

# Industrial Engineering and Management - International, M Sc in Engineering

300 credits

Civilingenjör i industriell ekonomi - internationell

6CIEI

Valid from:

**Determined by**

**Date determined**

## Entry requirements

### Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

## Curriculum

### Semester 8 (Spring 2017)

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TEIE06          | Corporate Planning   | 6*      | A1X   | -                | C   |
| NBIC50          | Ecotoxicology and Environmental Monitoring                                 | 6       | G2X   | 1                | E   |
| TAMS29          | Stochastic Processes Applied to Financial Models                           | 6       | A1X   | 3                | E   |
| TATA53          | Linear Algebra, Honours Course   | 6*      | G2X   | -                | E   |
| TBMI26          | Neural Networks and Learning Systems                                       | 6       | A1X   | 2                | E   |
| Tddb68          | Concurrent Programming and Operating Systems                               | 6       | G2X   | 3                | E   |
| TDDD17          | Information Security, Second Course  | 6*      | A1X   | 4                | E   |
| TDDD38          | Advanced Programming in C++  | 6*      | A1X   | 2                | E   |
| TDDD41          | Data Mining - Clustering and Association Analysis                          | 6       | A1X   | 3                | E   |
| TDDD51          | Service Design and Innovation  | 6       | A1X   | 3                | E   |
| TDDD57          | Physical Interaction and Game Programming                                  | 6       | A1X   | 1                | E   |
| TDDD75          | Effect-Driven Development and Human-Centered Design of Interactive Systems | 6       | G2X   | 3                | E   |
| TDDD97          | Web Programming  | 6       | G2X   | 3                | E   |
| TDEI70          | Economic Perspectives on IT Use - for Individual, Organisation and Society | 6       | A1X   | 4                | E   |
| TDTS04          | Computer Networks and Distributed Systems                                  | 8       | G2X   | 2                | E   |
| TEIE88          | Computer Law   | 4       | G1X   | 1                | E   |
| TEIM09          | International Business   | 6       | A1X   | 2                | E   |
| TEIO13          | Leadership and Organizational Change                                       | 6       | A1X   | 4                | E   |
| TETS32          | Logistics Analysis - Tools and Models                                      | 6       | A1X   | 2                | E   |
| TFYA45          | Biotechnology Project  | 6*      | A1X   | -                | E   |
| TFYA62          | Introduction to Biosensor Technology                                       | 6       | G2X   | 4                | E   |
| TGTU01          | Technology and Ethics  | 6       | G1X   | 1                | E   |
| TGTU91          | Oral and Written Communication   | 6       | G1X   | 2                | E   |
| TKMJ10          | Industrial Ecology   | 6       | A1X   | 1                | E   |

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| TKMJ15          | Environmental Management Strategies  | 6       | G1X   | 3                | E   |
| TKMJ47          | Environmental Systems Analysis   | 6*      | A1X   | 2                | E   |
| TMES17          | Building Energy Systems  | 6       | A1X   | 3                | E   |
| TMES43          | Analysis and Modelling of Industrial Energy Systems                            | 6       | A1X   | 1                | E   |
| TMKA04          | Wood - Innovation  | 6       | A1X   | 1                | E   |
| TMKT48          | Design Optimization  | 6       | A1X   | 3                | E   |
| TMMS21          | Mechatronics   | 6       | G2X   | 1                | E   |
| TMPS42          | Production System Automation   | 6       | A1X   | 1                | E   |
| TMQU31          | Statistical Quality Control  | 6       | A1X   | 2                | E   |
| TPPE32          | Financial Risk Management  | 6       | A1X   | 2                | E   |
| TPPE54          | Advanced Planning and Scheduling   | 6       | A1X   | 1                | E   |
| TSBB15          | Computer Vision  | 12*     | A1X   | 1                | E   |
| TSBK07          | Computer Graphics  | 6*      | A1X   | 4                | E   |
| TSBK08          | Data Compression   | 6       | A1X   | 2                | E   |
| TSKS13          | Wireless Communications  | 6       | A1F   | 4                | E   |
| TSRT07          | Industrial Control Systems   | 6       | A1X   | 2                | E   |
| TSRT09          | Control Theory   | 6       | A1X   | 3                | E   |
| TSTE08          | Analog and Discrete-Time Integrated Circuits                                   | 6       | A1X   | 3                | E   |
| TVCB11          | Cellbiological Methodology   | 6       | G2X   | 1/4              | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TEIE06          | Corporate Planning   | 6*      | A1X   | -                | C   |
| TATA53          | Linear Algebra, Honours Course   | 6*      | G2X   | -                | E   |
| TDDC78          | Programming of Parallel Computers - Methods and Tools                          | 6       | A1X   | 3                | E   |
| TDDD05          | Component Based Software   | 6       | A1X   | 1                | E   |
| TDDD14          | Formal Languages and Automata Theory   | 6       | G2X   | 2                | E   |
| TDDD17          | Information Security, Second Course  | 6*      | A1X   | 4                | E   |
| TDDD27          | Advanced Web Programming   | 6       | A1X   | 3                | E   |
| TDDD38          | Advanced Programming in C++  | 6*      | A1X   | -                | E   |
| TDEI21          | Strategic Organisational Application of IT - Workflow and Knowledge Management | 6       | A1X   | 4                | E   |
| TDEI35          | Strategy and Management Control  | 6       | A1X   | 2                | E   |

