

Master Chemical Engineering

MSc Programme



Everyday products like foods, medicines and electronics are the result of outstanding fundamental molecular design and ingenious process engineering techniques. Chemical Engineering is the key discipline in the development of chemical products and processes to fulfil society's current and future needs, and covers a wide range of subjects from the molecular level to large-scale chemical manufacturing processes.

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| Degree | Master of Science |
| Starts | September 2021* |
| Type | full-time |
| Credits | 120 ECTS, 24 months |
| Language | English |
| Application deadline | Int. diploma: 1 April 2021 Dutch diploma: check admission.tudelft.nl |
| Tuition fee | €18.750 (non EU) € 2.168 (EU) |
| Scholarships | scholarships.tudelft.nl |

* (For applicants with a Dutch BSc degree a start in February is also possible. Contact academic counsellor to discuss possibilities.)

Programme

The Master of Science programme in Chemical Engineering at Delft University of Technology (TU Delft) provides students with the knowledge, insights and skills they need to become independent and responsible researchers and engineers in the field. The programme operates hand in hand with the university's Chemical Engineering research groups and it has been for decades educating students who upon graduation are in high demand by the chemical industry and academia. Chemical Engineering at Delft aims for the highest quality standards in teaching and research and has a rich heritage spanning 125 years. The programme places a strong emphasis on innovative thinking and stresses multidisciplinary problem-solving using a systematic approach, incorporating

considerations of sustainability, economics and social welfare into the analytical process.

Tracks

The programme offers two tracks (chemical product or process-oriented) and a scientific and societal orientation for all Chemical Engineering students offering a plethora of personalisation opportunities. Students choose one of the tracks:

- **Chemical Product Engineering:** Molecular engineers are involved in the design and synthesis of products ranging from pharmaceuticals to building materials.
- **Process Engineering:** Process Engineering involves the design and operation of manufacturing processes and is essential in our technology-dependent, industrialized society.

Master Chemical Engineering

| FIRST YEAR | | | | SECOND YEAR | |
|--|-----------------------|-----------------------------------|----------------|---|--|
| 1ST SEMESTER | | 2ND SEMESTER | | MASTER THESIS PROJECT INDUSTRIAL INTERNSHIP ELECTIVES | |
| 1ST QUARTER | 2ND QUARTER | 3RD QUARTER | 4TH QUARTER | | |
| APPLIED NUMERICAL MATHEMATICS MOLECULAR TRANSPORT PHENOMENA MOLECULAR THERMODYNAMICS | TRACK-RELATED COURSES | PRODUCT & PROCESS DESIGN | | | |
| | | ETHICS & ENGINEERING ELECTIVES | DESIGN PROJECT | | |

Experiences

“The programme is designed to ensure that students gain all the necessary skills through working on multi-cultural group projects in a team environment as well as conducting independent research work.”
Abinaya Arunachalam (second year-student)

“During my thesis work, I discovered how urgent it is to find new energy storage solutions and the many challenges to the extensive use of renewable energies that exist within this field.”
Nadia Boulif (Winner of Unilever Research Prize 2020, currently a PhD student in Eindhoven)

“I chose this programme because it is one of the best Chemical Engineering programmes in the world (...) I aspire to work for an engineering firm like Worley, Fluor or Bilfinger Tebodin, being involved in projects for various chemical companies. My principal interests in those projects would be sustainability, safety and process control, fortunately all aspects that are touched upon in the process design courses.”
Guido Hartog (second year-student)

“...the international and multidisciplinary environment in which we worked together and shared perspectives allowed us to motivate each other in the first year to keep working so hard every single day. (...) the skills we learn are applicable in an unimaginable number of fields.(...) After I graduate, I want to work in industry, probably as a process technologist.”
Elise Roelse (second year-student)

Career prospects

The great majority of our graduates are employed shortly after or even before receiving

their diploma. Working environments where the majority of our graduates operate is industry in the Netherlands and other European and intercontinental companies. Just to name a few of the most popular employers of our graduates: Shell, AkzoNobel, DSM, Exxon Chemical, Heineken, ING, BASF, Philips, Procter & Gamble, ASML and Unilever and the list goes on... Others have joined consultancy firms, work in the public sector, are active in non-profit organisations, join academia and become professors or have started their own businesses. The possibilities seem unlimited.

Student profile

Graduates with a BSc in Chemical Engineering from the universities in Groningen, Twente or Eindhoven are eligible for direct admission. Graduates with a Dutch BSc in Chemistry, Life Science and Technology, Applied Earth Sciences, Applied Physics, Mechanical Engineering and Aerospace Engineering may be admitted through a bridging programme. For graduates from a Dutch University of Applied Sciences (HBO) to be considered for admission to the Bridging Programme, they must hold (or expect soon to obtain) the Bachelor's degree Chemical Engineering (Chemische Technologie) or equivalent in addition to having a GPA of at least 75% and have spent no more than four years for the Bachelor.

Admission to the bridging programmes are subject to consideration that go beyond simply a GPA. Information regarding admission can be obtained by sending an email to the programme coordinator of the Master's Programme (Dr. Ir. S. Al-Attar, s.al-attar@tudelft.nl)



6th
in Europe
QS World University Ranking
for Chemical Engineering



13th
Chemical Engineering Ranking
Worldwide 2019



30-50%
international students

Career perspective



90%
find a job within 6 months



8/10
as rated by Alumni