

# Mechanical Engineering, M Sc in Engineering

300 credits

Civilingenjör i maskinteknik

6CMMM

Valid from: 2014 Spring semester

**Determined by**

Board of Studies for Mechanical  
Engineering and Design

**Date determined**

## Entry requirements

### Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

## Curriculum

### Semester 6 (Spring 2017)

| Course code     | Course name                               | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMMS21          | Mechatronics                              | 6       | G2X   | 1                | C   |
| TMMT31          | Bachelor Thesis - Mechanical Engineering  | 18*     | G2X   | -                | C   |
| TPPE91          | Production System Planning and Management | 6       | G2X   | 2                | C   |
| THFR05          | Communicative French                      | 6*      | G1X   | 4                | E   |
| THSP05          | Spanish                                   | 6*      | G1X   | 4                | E   |
| THTY05          | German                                    | 6*      | G1X   | 4                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMMT31          | Bachelor Thesis - Mechanical Engineering  | 18*     | G2X   | -                | C   |
| THFR05          | Communicative French                      | 6*      | G1X   | 4                | E   |
| THSP05          | Spanish                                   | 6*      | G1X   | 4                | E   |
| THTY05          | German                                    | 6*      | G1X   | 4                | E   |

### Semester 7 (Autumn 2017)

| Course code     | Course name                                      | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TANA21          | Scientific Computing                             | 6       | G1F   | 3                | E   |
| TAOP88          | Engineering Optimization                         | 6       | G2F   | 1                | E   |
| TEIM11          | Industrial Marketing                             | 6       | G2X   | 3                | E   |
| TETS37          | Basics in Logistics Management                   | 6       | G2X   | 4                | E   |
| TKMJ31          | Biofuels for Transportation                      | 6       | A1X   | 1                | E   |
| TMAL02          | Aircraft and Vehicle Design                      | 6       | G2X   | 4                | E   |
| TMES09          | Industrial Energy Systems                        | 6       | A1X   | 3                | E   |
| TMES27          | Modelling of Energy Systems                      | 6       | A1X   | 3                | E   |
| TMHP02          | Fluid Power Systems                              | 6       | G2X   | 2                | E   |
| TMKM90          | Engineering Materials - Deformation and Fracture | 6       | A1X   | 4                | E   |
| TMKT80          | Wood - Material                                  | 6       | G2X   | 2                | E   |

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| TMME14          | Machine Elements, Second Course                       | 6       | A1X   | 3                | E   |
| TMME19          | Mechanics, second course                              | 6       | A1X   | 4                | E   |
| TMME19          | Mechanics, second course                              | 6       | A1X   | 2                | E   |
| TMME40          | Vibration Analysis of Structures                      | 6       | A1X   | 3                | E   |
| TMMI68          | CAD and Drafting Techniques, Continued Course         | 6*      | G2X   | 2                | E   |
| TMMS11          | Models of Mechanics                                   | 6*      | A1X   | 3                | E   |
| TMMV01          | Aerodynamics  | 6       | A1X   | 2                | E   |
| TMPS33          | Virtual Manufacturing                                 | 6       | A1N   | 4                | E   |
| TMPT03          | Production Engineering - Continuing Course            | 6       | G2F   | 2                | E   |
| TMQU03          | Quality Management and Engineering                    | 6       | G2X   | 2                | E   |
| TPPE16          | Manufacturing Strategies                              | 6       | A1X   | 2                | E   |
| TSFS09          | Modelling and Control of Engines and Drivelines       | 6*      | A1X   | 4                | E   |
| TMPP02          | Project Course - Race Vehicle Engineering             | 6*      | G2X   | -                | V   |
| <b>Period 2</b> |   |         |       |                  |     |
| TATA71          | Ordinary Differential Equations and Dynamical Systems | 6       | G2F   | 3                | E   |
| TEIE42          | Industrial Sales Management                           | 6       | A1X   | 4                | E   |
| TEIM10          | Industrial Service Development                        | 6       | A1X   | 2                | E   |
| TETS27          | Supply Chain Logistics                                | 6       | A1X   | 2                | E   |
| TGTU04          | Leadership  | 6       | G2X   | 2                | E   |
| TGTU49          | History of Technology                                 | 6       | G1F   | 3                | E   |
| TKMJ28          | Management Systems and Sustainability                 | 6       | A1X   | 2                | E   |
| TMES25          | Energy Resources                                      | 6       | A1X   | 3                | E   |
| TMES45          | Energy Planning and Modelling of Communities          | 6       | A1X   | 4                | E   |
| TMHL03          | Mechanics of Light Structures                         | 6       | A1X   | 3                | E   |
| TMHP03          | Engineering Systems Design                            | 6       | A1X   | 4                | E   |
| TMKA03          | Industrial Design                                     | 6       | G2X   | 1                | E   |
| TMKM17          | Polymer Materials                                     | 6       | A1X   | 2                | E   |
| TMKT71          | Affective Engineering                                 | 6       | A1X   | 2                | E   |
| TMKT81          | Wood - Realisation                                    | 6       | G2X   | 1                | E   |

