Become the link in the world of construction

Is it your ambition to manage large building projects such as the Millau Viaduct, the world’s highest road bridge? If so, you should first gain the skills that fit the needs of today’s and tomorrow’s large international building projects. The construction industry is changing rapidly. 3D-printing, shifting roles, complex logistics, Public Private Partnerships and globalisation are just some of the new factors affecting the nature and management of projects. Complex, innovative and multidisciplinary projects in a dynamic environment call for a new breed of managers who are able to combine engineering with analytical and organisational skills. CME therefore combines individual technical approaches to processes – in which governance issues, societal trends and management methods are integrated – with cutting-edge design and technology.

Programme
CME offers a broad spectrum of courses focusing on the growing need for reform in the building industry. The programme has been developed in close association with the construction industry and is process and design-oriented as well as project-based. It prepares students for a dynamic career in the construction business by focusing on knowledge of processes, lifecycle and risk management and integrated contracts, to name just a few aspects. A Master’s degree in CME provides students with extensive knowledge in the field of management and communication, courses on cross-cultural management, financial engineering and project management playing an important role. The students participating in this programme not only develop their engineering, problem-solving and communication skills, but also learn how to achieve change in the building industry and assess the consequences for the construction process and its organisation. CME is multidisciplinary, internationally orientated and offered jointly by the faculties of Civil Engineering and Geosciences, Architecture and the Built Environment and Technology Policy and Management at TU Delft.
Programme specialisations
Students can choose their own path within the programme, assisted by one of our student advisors. The programme offers four that reflect current trends and needs in the market.

- **Project Management** explores a new perspective on applying Operations Research (Decision-Making Engineering) in Design & Construction Management. Namely, this perspective is that technical and social optimisation should not be separate processes, but should be integrated into a single design and construction process.

- **Asset Management** covers maintenance and management systems for quality, the environment and safety. These systems are increasingly becoming intertwined. How can we provide direction, and where can we optimise processes? And what role can information technology play? Asset management is examined as the bridging link in the system.

- **Infrastructure and Environment** focuses on the balance between economics and sustainability, while taking all legal, safety-related and humanitarian aspects into consideration.

- **Legal and Finance** considers the financial and contractual issues related to the implementation of civil engineering projects. It introduces concepts and topics from economic engineering and finance, such as project financing and financial accounting.
Graduation projects
- Integration of probabilistic scheduling and costing.
- Public project management in North Western Europe: perspective on project success.
- Do we really need the ‘F’ in DB(F)MO?
- Probabilistic estimating of engineering costs.
- Towards perception-based management of complex construction projects.

Career prospects
Almost all CME students find work within three months of graduating. CME graduates typically find positions as management trainees at large companies within the building industry, but they work in other sectors as well. Some alumni currently work for large multinationals such as Shell and KPN, and for consultancy firms such as McKinsey, but most of them work for large national and international engineering firms such as Van Oort, Royal Haskoning, Heijmans, DHV, PRC, Ballast Nedam and BAM. CME graduates are equally at ease speaking to technical experts and engineers and to management, and often work in interdisciplinary environments. They have a systematic approach to problem-solving, think analytically, discern the connections between the technical and social aspects of a situation, and are adept at recognising common patterns that link issues across domain boundaries.

The CME curriculum differs from that of the regular programmes in Civil Engineering, because it is a 3TU masters programme. One of the unique features of the CME programme is its broad managerial orientation. It acknowledges that in real life, infrastructure projects have to be designed and realised in complex environments, and that the success of any civil engineering project relies heavily on the management of this complex environment. Of course there will always be employment opportunities for civil engineers who have been educated in a mono-disciplinary way. However, today’s society is looking above all for engineers who have the capacity to combine engineering knowledge and management skills. The Master’s in CME offers a unique programme designed to achieve just that. Combining technical knowledge and management skills, the programme prepares students for exciting jobs in today’s demanding construction projects in an international context.

Ir.dr. Jules Verlaan, Master’s Coordinator CME
**Admission requirements and application procedure**

**BSc degree from a Dutch university**
If you hold a Dutch BSc degree in Civil Engineering, Architecture or Policy, Technology and Management that is closely related to the Master’s programme, you will be admitted directly. However, if your undergraduate programme is not closely related to the Master’s programme you will be required to take additional courses in what is called a bridging programme. This may be a standard programme or it may be tailored to your specific situation.

To see which Master’s programmes are open to you on completion of your Bachelor’s degree at a Dutch university, go to www.doorstroommatrix.nl. Applications may be submitted through Studielink: www.tudelft.studielink.nl.

**Dutch HBO degree**
An HBO Bachelor’s degree does not qualify you for direct admission to a TU Delft Master’s programme. You will first need to complete a supplementary programme in order to bring your knowledge to the required level. You can do this during your HBO programme by completing a bridging minor, or taking a bridging programme after completing your HBO diploma.

Entrance requirements for mathematics and English language (some exceptions) apply to both the bridging minor and the bridging programme.

See www.hbodoorstroom.tudelft.nl for detailed information.
Applications may be submitted through Studielink: www.tudelft.studielink.nl.

**International applicants**
To be considered for admission to an MSc programme, you will need to meet TU Delft’s general admission requirements:

1. A university Bachelor’s degree (or proof that you have nearly completed a Bachelor’s programme) in a main subject closely related to the MSc programme for which you are applying, with good grades on the key courses.
2. A BSc Cumulative Grade Point Average (CGPA) of at least 75% of the scale maximum.
   - A TOEFL (Test of English as a Foreign Language) with an overall Band score of at least 90 and a minimum score of 21 for each section. Please note that we only accept the TOEFL internet-based test.
   - or an IELTS (academic version) with an overall Band score of at least 6.5 and a minimum of 6.0 for each section.

For international students, the application period starts on October and closes on 1 April. To apply for an MSc programme, please complete the online application and pay the application fee of €100. You will then receive an email containing a link to upload the required documents.

For more detailed information about the application procedure and studying at TU Delft in general, visit www.admissions.tudelft.nl.

**Introduction week**
All international students will be welcomed with the award-winning introduction programme. The introduction consists of a variety of workshops and projects, during which you will get to know other international students, visit the highlights of Delft and familiarise yourself with the TU Delft campus. After this fun and interesting, you will be introduced to the Faculty of Civil Engineering & Geosciences. You will receive helpful information about the Dutch education system and meet fellow students from your programme through a variety of social and educational activities.

**Further information**
Please visit the webpage for full details, requirements, deadlines and contact information: www.cme.msc.tudelft.nl

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