| Course code | Course name                                     | Credits | Level | Timetable module | ECV |
|-------------|---|---------|-------|------------------|-----|
| TEIE95      | Civil and Commercial Law                        | 4       | G1X   | 2                | E   |
| TEIM07      | Industrial Market Research                      | 6       | A1X   | 2                | E   |
| TEIO06      | Innovative Entrepreneurship                     | 6       | A1X   | 2                | E   |
| TEIO41      | Corporate Social Responsibility                 | 6       | A1X   | 4                | E   |
| TETS36      | Sustainable Logistics Systems                   | 6       | A1X   | 4                | E   |
| TETS56      | Logistics and Quality in Health Care            | 6       | A1X   | 4                | E   |
| TFYA45      | Biotechnology Project                           | 6*      | A1X   | -                | E   |
| TGTU76      | Philosophy of Science                           | 6       | G1X   | 4                | E   |
| TKMJ47      | Environmental Systems Analysis                  | 6*      | A1X   | 2                | E   |
| TMES21      | Industrial Energy Systems                       | 6       | A1X   | 3                | E   |
| TMHL61      | Damage Mechanics and Life Analysis              | 6       | A1X   | 2                | E   |
| TMKT57      | Product Modelling                               | 6       | A1X   | 3                | E   |
| TMKT83      | Small Scale Renewable Energy Conversion         | 6       | A1X   | 4                | E   |
| TMME11      | Road Vehicle Dynamics                           | 6       | A1X   | 1                | E   |
| TMPS27      | Production Systems                              | 6       | A1X   | 3                | E   |
| TMQU04      | Six Sigma Quality                               | 6       | A1X   | 2                | E   |
| TPPE19      | Analysing and Improving Manufacturing Operation | 6       | A1X   | 4                | E   |
| TPPE33      | Portfolio Management                            | 6       | A1X   | 2                | E   |
| TSBB15      | Computer Vision                                 | 12*     | A1X   | 3                | E   |
| TSBK02      | Image and Audio Coding                          | 6       | A1X   | 4                | E   |
| TSBK07      | Computer Graphics                               | 6*      | A1X   | 1                | E   |
| TSFS06      | Diagnosis and Supervision                       | 6       | A1N   | 1                | E   |
| TSKS14      | Multiple Antenna Communications                 | 6       | A1X   | 2                | E   |
| TSRT14      | Sensor Fusion                                   | 6       | A1X   | 2                | E   |
| TSTE06      | Digital Filters                                 | 6       | A1X   | 3                | E   |

*Specialisation: Master Profile Automatic Control*

| Course code     | Course name                | Credits | Level | Timetable module | ECV |
|-----------------|----------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                            |         |       |                  |     |
| TSRT07          | Industrial Control Systems | 6       | A1X   | 2                | E   |
| TSRT09          | Control Theory             | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |                            |         |       |                  |     |
| TSFS06          | Diagnosis and Supervision  | 6       | A1N   | 1                | E   |
| TSRT14          | Sensor Fusion              | 6       | A1X   | 2                | E   |