| Course code | Course name                                     | Credits | Level | Timetable module | ECV |
|-------------|---|---------|-------|------------------|-----|
| TMME50      | Flight Mechanics                                | 6       | A1X   | 2                | E   |
| TMMI68      | CAD and Drafting Techniques, Continued Course   | 6*      | G2X   | 4                | E   |
| TMMS07      | Biomechanics                                    | 6       | A1X   | 4                | E   |
| TMMS11      | Models of Mechanics                             | 6*      | A1X   | 4                | E   |
| TMMV18      | Fluid Mechanics                                 | 6       | A1X   | 2                | E   |
| TMMV54      | Computational Heat Transfer                     | 6       | A1X   | 1                | E   |
| TMPS22      | Assembly Technology                             | 6       | A1X   | 3                | E   |
| TMPS31      | Sustainable Manufacturing                       | 6       | A1X   | 1                | E   |
| TMQU12      | Lean Production                                 | 6       | A1X   | 2                | E   |
| TPPE21      | Production Logistics                            | 6       | A1X   | 4                | E   |
| TSEA81      | Computer Engineering and Real-time Systems      | 6       | A1X   | 4                | E   |
| TSFS02      | Vehicle Dynamics and Control                    | 6       | A1X   | 1                | E   |
| TSFS09      | Modelling and Control of Engines and Drivelines | 6*      | A1X   | 3                | E   |
| TSIU02      | Computer Hardware and Architecture              | 4       | G1X   | 2                | E   |
| TSRT06      | Automatic Control, Advanced Course              | 6       | A1X   | 2                | E   |
| TSRT78      | Digital Signal Processing                       | 6       | A1X   | 2                | E   |
| TMPP02      | Project Course - Race Vehicle Engineering       | 6*      | G2X   | -                | V   |

*Specialisation: Aeronautical Engineering*

| Course code     | Course name                      | Credits | Level | Timetable module | ECV |
|-----------------|----------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                  |         |       |                  |     |
| TMAL02          | Aircraft and Vehicle Design      | 6       | G2X   | 4                | C   |
| TMMV01          | Aerodynamics                     | 6       | A1X   | 2                | C   |
| TMME40          | Vibration Analysis of Structures | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |                                  |         |       |                  |     |
| TMHP03          | Engineering Systems Design       | 6       | A1X   | 4                | C   |
| TMME50          | Flight Mechanics                 | 6       | A1X   | 2                | C   |
| TMHL03          | Mechanics of Light Structures    | 6       | A1X   | 3                | E   |

*Specialisation: Energy and Environmental Engineering*

| Course code     | Course name                                  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TAOP88          | Engineering Optimization                     | 6       | G2F   | 1                | C   |
| TMES09          | Industrial Energy Systems                    | 6       | A1X   | 3                | C   |
| TKMJ31          | Biofuels for Transportation                  | 6       | A1X   | 1                | E   |
| TMES27          | Modelling of Energy Systems                  | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMES25          | Energy Resources                             | 6       | A1X   | 3                | C   |
| TKMJ28          | Management Systems and Sustainability        | 6       | A1X   | 2                | E   |
| TMES45          | Energy Planning and Modelling of Communities | 6       | A1X   | 4                | E   |

