Master Chemical Engineering

2023
2024

Master's programme

1st year

1st PERIOD	2nd PERIOD	3rd PERIOD	4th PERIOD
Computational Practicum CH3133 6 EC		Product & Process Design CH3804 6 EC	
Molecular Transport Phenomena CH3151 4 EC	Advanced Chemical Engineering Courses 12 EC	Chemical Engineering Electives 12 EC	Design Project ICH3843 12 EC
Process, Dynamics & Control CH3044A 4 EC			
Engineering Ethics & Risk TPM330 4 EC			

2nd year

1st PERIOD	2nd PERIOD	3rd PERIOD	4th PERIOD
Professional and Societal Orientation 30 EC		Master Thesis CH3930 / CH3842 30 EC/42 EC	

**The second year is flexible. Electives can also be done in other periods. Internship in Industry can also be done after the Master Thesis Project.*

Legend

Electives | Core Courses | Design Module
Chemical Engineering Electives | Thesis

EC: European Credit

TU Delft

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General information

www.chem.msc.tudelft.nl

Digital study guide

For programme details, courses and course details.

studyguide.tudelft.nl

Timetables

Timetables for courses and for the programme.

mytimetable.tudelft.nl

Brightspace

Brightspace is TU Delft's digital learning and education environment for students and staff. There is a Brightspace page for every course, but also for the master Chemical Engineering programme.

brightspace.tudelft.nl

Register for examinations

Written examinations require registration! You have to register using Osiris. There are strict deadlines.

my.tudelft.nl

examdesk.tudelft.nl

Regulations

The regulations inform you about your rights and obligations.

tnw.tudelft.nl/regulations

Faculty student portal

tudelft.nl/en/student/faculties/as-student-portal/

E-service

For questions regarding (reactivation of) NetID.

e-service.tudelft.nl

Student association

"Technologisch Gezelschap" is the study association for Chemical Engineering.

tg.tudelft.nl

TU Delft Library

TU Delft has an extended library where you can borrow books. The website gives access to many search portals, electronic journals etc.

library.tudelft.nl

Programme team

Faculty of Applied Sciences, Van der Maasweg 9

Programme director

Monique van der Veen has final responsibility for the MSc-programme Chemical Engineering.

director-ce@tudelft.nl

+31 (0) 15 27 86458

Building 58, room E2.108

Programme coordinator

Jolanda Quak supervises the daily routine of the programme, manages the daily matters of the programme and answers questions regarding organisational and course-related issues.

coordinator-ce@tudelft.nl

+31 (0) 15 27 83633

Building 58, room B0.120 / Building 22, room A206

Academic counsellor

Carina Vonk will advise you on all kinds of study-related matters, including personal problems.

C.C.Vonk@tudelft.nl

Building 58, room B0.120 / Building 22, room A204

Education & Student Affairs

Jaffalaan 9a (entrance Mekelweg) 2628 BX Delft

www.tudelft.nl/studenten/administratie

+31(0)15 27 88012

administration of results, account group Applied Sciences

spa-tnw@tudelft.nl

+31(0)15 27 89826

Board of Examiners

The Board of Examiners is responsible for the assessment quality and the degree audits. You can also submit exception requests to the Board of Examiners.

boardofexaminers-ce-as@tudelft.nl

Board of Studies

The Board of Studies is an advisory body representing students and teachers, and plays an important role in the quality of the programme. If you have any comments or concerns regarding this, please send an email to:

boardofstudies-ce-as@tudelft.nl

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Study programme

The MSc programme takes two years (120 EC). The core programme comprises 60 EC.
There is a choice of Scientific Orientations which are advisable for a specific field you want to work in: Energy, Health, Circularity or Nuclear.

