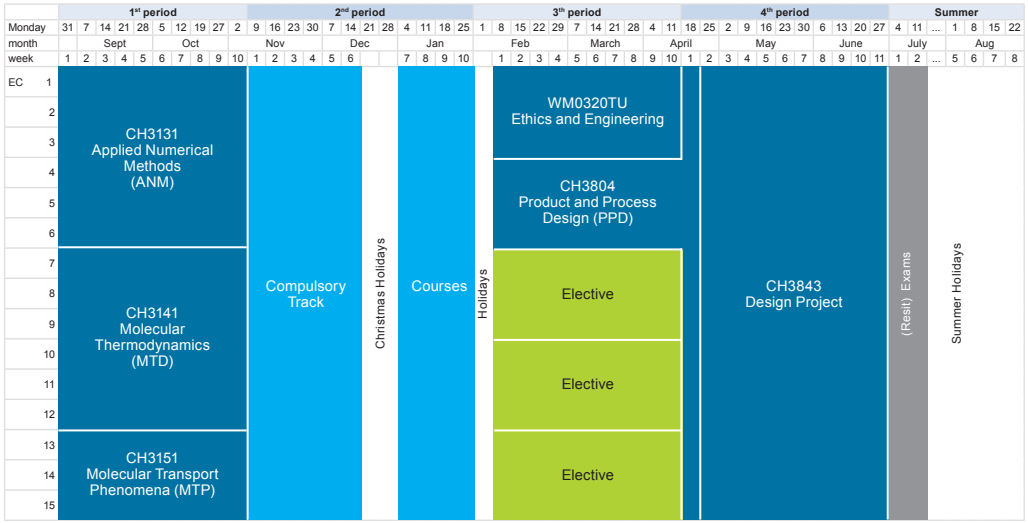
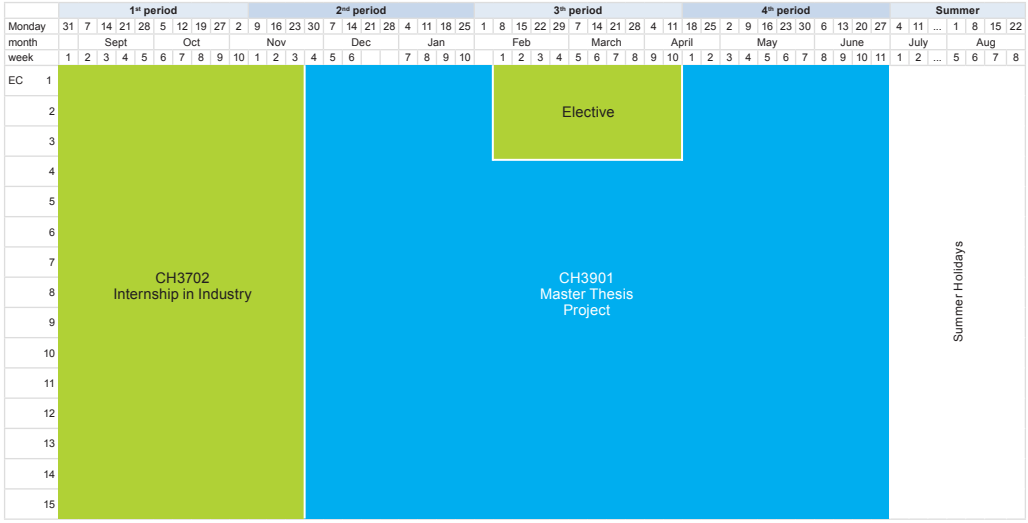
Master programme

1st year - Regular programme (with Internship and electives)



2nd year



Remark: 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.