*Specialisation: Engineering Design and Product Development*

| Course code     | Course name                                   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TAOP88          | Engineering Optimization                      | 6       | G2F   | 1                | C   |
| TMKT77          | System Safety                                 | 6       | A1X   | 4                | C   |
| TMKT80          | Wood - Material                               | 6       | G2X   | 2                | E   |
| TMME14          | Machine Elements, Second Course               | 6       | A1X   | 3                | E   |
| TMMI68          | CAD and Drafting Techniques, Continued Course | 6*      | G2X   | 2                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMHP03          | Engineering Systems Design                    | 6       | A1X   | 4                | E   |
| TMKA03          | Industrial Design                             | 6       | G2X   | 1                | E   |
| TMKT71          | Affective Engineering                         | 6       | A1X   | 2                | E   |
| TMKT81          | Wood - Realisation                            | 6       | G2X   | 1                | E   |
| TMMI68          | CAD and Drafting Techniques, Continued Course | 6*      | G2X   | 4                | E   |
| TMPS31          | Sustainable Manufacturing                     | 6       | A1X   | 1                | E   |

*Specialisation: Engineering materials*

| Course code     | Course name                                      | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TAOP88          | Engineering Optimization                         | 6       | G2F   | 1                | C   |
| TMKM90          | Engineering Materials - Deformation and Fracture | 6       | A1X   | 4                | C   |
| TFYA77          | Fundamentals in Materials Science                | 6       | A1X   | 2                | E   |
| TMKT80          | Wood - Material                                  | 6       | G2X   | 2                | E   |
| TMME14          | Machine Elements, Second Course                  | 6       | A1X   | 3                | E   |
| TMPT03          | Production Engineering - Continuing Course       | 6       | G2F   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMKM17          | Polymer Materials                                | 6       | A1X   | 2                | C   |
| TMHL03          | Mechanics of Light Structures                    | 6       | A1X   | 3                | E   |
| TMMV54          | Computational Heat Transfer                      | 6       | A1X   | 1                | E   |
| TMPS31          | Sustainable Manufacturing                        | 6       | A1X   | 1                | E   |

*Specialisation: Engineering Mechanics*

| Course code     | Course name                   | Credits | Level | Timetable module | ECV |
|-----------------|-------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                               |         |       |                  |     |
| TAOP88          | Engineering Optimization      | 6       | G2F   | 1                | C   |
| TMMS11          | Models of Mechanics           | 6*      | A1X   | 3                | E   |
| <b>Period 2</b> |                               |         |       |                  |     |
| TMHL03          | Mechanics of Light Structures | 6       | A1X   | 3                | E   |
| TMMS11          | Models of Mechanics           | 6*      | A1X   | 4                | E   |
| TMMV18          | Fluid Mechanics               | 6       | A1X   | 2                | E   |
| TMMV54          | Computational Heat Transfer   | 6       | A1X   | 1                | E   |

*Specialisation: Logistics*

| Course code     | Course name                        | Credits | Level | Timetable module | ECV |
|-----------------|------------------------------------|---------|-------|------------------|-----|
| <b>Period 1</b> |                                    |         |       |                  |     |
| TAOP88          | Engineering Optimization           | 6       | G2F   | 1                | C   |
| TETS37          | Basics in Logistics Management     | 6       | G2X   | 4                | C   |
| TEIM11          | Industrial Marketing               | 6       | G2X   | 3                | E   |
| TMQU03          | Quality Management and Engineering | 6       | G2X   | 2                | E   |
| TPPE16          | Manufacturing Strategies           | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |                                    |         |       |                  |     |
| TETS27          | Supply Chain Logistics             | 6       | A1X   | 2                | C   |
| TMQU12          | Lean Production                    | 6       | A1X   | 2                | E   |
| TPPE21          | Production Logistics               | 6       | A1X   | 4                | E   |