*Specialisation: Master Profile Computer Science and Engineering*

| Course code     | Course name              | Credits | Level | Timetable module | ECV |
|-----------------|--------------------------|---------|-------|------------------|-----|
| <b>Period 2</b> |                          |         |       |                  |     |
| TDDD05          | Component Based Software | 6       | A1X   | 1                | C   |

*Specialisation: Master Profile Economic Information Systems*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TDEI70          | Economic Perspectives on IT Use - for Individual, Organisation and Society     | 6       | A1X   | 4                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TDEI21          | Strategic Organisational Application of IT - Workflow and Knowledge Management | 6       | A1X   | 4                | E   |
| TDEI35          | Strategy and Management Control  | 6       | A1X   | 2                | E   |

*Specialisation: Master Profile Energy Engineering*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMES17          | Building Energy Systems                             | 6       | A1X   | 3                | E   |
| TMES43          | Analysis and Modelling of Industrial Energy Systems | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMES21          | Industrial Energy Systems                           | 6       | A1X   | 3                | E   |
| TMKT83          | Small Scale Renewable Energy Conversion             | 6       | A1X   | 4                | E   |

*Specialisation: Master Profile Finance*

| Course code     | Course name               | Credits | Level | Timetable module | ECV |
|-----------------|---------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                           |         |       |                  |     |
| TPPE32          | Financial Risk Management | 6       | A1X   | 2                | C   |
| <b>Period 2</b> |                           |         |       |                  |     |
| TPPE33          | Portfolio Management      | 6       | A1X   | 2                | E   |

*Specialisation: Master Profile Industrial Marketing*

| Course code     | Course name                | Credits | Level | Timetable module | ECV |
|-----------------|----------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                            |         |       |                  |     |
| TEIM09          | International Business     | 6       | A1X   | 2                | C/E |
| <b>Period 2</b> |                            |         |       |                  |     |
| TEIM07          | Industrial Market Research | 6       | A1X   | 2                | C   |

*Specialisation: Master Profile Logistics Management*

| Course code     | Course name                           | Credits | Level | Timetable module | ECV |
|-----------------|---------------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                       |         |       |                  |     |
| TETS32          | Logistics Analysis - Tools and Models | 6       | A1X   | 2                | C/E |
| <b>Period 2</b> |                                       |         |       |                  |     |
| TETS36          | Sustainable Logistics Systems         | 6       | A1X   | 4                | E   |
| TETS56          | Logistics and Quality in Health Care  | 6       | A1X   | 4                | E   |

*Specialisation: Master Profile Manufacturing*

| Course code     | Course name                  | Credits | Level | Timetable module | ECV |
|-----------------|------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                              |         |       |                  |     |
| TMPS42          | Production System Automation | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |                              |         |       |                  |     |
| TMPS27          | Production Systems           | 6       | A1X   | 3                | C   |

*Specialisation: Master Profile Manufacturing Management*

| Course code     | Course name                                     | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TPPE54          | Advanced Planning and Scheduling                | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TPPE19          | Analysing and Improving Manufacturing Operation | 6       | A1X   | 4                | E   |

*Specialisation: Master Profile Product Development*

| Course code     | Course name         | Credits | Level | Timetable module | ECV |
|-----------------|---------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                     |         |       |                  |     |
| TMKT48          | Design Optimization | 6       | A1X   | 3                | C   |
| <b>Period 2</b> |                     |         |       |                  |     |
| TMKT57          | Product Modelling   | 6       | A1X   | 3                | C   |

*Specialisation: Master Profile Project, Innovation and Entrepreneurship*

| Course code     | Course name                          | Credits | Level | Timetable module | ECV |
|-----------------|--------------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                      |         |       |                  |     |
| TEIO13          | Leadership and Organizational Change | 6       | A1X   | 4                | E   |
| <b>Period 2</b> |                                      |         |       |                  |     |
| TEIO06          | Innovative Entrepreneurship          | 6       | A1X   | 2                | E   |
| TEIO41          | Corporate Social Responsibility      | 6       | A1X   | 4                | E   |

