
CH3122 = AS3131 (code changed)
CH3622-P = CH3622-PR (total number of credits changed)
CH3222SET = CH3222 (code changed)
CH3253SET = SET3070 (code changed)
LM3261SET = SET3075 (code changed)
CH3232SET = SET3085 (code changed)
CH3131A = CH3132A (total number of credits changed)
CH3151 = CH3152 (total number of credits changed)
CH3141 = CH3142 (total number of credits changed)
CH3011 = CH3012 (course name changed)
CH3792 = AP3352 (code changed)
CH3782 + CH3582 = CH3783 (two courses merged)
CH3041 = SC4190CH = CH3042 = CH3043
CH3051TU = CH3052 = CH3053
CH3061 = CH3062
CH3071 = ME1590CH = CH3072 = CH3073 + WB4429
CH3161 = CH3162
CH3621 = ME1592CH = CH3622 + CH3622-P
CH3803 = CH3804
CH3842 = CH3843
WM0320TU = WM0329TU
Differences in credits may be compensated in the electives. Exception to this rule: CH3042+CH3053 and CH3052+CH3043 always count as 9 credits (and not 6 or 12).
The total number of credits obtained by passing the three different obligatory first-quarter courses (CH3132A or CH3131A, CH3152 or CH3151 and CH3142 or CH3141) are always equal to 15 EC.

7.2 Equivalences and alternatives for Bridging/Homologation modules:
4051CALC1Y = WI1708TH1 + WI1708TH2 = IFEEMCS011100 + IFEEMCS011200 = IFEEMCS012100 + IFEEMCS012200
4052DIFFVY = MSTTDIF = WI2149ST
4052LINEAY = MSTTLIN = WI2148ST
4052LADIFY = 4052LINEAY + 4052DIFFVY
4052LADIFY = WI1807TH1 + WI1909TH
4052FYSTRY = MSTTFTV = ST2122 = TN2785