*Specialisation: Mechatronics*

| Course code     | Course name                                     | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TAOP88          | Engineering Optimization                        | 6       | G2F   | 1                | C   |
| TMHP02          | Fluid Power Systems                             | 6       | G2X   | 2                | C   |
| TSFS09          | Modelling and Control of Engines and Drivelines | 6*      | A1X   | 4                | C   |
| <b>Period 2</b> |   |         |       |                  |     |
| TSFS09          | Modelling and Control of Engines and Drivelines | 6*      | A1X   | 3                | C   |
| TSRT06          | Automatic Control, Advanced Course              | 6       | A1X   | 2                | C   |
| TMME50          | Flight Mechanics                                | 6       | A1X   | 2                | E   |
| TSFS02          | Vehicle Dynamics and Control                    | 6       | A1X   | 1                | E   |

*Specialisation: Production Engineering*

| Course code     | Course name                                | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TAOP88          | Engineering Optimization                   | 6       | G2F   | 1                | C   |
| TMPT03          | Production Engineering - Continuing Course | 6       | G2F   | 2                | C   |
| TETS37          | Basics in Logistics Management             | 6       | G2X   | 4                | E   |
| TMPS33          | Virtual Manufacturing                      | 6       | A1N   | 4                | E   |
| TMQU03          | Quality Management and Engineering         | 6       | G2X   | 2                | E   |
| TPPE16          | Manufacturing Strategies                   | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TPPE21          | Production Logistics                       | 6       | A1X   | 4                | C   |
| TMPS22          | Assembly Technology                        | 6       | A1X   | 3                | E   |
| TMPS31          | Sustainable Manufacturing                  | 6       | A1X   | 1                | E   |
| TMQU12          | Lean Production                            | 6       | A1X   | 2                | E   |

**Semester 8 (Spring 2018)**

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TEIO20          | Entrepreneurship and New Business Development       | 6*      | G2X   | 4                | E   |
| TEIO46          | Technology-based Projects and Organisations         | 6*      | G2X   | 4                | E   |
| TETS57          | Logistics Analysis                                  | 6       | A1X   | 2                | E   |
| TGTU01          | Technology and Ethics                               | 6       | G1X   | 1                | E   |
| TGTU91          | Oral and Written Communication                      | 6       | G1F   | 2                | E   |
| TKMJ10          | Industrial Ecology                                  | 6       | A1X   | 1                | E   |
| TKMJ15          | Environmental Management Strategies                 | 6       | G1F   | 3                | E   |
| TMAL51          | Aircraft Conceptual Design                          | 6       | A1F   | 2                | E   |
| TMAL56          | Aircraft Systems Engineering                        | 6*      | A1F   | 4                | E   |
| TMES17          | Building Energy Systems                             | 6       | A1N   | 3                | E   |
| TMES43          | Analysis and Modelling of Industrial Energy Systems | 6       | A1F   | 1                | E   |
| TMHL41          | Continuum Mechanics                                 | 6       | A1X   | 2                | E   |
| TMHL62          | The Finite Element Method; advanced course          | 6       | A1X   | 4                | E   |