*Specialisation: Master Profile Quality Technology and Management*

| Course code     | Course name                                     | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TEIO13          | Leadership and Organizational Change            | 6       | A1X   | 4                | E   |
| TMQU31          | Statistical Quality Control                     | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TDEI35          | Strategy and Management Control                 | 6       | A1X   | 2                | E   |
| TETS56          | Logistics and Quality in Health Care            | 6       | A1X   | 4                | E   |
| TMQU04          | Six Sigma Quality                               | 6       | A1X   | 2                | E   |
| TPPE19          | Analysing and Improving Manufacturing Operation | 6       | A1X   | 4                | E   |



*Specialisation: Master Profile Signal and Image Processing*

| Course code     | Course name                          | Credits | Level | Timetable module | ECV |
|-----------------|--------------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                      |         |       |                  |     |
| TBMI26          | Neural Networks and Learning Systems | 6       | A1X   | 2                | E   |
| TSBB15          | Computer Vision                      | 12*     | A1X   | 1                | E   |
| TSBK07          | Computer Graphics                    | 6*      | A1X   | 4                | E   |
| <b>Period 2</b> |                                      |         |       |                  |     |
| TSBB15          | Computer Vision                      | 12*     | A1X   | 3                | E   |
| TSBK02          | Image and Audio Coding               | 6       | A1X   | 4                | E   |
| TSBK07          | Computer Graphics                    | 6*      | A1X   | 1                | E   |

*Specialisation: Master Profile Strategic Management and Control*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TEIM09          | International Business   | 6       | A1X   | 2                | E   |
| TEIO13          | Leadership and Organizational Change   | 6       | A1X   | 4                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TDEI21          | Strategic Organisational Application of IT - Workflow and Knowledge Management | 6       | A1X   | 4                | E   |
| TEIM07          | Industrial Market Research   | 6       | A1X   | 2                | E   |
| TETS36          | Sustainable Logistics Systems  | 6       | A1X   | 4                | E   |

*Specialisation: Master Profile Telecommunication*

| Course code     | Course name                     | Credits | Level | Timetable module | ECV |
|-----------------|---------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                 |         |       |                  |     |
| TSBK08          | Data Compression                | 6       | A1X   | 2                | E   |
| TSKS13          | Wireless Communications         | 6       | A1F   | 4                | E   |
| <b>Period 2</b> |                                 |         |       |                  |     |
| TSBK02          | Image and Audio Coding          | 6       | A1X   | 4                | E   |
| TSKS14          | Multiple Antenna Communications | 6       | A1X   | 2                | E   |

*Specialisation: Master Profile Wood Technology*

| Course code     | Course name        | Credits | Level | Timetable module | ECV |
|-----------------|--------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                    |         |       |                  |     |
| TMKA04          | Wood - Innovation  | 6       | A1X   | 1                | C   |
| <b>Period 2</b> |                    |         |       |                  |     |
| TMKT57          | Product Modelling  | 6       | A1X   | 3                | E   |
| TMPS27          | Production Systems | 6       | A1X   | 3                | E   |

*Specialisation: Specialization Biotechnical Engineering*

| Course code     | Course name                                | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| NBIC50          | Ecotoxicology and Environmental Monitoring | 6       | G2X   | 1                | E   |
| TFYA45          | Biotechnology Project                      | 6*      | A1X   | -                | E   |
| TKMJ47          | Environmental Systems Analysis             | 6*      | A1X   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TFYA45          | Biotechnology Project                      | 6*      | A1X   | -                | E   |
| TKMJ47          | Environmental Systems Analysis             | 6*      | A1X   | 2                | E   |