Master Chemical Engineering 2015 - 2016

Organisation

Programme director **Jan van Esch**

The programme director has final responsibility for the Chemical Engineering master of science programme.
Prof.dr. J.H. van Esch
ChemE building, Julianalaan 136, room 0.302
T: +31 (0) 15 27 88826 **J.H.vanEsch@tudelft.nl**

Programme coordinator **Arno Haket**

The programme coordinator supervises the daily routine of the programme. If you have a problem with the organisation and logistics of the programme or questions regarding the programme or (choice of) courses, consult him.
Ir. A.J.W. Haket
Applied Physics building, Lorentzweg 1, room A206
T: +31 (0)15 27 85582 **A.J.W.Haket@tudelft.nl**

Academic counsellor **Tanja Hilkhuijsen**

The academic counsellor will advise you on all kinds of study-related matters, including personal problems; all private matters discussed are confidential. Students' questions are generally related to the programme, illness and personal problems, and study problems (e.g. planning and time management).
T.M. Hilkhuijsen MSc
Applied Physics building, Lorentzweg 1, room A212
T: +31(0)15 27 87785 **T.M.Hilkhuijsen@tudelft.nl**

Education & Student Affairs

Jaffalaan 9a (entrance Mekelweg) 2628 BX Delft
Enrolment and un-enrolment
T: +31(0)15 27 84249 **csa@tudelft.nl**, www.csa.tudelft.nl
Administration of results, account group Applied Sciences
T: +31(0)15 27 89826 **osa-tnw@tudelft.nl**

Board of Examiners

The Board of Examiners decides on whether you deserve a master diploma for a set of successfully completed courses and projects. If you have followed the regular programme this decision is straightforward, but deviations are possible. To apply for acceptance of changes to the regular programme, a request should be submitted to the Board of Examiners. It is advised to consult the programme coordinator in advance. These requests should be sent to the secretary of the board, Mrs. Helen Emmerink.
Applied Physics building, Lorentzweg 1, room A216
T: +31 (0)15 27 89076 **W.H.Emmerink@tudelft.nl**

Board of Studies

The Board of Studies is an advisory body, consisting of students and teachers, which meets at least every quarter. The Board of Studies has three main responsibilities:
- To advise on the Teaching and Examination Regulations and the Implementation Regulations
- To annually evaluate the programme
- To advise on all matters concerning education

Useful web addresses

student portal

Blackboard **blackboard.tudelft.nl**

Blackboard is TU Delft's virtual learning environment. Students, instructors and staff use Blackboard for almost all communication for their courses. There is a Blackboard page for every course, and also for the organisation master Chemical Engineering. Contact the programme coordinator if you do not have access to the Chemical Engineering blackboard organisation.

Digital study guide **chem.msc.studyguide.tudelft.nl**

In the digital study guide you can find programme details, courses and course details related to your study programme.

Timetables **timetables.tudelft.nl**

Here you can find the timetables for courses and for the programme. For individual timetables see: **MyTimetable.tudelft.nl**

Register for exams **examdesk.tudelft.nl**

Written exams require registration! You have to register using Osiris which can be found via Blackboard. Students are required to register for written exams in the examination registration system no later than 14 days before the exam.

Regulations **www.tnw.tudelft.nl/regulations**

The regulations handle all possible issues concerning education and examinations. All rights and obligations of both students and teachers are explained in detail. The Teaching & Examination Regulations and the Implementation Regulations are established by the Board of Studies. The Board of Examiners establishes the Rules and Guidelines regarding examinations. See the web page for an overview and archive of all regulations. In the Rules and Guidelines you will find the pass/fail regulations, the meaning of the marks, and the conditions for the predicate 'with distinction'.

Faculty student portal **tnw.students.tudelft.nl**

Within the student portal of the Faculty of Applied Sciences you can find lots of relevant information relating to student matters at TU Delft, such as timetables, internship, master thesis project, contact information and study facilities. On this webpage you also find links to the general TU Delft student information.

E-service **e-service.tudelft.nl**

Allows you to forward TU Delft e-mail to your personal e-mail address, and change your password.