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| TMHP51          | Hydraulic Servo Systems   | 6       | A1N   | 3                | E   |
| TMKA04          | Wood - Innovation   | 6       | A1X   | 1                | E   |
| TMKM40          | Engineering Materials - New Materials                                 | 6       | A1X   | 2                | E   |
| TMKT48          | Design Optimization   | 6       | A1X   | 3                | E   |
| TMKT59          | Computers as Design Tools   | 6*      | G2X   | 3                | E   |
| TMKT74          | Advanced CAD  | 6       | A1X   | 1                | E   |
| TMM530          | Multi Body Dynamics and Robotics                                      | 6       | A1X   | 3                | E   |
| TMMV08          | Computational Fluid Dynamics  | 6       | A1X   | 3                | E   |
| TMPS42          | Production System Automation  | 6       | A1X   | 1                | E   |
| TMQU31          | Statistical Quality Control   | 6       | A1X   | 2                | E   |
| TPPE78          | Quantitative Models and Analysis in Operations Management             | 6       | A1X   | 1                | E   |
| TRTE16          | Basic Principles for Environmental Chemistry                          | 6*      | G1X   | 1                | E   |
| TSFS04          | Electrical Drives   | 6       | G2X   | 4                | E   |
| TSIU51          | Project with Microcontroller  | 8*      | G1X   | 3                | E   |
| TSRT07          | Industrial Control Systems  | 6       | A1X   | 2                | E   |
| TMPP02          | Project Course - Race Vehicle Engineering                             | 6*      | G1X   | -                | V   |
| <b>Period 2</b> |   |         |       |                  |     |
| TANA31          | Computational Methods for Ordinary and Partial Differential Equations | 6       | A1N   | 2                | E   |
| TDDD12          | Database Technology   | 6       | G2F   | 4                | E   |
| TEAE13          | Civil and Commercial Law  | 6       | G1X   | 2                | E   |
| TEIO20          | Entrepreneurship and New Business Development                         | 6*      | G2X   | 4                | E   |
| TEIO46          | Technology-based Projects and Organisations                           | 6*      | G2X   | 1                | E   |
| TETS36          | Sustainable Logistics Systems   | 6       | A1X   | 4                | E   |
| TETS56          | Logistics and Quality in Health Care                                  | 6       | A1X   | 4                | E   |
| TGTU76          | Philosophy of Science   | 6       | G1X   | 4                | E   |
| TKMJ29          | Resource Efficient Products   | 6       | A1N   | 1                | E   |
| TMAL06          | Aircraft Conceptual Design - Project Course                           | 6       | A1X   | 2                | E   |
| TMAL56          | Aircraft Systems Engineering  | 6*      | A1F   | 4                | E   |
| TMHL61          | Damage Mechanics and Life Analysis                                    | 6       | A1X   | 2                | E   |

| Course code | Course name   | Credits | Level | Timetable module | ECV |
|-------------|---|---------|-------|------------------|-----|
| TMKM09      | Engineering Materials for Lightweight Applications          | 6       | A1X   | 3                | E   |
| TMKM18      | Engineering Materials, Welding and Manufacturing Technology | 6       | G2X   | 2                | E   |
| TMKT57      | Product Modelling   | 6       | A1X   | 3                | E   |
| TMKT59      | Computers as Design Tools                                   | 6*      | G2X   | 3                | E   |
| TMKT69      | Conceptual Design - Project Course                          | 6       | A1N   | 4                | E   |
| TMME11      | Road Vehicle Dynamics                                       | 6       | A1X   | 1                | E   |
| TMME19      | Mechanics, second course                                    | 6       | A1X   | 1                | E   |
| TMMS10      | Fluid Power Systems and Transmissions                       | 6       | A1X   | 2                | E   |
| TMMV07      | Computational Fluid Dynamics, advanced course               | 6       | A1X   | 4                | E   |
| TMMV56      | Aerodynamics, Continued Course                              | 6       | A1X   | 3                | E   |
| TMPS27      | Production Systems  | 6       | A1X   | 3                | E   |
| TMQU04      | Six Sigma Quality   | 6       | A1X   | 2                | E   |
| TPPE74      | Design and Development of Manufacturing Operations          | 6       | A1X   | 4                | E   |
| TRTE16      | Basic Principles for Environmental Chemistry                | 6*      | G1X   | 1                | E   |
| TSFS03      | Vehicle Propulsion Systems                                  | 6       | A1X   | 3                | E   |
| TSFS06      | Diagnosis and Supervision                                   | 6       | A1N   | 1                | E   |
| TSFS11      | Electrical and Energy Technology                            | 6       | G2F   | 4                | E   |
| TSIU51      | Project with Microcontroller                                | 8*      | G1X   | -                | E   |
| TMPP02      | Project Course - Race Vehicle Engineering                   | 6*      | G1X   | -                | V   |