*Specialisation: Specialization Computer Science and Engineering*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| Tddb68          | Concurrent Programming and Operating Systems                               | 6       | G2X   | 3                | E   |
| TDDD17          | Information Security, Second Course  | 6*      | A1X   | 4                | E   |
| TDDD38          | Advanced Programming in C++  | 6*      | A1X   | 2                | E   |
| TDDD41          | Data Mining - Clustering and Association Analysis                          | 6       | A1X   | 3                | E   |
| TDDD75          | Effect-Driven Development and Human-Centered Design of Interactive Systems | 6       | G2X   | 3                | E   |
| TDS04           | Computer Networks and Distributed Systems                                  | 8       | G2X   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TDDD05          | Component Based Software   | 6       | A1X   | 1                | E   |
| TDDD14          | Formal Languages and Automata Theory                                       | 6       | G2X   | 2                | E   |
| TDDD17          | Information Security, Second Course  | 6*      | A1X   | 4                | E   |
| TDDD27          | Advanced Web Programming   | 6       | A1X   | 3                | E   |
| TDDD38          | Advanced Programming in C++  | 6*      | A1X   | -                | E   |

*Specialisation: Specialization Electrical Engineering*

| Course code     | Course name                          | Credits | Level | Timetable module | ECV |
|-----------------|--------------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                      |         |       |                  |     |
| TBMI26          | Neural Networks and Learning Systems | 6       | A1X   | 2                | E   |
| TSBB15          | Computer Vision                      | 12*     | A1X   | 1                | E   |
| TSBK07          | Computer Graphics                    | 6*      | A1X   | 4                | E   |
| TSBK08          | Data Compression                     | 6       | A1X   | 2                | E   |
| TSKS13          | Wireless Communications              | 6       | A1F   | 4                | E   |
| TSRT07          | Industrial Control Systems           | 6       | A1X   | 2                | E   |
| TSRT09          | Control Theory                       | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |                                      |         |       |                  |     |
| TSBB15          | Computer Vision                      | 12*     | A1X   | 3                | E   |
| TSBK02          | Image and Audio Coding               | 6       | A1X   | 4                | E   |
| TSBK07          | Computer Graphics                    | 6*      | A1X   | 1                | E   |
| TSFS06          | Diagnosis and Supervision            | 6       | A1N   | 1                | E   |
| TSKS14          | Multiple Antenna Communications      | 6       | A1X   | 2                | E   |
| TSRT14          | Sensor Fusion                        | 6       | A1X   | 2                | E   |
| TSTE06          | Digital Filters                      | 6       | A1X   | 3                | E   |

*Specialisation: Specialization Energy Engineering*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TKMJ10          | Industrial Ecology                                  | 6       | A1X   | 1                | E   |
| TMES17          | Building Energy Systems                             | 6       | A1X   | 3                | E   |
| TMES43          | Analysis and Modelling of Industrial Energy Systems | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMES21          | Industrial Energy Systems                           | 6       | A1X   | 3                | E   |
| TMKT83          | Small Scale Renewable Energy Conversion             | 6       | A1X   | 4                | E   |

*Specialisation: Specialization Mechanical Engineering*

| Course code     | Course name                        | Credits | Level | Timetable module | ECV |
|-----------------|------------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                    |         |       |                  |     |
| TMKA04          | Wood - Innovation                  | 6       | A1X   | 1                | E   |
| TMKT48          | Design Optimization                | 6       | A1X   | 3                | E   |
| TMMS21          | Mechatronics                       | 6       | G2X   | 1                | E   |
| TMPS42          | Production System Automation       | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |                                    |         |       |                  |     |
| TMHL61          | Damage Mechanics and Life Analysis | 6       | A1X   | 2                | E   |
| TMKT57          | Product Modelling                  | 6       | A1X   | 3                | E   |
| TMME11          | Road Vehicle Dynamics              | 6       | A1X   | 1                | E   |
| TMPS27          | Production Systems                 | 6       | A1X   | 3                | E   |