Student association **www.tg.tudelft.nl**

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

TU Delft Library **www.library.tudelft.nl**

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

TUDelft

Study programme

The MSc programme takes two years (120 ECTS). There is a choice of three tracks: Chemical Product Engineering (CPE), Nuclear Science and Engineering (NSE) and Process Engineering (PE). The core programme comprises 90 credits:

Obligatory Core Modules (all tracks, period 1, 15 EC)

Course Code	Course Title	Instructor	EC
CH3131	Applied Numerical Mathematics (ANM)	Biskos, Lahaye	6
CH3141	Molecular Thermodynamics (MTD)	Besseling, Derksen	6
CH3151	Molecular Transport Phenomena (MTP)	van Steijn	3

Obligatory Track Modules (period 2, 15 EC)

Track Chemical Product Engineering

Course Code	Course Title	Instructor	EC
CH3162a	Design and Synthesis of Advanced Chemical Products (DSP)	Eelkema, Houtepen, Jager, de Smet	6
CH3173a	Structure/Property Relationships of Advanced Chemical Products (SPRP)	Siebbelers, Savenije, van der Veen	6
CH3372a	Soft Matter for Chemical Products (SMP)	Mendes, Boukany	3

Track Nuclear Science and Engineering

Course Code	Course Title	Instructor	EC
CH3771	Nuclear Chemistry	Denkova, Oehlke	6
CH3782	Chemistry of the Nuclear Fuel Cycle	Konings, Bykov	3
CH3792	Introduction to Nuclear Science and Engineering	Rohde, and others	6

Track Process Engineering

Course Code	Course Title	Instructor	EC
CH3043a	Process Dynamics and Control (PD&C)	Biskos	3
CH3053	Applied Transport Phenomena (ATP)	Kreutzer, Derksen	6
CH3681a	Reactors and Kinetics (R&K)	Boukany, Kapteijn	6

Obligatory Design Modules (period 3+4, 20 EC)

Course Code	Course Title	Instructor	EC
CH3804	Product & Process Design (PPD)	de Haan, Nugteren	5
CH3843	Design Project	de Haan, Nugteren	12
WM0320TU	Ethics and Engineering	Santoni De Sio	3

Thesis Project (CH3901, 40 EC)

A Thesis Project, done in the second year, completes the core programme. The thesis project is always done within one of the research sections of the university (Chemical Engineering department and some affiliated groups for CPE and PE tracks, or radiation science and technology department for the NSE track). The thesis project is track specific.

Combining the core programme with 30 EC Scientific and Social Orientation (elective part) completes the master programme. Students may opt for:

- Research and Development (R&D) – an Industrial Internship plus 12 EC of electives.
- Education (Ed1/Ed2) – get a Dutch secondary school qualification.
- Management of Technology (MoT) – consists of (either the first or) the second semester of the MSc MoT programme.
- Study Abroad (SA) – one semester, project and/or courses, at a foreign university.

Programme additions

Contact the programme coordinator:

- Honours track: 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!

Recommended Electives that are scheduled in period 3

Course Code	Course Title	Track	EC
CH3011	Interfacial Engineering	CPE/PE	3
CH3062	Multiphase Reactor Engineering	PE	3
CH3073	Separation Processes, Design and Operation	PE	3
CH3101	Heterogeneous Catalysis	CPE/PE	3
CH3181	Scale Up / Scale Down	PE	3
CH3421	Computational Transport Phenomena	PE	6
CH3531	Functional Ceramics	CPE	3
CH3562	Nanoparticle Technology	CPE/PE	3
CH3582	Chemistry and Physics of Actinides	CPE/NSE	3
CH3622	Process Intensification	PE	3
CH3672	Computational Materials Science	CPE	3
CH3861	Hydrocarbon Processing	PE	3
CH3982	Literature Study	all	3
AP3171	Advanced Physical Transport Phenomena	PE	6
AP3371	Radiological Health Physics	NSE	6
LM3311	Green Chemistry and Sustainable Technology	CPE/PE	3
ME1540	Turbulent Reacting Flows	PE	3
SET3041	Energy from Biomass	PE	4

Courses scheduled in different periods, such as CH3632, CH4011MS, LM3731, the obligatory track courses from other tracks and - to a limited extent - courses from other programmes not mentioned on this list (including Dutch and English language courses), can be chosen as well. At least 6 ec of the 12 ec of electives must be from Chemical Engineering (including the list above).

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