*Specialisation: Aeronautical Engineering*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMAL51          | Aircraft Conceptual Design                         | 6       | A1F   | 2                | C   |
| TMMV08          | Computational Fluid Dynamics                       | 6       | A1X   | 3                | C   |
| TMAL56          | Aircraft Systems Engineering                       | 6*      | A1F   | 4                | E   |
| TMHL41          | Continuum Mechanics                                | 6       | A1X   | 2                | E   |
| TMHL62          | The Finite Element Method; advanced course         | 6       | A1X   | 4                | E   |
| TMKM40          | Engineering Materials - New Materials              | 6       | A1X   | 2                | E   |
| TMMS30          | Multi Body Dynamics and Robotics                   | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMAL06          | Aircraft Conceptual Design - Project Course        | 6       | A1X   | 2                | C   |
| TMAL56          | Aircraft Systems Engineering                       | 6*      | A1F   | 4                | E   |
| TMHL61          | Damage Mechanics and Life Analysis                 | 6       | A1X   | 2                | E   |
| TMKM09          | Engineering Materials for Lightweight Applications | 6       | A1X   | 3                | E   |
| TMKT57          | Product Modelling                                  | 6       | A1X   | 3                | E   |
| TMME11          | Road Vehicle Dynamics                              | 6       | A1X   | 1                | E   |
| TMMV07          | Computational Fluid Dynamics, advanced course      | 6       | A1X   | 4                | E   |
| TMMV56          | Aerodynamics, Continued Course                     | 6       | A1X   | 3                | E   |

*Specialisation: Energy and Environmental Engineering*

| Course code     | Course name                                 | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TKMJ10          | Industrial Ecology                          | 6       | A1X   | 1                | C   |
| TEIO46          | Technology-based Projects and Organisations | 6*      | G2X   | 4                | E   |
| TMES17          | Building Energy Systems                     | 6       | A1N   | 3                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TKMJ29          | Resource Efficient Products                 | 6       | A1N   | 1                | C   |
| TEIO46          | Technology-based Projects and Organisations | 6*      | G2X   | 1                | E   |

*Specialisation: Engineering Design and Product Development*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMKT48          | Design Optimization                                | 6       | A1X   | 3                | C   |
| TMKT74          | Advanced CAD                                       | 6       | A1X   | 1                | C   |
| TEIO46          | Technology-based Projects and Organisations        | 6*      | G2X   | 4                | E   |
| TMKM40          | Engineering Materials - New Materials              | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMKT69          | Conceptual Design - Project Course                 | 6       | A1N   | 4                | C   |
| TEIO46          | Technology-based Projects and Organisations        | 6*      | G2X   | 1                | E   |
| TKMJ29          | Resource Efficient Products                        | 6       | A1N   | 1                | E   |
| TMKM09          | Engineering Materials for Lightweight Applications | 6       | A1X   | 3                | E   |
| TMKT57          | Product Modelling                                  | 6       | A1X   | 3                | E   |
| TMMS10          | Fluid Power Systems and Transmissions              | 6       | A1X   | 2                | E   |

*Specialisation: Engineering materials*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMKM40          | Engineering Materials - New Materials                       | 6       | A1X   | 2                | C   |
| TEIO46          | Technology-based Projects and Organisations                 | 6*      | G2X   | 4                | E   |
| TFFM40          | Analytical Methods in Materials Science                     | 6*      | A1X   | 1                | E   |
| TFYA21          | Physical Metallurgy   | 6       | A1F   | 3                | E   |
| TMHL41          | Continuum Mechanics   | 6       | A1X   | 2                | E   |
| TMHL62          | The Finite Element Method; advanced course                  | 6       | A1X   | 4                | E   |
| TMKT48          | Design Optimization   | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMKM09          | Engineering Materials for Lightweight Applications          | 6       | A1X   | 3                | C/E |
| TMKM18          | Engineering Materials, Welding and Manufacturing Technology | 6       | G2X   | 2                | C/E |
| TEIO46          | Technology-based Projects and Organisations                 | 6*      | G2X   | 1                | E   |
| TFFM40          | Analytical Methods in Materials Science                     | 6*      | A1X   | 1                | E   |
| TMHL61          | Damage Mechanics and Life Analysis                          | 6       | A1X   | 2                | E   |
| TMKT69          | Conceptual Design - Project Course                          | 6       | A1N   | 4                | E   |