**Semester 9 (Autumn 2017)**

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TAMS39          | Multivariate Statistical Methods                                 | 6       | A1X   | 4                | E   |
| TAMS46          | Probability Theory, Second Course                                | 6       | A1X   | 3                | E   |
| Tddb84          | Design Patterns  | 6       | A1X   | 4                | E   |
| TDDC34          | Technical, Economic and Societal Evaluation of IT-products       | 6       | A1X   | 3                | E   |
| TDDD04          | Software Testing   | 6       | A1X   | 2                | E   |
| TDEI09          | Strategic Application of IT: E-business and Knowledge Management | 6       | A1X   | 4                | E   |
| TEAE12          | Strategic Analysis and Methods for Strategic Change              | 12*     | A1X   | 2                | E   |
| TEIM04          | Industrial Market and Technology Strategies                      | 12*     | A1X   | 2                | E   |
| TEIO89          | Innovation and Entrepreneurship - Project Course                 | 12*     | A1X   | 4                | E   |
| TETS38          | Logistics Project  | 12*     | A1X   | 4                | E   |
| TKMJ31          | Biofuels for Transportation                                      | 6       | A1X   | 1                | E   |
| TMME40          | Vibration Analysis of Structures                                 | 6       | A1X   | 3                | E   |
| TMMS11          | Models of Mechanics  | 6*      | A1X   | 3                | E   |
| TMMV01          | Aerodynamics   | 6       | A1X   | 2                | E   |

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| TMMV12          | Gas Turbine Engines  | 6       | A1X   | 4                | E   |
| TMPE01          | Project Course Advanced - Energy Engineering                         | 12*     | A1X   | -                | E   |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | E   |
| TMPM08          | Project Course Advanced - Manufacturing Engineering                  | 12*     | A1X   | -                | E   |
| TMQU13          | Customer Focused Product and Service Development                     | 6       | A1X   | 4                | E   |
| TMQU27          | Quality Management - Project Course                                  | 12*     | A1X   | 2                | E   |
| TPPE53          | Financial Valuation Methodology                                      | 6       | A1X   | 2                | E   |
| TPPE73          | Operations Management - Project Course                               | 12*     | A1X   | 4                | E   |
| TPPE99          | Simulation in Production and Logistics                               | 6       | A1X   | 3                | E   |
| TSIN01          | Information Networks   | 6       | A1X   | 3                | E   |
| TSIT03          | Cryptology   | 6       | A1X   | 2                | E   |
| TSKS12          | Modern Channel Coding, Inference and Learning                        | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TAOP18          | Supply Chain Optimization  | 6       | A1X   | 1                | E   |
| TDDB44          | Compiler Construction  | 6       | A1X   | 1                | E   |
| TDDC90          | Software Security  | 6       | A1X   | 1                | E   |
| TDDD30          | Advanced Software Engineering  | 6       | A1X   | 4                | E   |
| TDDD56          | Multicore and GPU Programming  | 6       | A1X   | 2                | E   |
| TDDD89          | Scientific Method  | 6       | A1X   | 3                | E   |
| TEAE12          | Strategic Analysis and Methods for Strategic Change                  | 12*     | A1X   | 2                | E   |
| TEIM04          | Industrial Market and Technology Strategies                          | 12*     | A1X   | 2                | E   |
| TEIM10          | Industrial Service Development                                       | 6       | A1X   | 2                | E   |
| TEIO89          | Innovation and Entrepreneurship - Project Course                     | 12*     | A1X   | 4                | E   |
| TETS31          | Logistics Strategies   | 6       | A1X   | 4                | E   |
| TETS38          | Logistics Project  | 12*     | A1X   | 2                | E   |
| TFBI17          | Advanced Project Course in Ecosystem Service Valuation               | 6       | A1X   | -                | E   |
| TKMJ32          | Integrated Product Service Engineering                               | 6       | A1X   | 3                | E   |

| Course code | Course name  | Credits | Level | Timetable module | ECV |
|-------------|--|---------|-------|------------------|-----|
| TMKA03      | Industrial Design  | 6       | G2X   | 1                | E   |
| TMMS11      | Models of Mechanics  | 6*      | A1X   | 4                | E   |
| TMMS20      | Structural Optimization  | 6       | A1X   | 1                | E   |
| TMPE01      | Project Course Advanced - Energy Engineering                         | 12*     | A1X   | -                | E   |
| TMPM05      | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | E   |
| TMPM08      | Project Course Advanced - Manufacturing Engineering                  | 12*     | A1X   | -                | E   |
| TMQU12      | Lean Production  | 6       | A1X   | 2                | E   |
| TMQU27      | Quality Management - Project Course                                  | 12*     | A1X   | 4                | E   |
| TPPE61      | Financial Optimization   | 6       | A1X   | 2                | E   |
| TPPE66      | Investment Valuation   | 6       | A1X   | 4                | E   |
| TPPE73      | Operations Management - Project Course                               | 12*     | A1X   | 4                | E   |
| TSRT08      | Optimal Control  | 6       | A1X   | 3                | E   |

