

# Master programme Civil Engineering and Management

| Integrated Civil Engineering Systems (2)  |             |     |          |   |             |     |          |
|---|-------------|-----|----------|---|-------------|-----|----------|
| PROFILES  |             |     |          |   |             |     |          |
| Sustainability  |             |     |          | Smart Cities  |             |     |          |
| Profile Courses (30 EC)   | Course code | EC  | Quartile | Profile Courses (minimum 30 EC)   | Course code | EC  | Quartile |
| Sustainable Building  | 195810400   | 7,5 | 1        | Planning and Process Management   | 201500097   | 7,5 | 1        |
| Water Footprint Assessment  | 201400010   | 7,5 | 1        | Research Methodology & Academic Skills  | 195820400   | 7,5 | 2        |
| Research Methodology & Academic Skills  | 195820400   | 7,5 | 2        | Land Use and Transport Interactions   | 201000025   | 7,5 | 3        |
| Sustainable Transport   | 195420800   | 7,5 | 4        | Integrated Water Management   | 195400300   | 7,5 | 4        |
| <b>Profile Electives</b><br>- Free to choose any of the 35 CEM-courses (pay attention to the required prior knowledge)<br>- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)<br>- Below: courses from other programmes that fit in this profile<br>(If you include courses from other programmes, we <b>recommend</b> you to make a selection, such that the majority of the programme is still formed by CEM-courses) |             |     |          | <b>Profile Electives</b><br>- Free to choose any of the 35 CEM-courses (pay attention to the required prior knowledge)<br>- Below: list of CEM-courses that fit best in this profile (in addition to profile courses)<br>- Below: courses from other programmes that fit in this profile<br>(If you include courses from other programmes, we <b>recommend</b> you to make a selection, such that the majority of the programme is still formed by CEM-courses) |             |     |          |
| Legal & Governance Aspects  | 195800100   | 7,5 | 1        | Legal & Governance Aspects  | 195800100   | 7,5 | 1        |
| Collaborative Design & Engineering  | 195800400   | 7,5 | 3        | Sustainable Building  | 195810400   | 7,5 | 1        |
| Land Use and Transport Interactions   | 201000025   | 7,5 | 3        | Intelligent Transport Systems   | 201100010   | 7,5 | 1        |
| Integrated Water Management   | 195400300   | 7,5 | 4        | Public Transport in urban areas   | 201600131   | 7,5 | 2        |
|   |             |     |          | Data Science (EWI) + assignment   | 201400174   | 7,5 | 2 or 3   |
|   |             |     |          | Collaborative Design & Engineering  | 195800400   | 7,5 | 3        |
|   |             |     |          | Sustainable Transport   | 195420800   | 7,5 | 4        |
|   |             |     |          | Traffic Management  | 201100006   | 7,5 | 4        |
| Product Life Cycle (IDE)  | 192850740   | 4   | 2        | Energy Systems (SET)  | 195740070   | 3   | 1        |
| Electrical power engineering + system integration (SET)   | 195740100   | 4   | 2        | Technology and Sustainable Development (SET)  | 195740050   | 3   | 1        |
| Wind Energy (SET)   | 195740120   | 4   | 3        | Electric Vehicle System Design (IDE)  | 201500009   | 5   | 2        |
| Solar Energy (SET)  | 195740040   | 4   | 3        | Wind Energy (SET)   | 195740120   | 4   | 3        |
| Energy and Economy (SET)  | 195740020   | 4   | 3        | Solar Energy (SET)  | 195740040   | 4   | 3        |
| Energy Systems (SET)  | 195740070   | 3   | 1        | Energy and Economy (SET)  | 195740020   | 4   | 3        |
| Technology and Sustainable Development (SET)  | 195740050   | 3   | 1        | Virtual Reality (IDE)   | 201000201   | 5   | 4        |
| Policy Instr and Evaluation in Environ+Sust. (PA)   | 194106100   | 5   | 1        |   |             |     |          |
| Economic Methods of Sustainability Assessment (PA)  | 201100073   | 5   | 1        |   |             |     |          |
| Policy Strat.&Impl. for Water Govern+Sust. Issues (MEEM)  |             | 4   | 1        |   |             |     |          |
| Energy management, policy and technology (MEEM)   |             | 4   | 2        |   |             |     |          |
| Data Science (EWI)  | 201400174   | 5   | 2 or 3   |   |             |     |          |
| GENERAL COURSES   |             |     |          |   |             |     |          |
| Free Electives (max 15 EC)  |             | EC  | Quartile | Free Electives (max 15 EC)  |             | EC  | Quartile |
| Any course from UT or approved other university*  |             |     |          | Any course from UT or approved other university*  |             |     |          |
| Thesis **   |             | EC  | Quartile | Thesis **   |             | EC  | Quartile |
| Preparation Master Thesis   |             | 7,5 | -        | Preparation Master Thesis   |             | 7,5 | -        |
| Master Thesis Construction/Traffic/Water  |             | 30  | -        | Master Thesis Construction/Traffic/Water  |             | 30  | -        |
| PLANNING AND CONSULTATION FOR THE MASTER PROFILES   |             |     |          |   |             |     |          |
| Track-coordinator: dr. Jord Warmink   |             |     |          |   |             |     |          |
| Coordination of Master Theses: see coordinators from CME, TEM or WEM  |             |     |          |   |             |     |          |

\* an "approved university" is any university in The Netherlands (not HBO-schools), or any international university that is partner of the UT or of the faculty of Engineering Technology.  
 For a list of partner universities, see: <https://www.utwente.nl/ctw/student-mobility/partners/>  
 For courses from other universities: contact your track-coordinator.  
 The Free Electives should be at MSc-level and should have no overlap with other courses in your programme.

\*\* For the procedure of how to start the course Preparation Master Thesis and your MSc-thesis project, see: [https://www.utwente.nl/cem/master\\_programme/graduate/](https://www.utwente.nl/cem/master_programme/graduate/)