

Faculty of Engineering and Architecture

Master of Science in Industrial Engineering and Operations Research -- Sustainable Mobility Analytics

Language of instruction: English

Programme version 1

1 General Courses 36 credits

The track Sustainable Mobility Analytics in the Master of Science in Industrial Engineering and Operations Research is part of the [EIT Urban Mobility Master School](#). It may only be taken by students as part of a double degree with one of the interuniversity partners, in accordance with the mobility scheme and subject to the requirements of the entry and exit university.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | E004255 Operations Research Models and Methods <i>El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design</i> | 6 | | 1 | A:1 | 180 |
| 2 | E005741 Simulation of Stochastic Systems <i>Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design</i> | 6 | | 1 | A:1 | 180 |
| 3 | E018321 Algorithmic Programming <i>Birger Raa -- Department of Industrial Systems Engineering and Product Design</i> | 6 | | 1 | A:1 | 180 |
| 4 | E076951 Engineering Economy <i>Sofie Verbrugge -- Department of Information Technology</i> | 6 | | 1 | A:1 | 180 |
| 5 | E076341 Information Technology for Industrial Engineering <i>Michiel Vlaminck -- Department of Telecommunications and Information Processing</i> | 3 | | 1 | A:2 | 90 |
| 6 | E004153 Heuristics and Search Methods <i>Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design</i> | 3 | | 2 | A:1 | 90 |
| 7 | E004241 Industrial Systems Modelling and Optimization <i>El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design</i> | 6 | | 2 | A:2 | 180 |

2 Courses Related to the Main Subject 65 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | E084390 Traffic Flow Modelling <i>Dieter Fiems -- Department of Telecommunications and Information Processing</i> | 6 | | 1 | A:1 | 180 |
| 2 | E084460 Design of Urban Services <i>Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design</i> | 6 | | 1 | A:2 | 180 |
| 3 | E084480 Advanced Topics in Traffic and Logistics <i>Ivana Semanjski -- Department of Industrial Systems Engineering and Product Design</i> | 4 | | 1 | A:2 | 120 |
| 4 | E076460 Dare to Venture <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i> | 4 | | 1 | A:2 | 120 |
| 5 | E084440 Summer School on Transportation | 3 | | 2 | A:1 | 90 |
| 6 | C004177 Spatiotemporal Analysis and Modelling <i>Nico Van de Weghe -- Department of Geography</i> | 5 | | 2 | A:1 | 150 |
| 7 | E018240 Big Data Technology <i>Dieter De Witte -- Department of Electronics and Information Systems</i> | 4 | | 2 | A:1 | 120 |
| 8 | E076471 Dare to Start <i>Frank Gielen -- Department of Information Technology</i> | 3 | | 2 | A:2 | 90 |
| 9 | E099300 Industry Internship Engineering and Architecture [en, nl] <i>Patrick Segers -- Department of Electronics and Information Systems</i> | 6 | | 2 | A:J | 180 |

2.1 Master's Dissertation 24 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|-------------------------------|------|-----|-----|---------|-------|
| 1 | E091103 Master's Dissertation | 24 | | 2 | B:J | 720 |

The student takes 19 credits of elective courses from the study programme of the Master of Science in Industrial Engineering and Operations Research, in accordance with the mobility schedule and the conditions of the entry and exit university, under the double degree agreement.

Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the course name, using the following ISO codes:

| | | | | | | |
|---------------|-------------|-------------|---------------|----------------|----------------------|-------------|
| bg: Bulgarian | de: German | es: Spanish | ja: Japanese | pl: Polish | sh: Croatian/Serbian | zh: Chinese |
| cs: Czech | el: Greek | fr: French | nl: Dutch | pt: Portuguese | sl: Slovene | |
| da: Danish | en: English | it: Italian | no: Norwegian | ru: Russian | sv: Swedish | |

Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2. When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.

When a semester is shown in brackets, the course is not offered this year in the specific offering.

The offering frequency and first year of offering are indicated by the following codes:

| | | | |
|-----------------|---------------------------------|---------------------------------|---------------------------------|
| a: bi-annually | c: annually, from 2024-2025 | f: annually, from 2025-2026 | i: annually, from 2026-2027 |
| b: tri-annually | d: bi-annually, from 2024-2025 | g: bi-annually, from 2025-2026 | j: bi-annually, from 2026-2027 |
| | e: tri-annually, from 2024-2025 | h: tri-annually, from 2025-2026 | k: tri-annually, from 2026-2027 |