*Specialisation: Master Profile Automatic Control*

| Course code     | Course name     | Credits | Level | Timetable module | ECV |
|-----------------|-----------------|---------|-------|------------------|-----|
| <b>Period 2</b> |                 |         |       |                  |     |
| TSRT08          | Optimal Control | 6       | A1X   | 3                | E   |

*Specialisation: Master Profile Computer Science and Engineering*

| Course code     | Course name       | Credits | Level | Timetable module | ECV |
|-----------------|-------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                   |         |       |                  |     |
| TDDB84          | Design Patterns   | 6       | A1X   | 4                | C   |
| TDDD04          | Software Testing  | 6       | A1X   | 2                | C   |
| <b>Period 2</b> |                   |         |       |                  |     |
| TDDD89          | Scientific Method | 6       | A1X   | 3                | C   |

*Specialisation: Master Profile Economic Information Systems*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TDDC34          | Technical, Economic and Societal Evaluation of IT-products | 6       | A1X   | 3                | E   |

*Specialisation: Master Profile Energy Engineering*

| Course code     | Course name                                  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TKMJ31          | Biofuels for Transportation                  | 6       | A1X   | 1                | E   |
| TMMV12          | Gas Turbine Engines                          | 6       | A1X   | 4                | E   |
| TMPE01          | Project Course Advanced - Energy Engineering | 12*     | A1X   | -                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPE01          | Project Course Advanced - Energy Engineering | 12*     | A1X   | -                | E   |

*Specialisation: Master Profile Finance*

| Course code     | Course name                     | Credits | Level | Timetable module | ECV |
|-----------------|---------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                 |         |       |                  |     |
| TPPE53          | Financial Valuation Methodology | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |                                 |         |       |                  |     |
| TPPE61          | Financial Optimization          | 6       | A1X   | 2                | E   |
| TPPE66          | Investment Valuation            | 6       | A1X   | 4                | E   |

*Specialisation: Master Profile Industrial Marketing*

| Course code     | Course name                                 | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TEIM04          | Industrial Market and Technology Strategies | 12*     | A1X   | 2                | C   |
| <b>Period 2</b> |   |         |       |                  |     |
| TEIM04          | Industrial Market and Technology Strategies | 12*     | A1X   | 2                | C   |

*Specialisation: Master Profile Logistics Management*

| Course code     | Course name                            | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TETS38          | Logistics Project                      | 12*     | A1X   | 4                | C   |
| TPPE99          | Simulation in Production and Logistics | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TETS38          | Logistics Project                      | 12*     | A1X   | 2                | C   |
| TETS31          | Logistics Strategies                   | 6       | A1X   | 4                | E   |



*Specialisation: Master Profile Manufacturing*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMPM08          | Project Course Advanced - Manufacturing Engineering | 12*     | A1X   | -                | C   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMPM08          | Project Course Advanced - Manufacturing Engineering | 12*     | A1X   | -                | C   |

*Specialisation: Master Profile Manufacturing Management*

| Course code     | Course name                            | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TPPE73          | Operations Management - Project Course | 12*     | A1X   | 4                | C   |
| TPPE99          | Simulation in Production and Logistics | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TPPE73          | Operations Management - Project Course | 12*     | A1X   | 4                | C   |

*Specialisation: Master Profile Product Development*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | C   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | C   |

*Specialisation: Master Profile Project, Innovation and Entrepreneurship*

| Course code     | Course name                                      | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TEIO89          | Innovation and Entrepreneurship - Project Course | 12*     | A1X   | 4                | C   |
| <b>Period 2</b> |  |         |       |                  |     |
| TEIO89          | Innovation and Entrepreneurship - Project Course | 12*     | A1X   | 4                | C   |

*Specialisation: Master Profile Quality Technology and Management*

| Course code     | Course name                                      | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMQU27          | Quality Management - Project Course              | 12*     | A1X   | 2                | C   |
| TMQU13          | Customer Focused Product and Service Development | 6       | A1X   | 4                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMQU27          | Quality Management - Project Course              | 12*     | A1X   | 4                | C   |