Obligatory Core Modules (all tracks, period 1, 11 EC)

Course Code	Course Title	EC
CH3133	Computational Practicum (CP) (Q1: 3 EC & Q2: 3 EC)	6
CH3044A	Process, Dynamics & Control (PDC)	4
CH3153	Molecular Transport Phenomena (MTP)	4
*TPM330A**	*Engineering, Ethics and Risks*	*4*

** Please note that TPM330A is part of the Design Module*

Advanced Chemical Engineering courses (12 EC, students choose 3 courses from 6)

Course Code	Course Title	EC
CH3051	Applied Transport Phenomena (ATP)	4
CH3682A	Reactors and Kinetics (R&K)	4
CH3143	Advanced Thermodynamics (ATD)	4
CH3013	Interfaces & Particles (I&P)	4
CH3175	Solid State Materials (SSM)	4
CH3373	Soft Materials Engineering (SME)	4

Obligatory Design Modules (period 1, 3 & 4, 22 EC)

Course Code	Course Title	EC
CH3803	Product & Process Design (PPD)	6
CH3843	Design Project	12
TPM330A*	Engineering, Ethics and Risks	4

** Please note that TPM330A is also part of Q1*

Thesis Project (CH3930, 30 EC / CH3942, 42 EC)

Combining the core programme with the Master Thesis project and a Professional and Social Orientation (PSO) for a total of 60 EC completes the Master's programme. The thesis project is always done within one of the research sections of the university (Chemical Engineering department, Radiation Science and Technology department also refer to the programme specifics for which additional departments may be eligible).

Professional and Societal Orientation:

- Research and development:
  18 EC Industrial Internship with:
  - 42 EC MEP or
  - 30 EC MEP, 12 EC Electives

  24 EC Industrial Internship with:
  - 30 EC MEP, 6 EC Electives
- Science and Engineering: An external research project (15 or 18 EC) with:
  - A 30 EC MEP, 12-15 EC Electives or,
  - 42 EC MEP, 0-3 EC Electives
- Education (Ed1/ Ed2, 30 EC): get a Dutch nb secondary school qualification with 30 EC MEP.
- Management of Technology (30EC): follow first or second semester of MOT courses with 30 EC MEP.
- Study Abroad (30EC): one semester, project and/ or courses at a foreign university with 30 EC MEP.

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Programme additions

- Honours programme: this is an individual programme of at least 20 EC on top of the full Chemical Engineering programme, which contains a specially developed 5 EC course for all TU Delft honours track students. The full programme including the additional honours track should be completed within 2 years. Prior approval is required.

- Double degree programmes, such as Chemical Engineering-Management of Technology, require a minimum of 180 EC and should be completed within 3 years. Formal permission to start a double degree programme is ALWAYS required in advance!

Approved Chemical Engineering Electives

Course Code	Course Title	EC	Circularity	Energy	Health	Nuclear
	Circularity Profile					
CH3092	Sustainable Supply Chains	3	✓			
ME45230	Seperation Techniques for Renewable Processes	5	✓	✓	✓	✓
CH3543	Inorganic Materials for Energy and Circularity	3	✓	✓		
CH3921	Sustainable Polymer Materials	3	✓			
CH3102	Catalysis for Energy and Circularity	3	✓	✓		
	Energy Profile					
CH3513	Electrochemistry for Renewable Energy	4	✓	✓		
CH3622	Process Intensification	3	✓	✓		
CH3622- PR	Process Intensification Project	4	✓	✓		
CH3502	Materials for Energy Transition	4	✓	✓	✓	✓
CH3612	Thermo- (Bio-)Chemical Technologies	3	✓	✓		
	Health Profile					
CH3564	Perticle Technology for Health and Energy	3		✓	✓	
CH3382	Molecular Engineering of Soft Materials in Health Care	4			✓	
CH3412	Biological Transport Phenomena	4			✓	
	Nuclear Profile					
CH3764	Nuclear Medicine	4			✓	✓
CH3771	Nuclear Chemistry	6				✓
CH3783	Materials Chemistry for the Nuclear Fuel Cycle	3				✓
CH3765	Advanced Materials Characterisation	3		✓		✓
	Other (Specialisation or general)					
CH3181	Scale Up / Scale Down	3	✓	✓		
CH3061	Multiphase Reactor Engineering	4	✓	✓	✓	✓
CH3673	Computational Approaches for Chemistry and Materials	4		✓		✓
CH3421	Computational Transport Phenomena	6	✓	✓	✓	✓
CH3112	Artificial Intelligence in (Bio)-Chemical Engineering	3	✓	✓	✓	✓

A more detailed description the programme and courses can be found in the study guide: chem.msc.studyguide.tudelft.nl