*Specialisation: Master Profile Strategic Management and Control*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TEAE12          | Strategic Analysis and Methods for Strategic Change              | 12*     | A1X   | 2                | C   |
| TDEI09          | Strategic Application of IT: E-business and Knowledge Management | 6       | A1X   | 4                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TEAE12          | Strategic Analysis and Methods for Strategic Change              | 12*     | A1X   | 2                | C   |
| TEIM10          | Industrial Service Development                                   | 6       | A1X   | 2                | E   |
| TMQU12          | Lean Production  | 6       | A1X   | 2                | E   |

*Specialisation: Master Profile Telecommunication*

| Course code     | Course name                                   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TSIN01          | Information Networks                          | 6       | A1X   | 3                | E   |
| TSIT03          | Cryptology                                    | 6       | A1X   | 2                | E   |
| TSKS12          | Modern Channel Coding, Inference and Learning | 6       | A1X   | 1                | E   |

*Specialisation: Master Profile Wood Technology*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | C   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | C   |

*Specialisation: Specialization Biotechnical Engineering*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 2</b> |  |         |       |                  |     |
| TFBI17          | Advanced Project Course in Ecosystem Service Valuation | 6       | A1X   | -                | E   |

*Specialisation: Specialization Computer Science and Engineering*

| Course code     | Course name      | Credits | Level | Timetable module | ECV |
|-----------------|------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                  |         |       |                  |     |
| Tddb84          | Design Patterns  | 6       | A1X   | 4                | E   |
| TDDD04          | Software Testing | 6       | A1X   | 2                | E   |
| TSIT03          | Cryptology       | 6       | A1X   | 2                | E   |

*Specialisation: Specialization Electrical Engineering*

| Course code     | Course name                                   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TSIN01          | Information Networks                          | 6       | A1X   | 3                | E   |
| TSIT03          | Cryptology                                    | 6       | A1X   | 2                | E   |
| TSKS12          | Modern Channel Coding, Inference and Learning | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TSRT08          | Optimal Control                               | 6       | A1X   | 3                | E   |

*Specialisation: Specialization Energy Engineering*

| Course code     | Course name                                  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TKMJ31          | Biofuels for Transportation                  | 6       | A1X   | 1                | E   |
| TMMV12          | Gas Turbine Engines                          | 6       | A1X   | 4                | E   |
| TMPE01          | Project Course Advanced - Energy Engineering | 12*     | A1X   | -                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TKMJ32          | Integrated Product Service Engineering       | 6       | A1X   | 3                | E   |
| TMPE01          | Project Course Advanced - Energy Engineering | 12*     | A1X   | -                | E   |

*Specialisation: Specialization Mechanical Engineering*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMME40          | Vibration Analysis of Structures                                     | 6       | A1X   | 3                | E   |
| TMMS11          | Models of Mechanics  | 6*      | A1X   | 3                | E   |
| TMMV01          | Aerodynamics   | 6       | A1X   | 2                | E   |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | E   |
| TMPM08          | Project Course Advanced - Manufacturing Engineering                  | 12*     | A1X   | -                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TKMJ32          | Integrated Product Service Engineering                               | 6       | A1X   | 3                | E   |
| TMKA03          | Industrial Design  | 6       | G2X   | 1                | E   |
| TMMS11          | Models of Mechanics  | 6*      | A1X   | 4                | E   |
| TMMS20          | Structural Optimization  | 6       | A1X   | 1                | E   |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | E   |
| TMPM08          | Project Course Advanced - Manufacturing Engineering                  | 12*     | A1X   | -                | E   |

## Semester 10 (Spring 2018)

| Course code     | Course name                      | Credits | Level | Timetable module | ECV |
|-----------------|----------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                  |         |       |                  |     |
| TQXX33          | Degree project - Master's Thesis | 30*     | A1X   | -                | C   |
| <b>Period 2</b> |                                  |         |       |                  |     |
| TQXX33          | Degree project - Master's Thesis | 30*     | A1X   | -                | C   |

ECV = Elective / Compulsory / Voluntary

\*The course is divided into several semesters and/or periods