*Specialisation: Engineering Mechanics*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TEIO46          | Technology-based Projects and Organisations                 | 6*      | G2X   | 4                | E   |
| TMHL41          | Continuum Mechanics   | 6       | A1X   | 2                | E   |
| TMHL62          | The Finite Element Method; advanced course                  | 6       | A1X   | 4                | E   |
| TMKM40          | Engineering Materials - New Materials                       | 6       | A1X   | 2                | E   |
| TMMS30          | Multi Body Dynamics and Robotics                            | 6       | A1X   | 3                | E   |
| TMMV08          | Computational Fluid Dynamics                                | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TEIO46          | Technology-based Projects and Organisations                 | 6*      | G2X   | 1                | E   |
| TMHL61          | Damage Mechanics and Life Analysis                          | 6       | A1X   | 2                | E   |
| TMKM09          | Engineering Materials for Lightweight Applications          | 6       | A1X   | 3                | E   |
| TMKM18          | Engineering Materials, Welding and Manufacturing Technology | 6       | G2X   | 2                | E   |
| TMMV07          | Computational Fluid Dynamics, advanced course               | 6       | A1X   | 4                | E   |
| TMMV56          | Aerodynamics, Continued Course                              | 6       | A1X   | 3                | E   |

*Specialisation: Logistics*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TEIO46          | Technology-based Projects and Organisations        | 6*      | G2X   | 4                | E   |
| TETS57          | Logistics Analysis                                 | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TEIO46          | Technology-based Projects and Organisations        | 6*      | G2X   | 1                | E   |
| TETS36          | Sustainable Logistics Systems                      | 6       | A1X   | 4                | E   |
| TETS56          | Logistics and Quality in Health Care               | 6       | A1X   | 4                | E   |
| TPPE74          | Design and Development of Manufacturing Operations | 6       | A1X   | 4                | E   |

*Specialisation: Mechatronics*

| Course code     | Course name                                 | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMHP51          | Hydraulic Servo Systems                     | 6       | A1N   | 3                | C   |
| TEIO46          | Technology-based Projects and Organisations | 6*      | G2X   | 4                | E   |
| TMMS30          | Multi Body Dynamics and Robotics            | 6       | A1X   | 3                | E   |
| TSFS04          | Electrical Drives                           | 6       | G2X   | 4                | E   |
| TSRT07          | Industrial Control Systems                  | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TEIO46          | Technology-based Projects and Organisations | 6*      | G2X   | 1                | E   |
| TMME11          | Road Vehicle Dynamics                       | 6       | A1X   | 1                | E   |
| TMMS10          | Fluid Power Systems and Transmissions       | 6       | A1X   | 2                | E   |
| TSFS03          | Vehicle Propulsion Systems                  | 6       | A1X   | 3                | E   |
| TSFS06          | Diagnosis and Supervision                   | 6       | A1N   | 1                | E   |

*Specialisation: Production Engineering*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMPS42          | Production System Automation                              | 6       | A1X   | 1                | C   |
| TEIO46          | Technology-based Projects and Organisations               | 6*      | G2X   | 4                | E   |
| TMQU31          | Statistical Quality Control                               | 6       | A1X   | 2                | E   |
| TPPE78          | Quantitative Models and Analysis in Operations Management | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TEIO46          | Technology-based Projects and Organisations               | 6*      | G2X   | 1                | E   |
| TMPS27          | Production Systems  | 6       | A1X   | 3                | E   |
| TMQU04          | Six Sigma Quality   | 6       | A1X   | 2                | E   |
| TPPE74          | Design and Development of Manufacturing Operations        | 6       | A1X   | 4                | E   |

**Semester 9 (Autumn 2018)**

| Course code     | Course name | Credits | Level | Timetable module | ECV |
|-----------------|-------------|---------|-------|------------------|-----|
| <b>Period 1</b> |             |         |       |                  |     |

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| TAOP34          | Large Scale Optimization                            | 6       | A1N   | 3                | E   |
| TBME04          | Anatomy and Physiology                              | 6       | G2F   | 3                | E   |
| TETS23          | Purchasing  | 6       | A1N   | 2                | E   |
| TMAL07          | Prototype Realization - Project Course              | 6       | A1X   | -                | E   |
| TMHL19          | Advanced Material and Computational Mechanics       | 6       | A1X   | 1                | E   |
| TMKT77          | System Safety                                       | 6       | A1X   | 4                | E   |
| TMKT79          | Collaborative Multidisciplinary Design Optimization | 6       | A1X   | 2                | E   |
| TMMS13          | Electro Hydraulic Systems                           | 6       | A1X   | 2                | E   |
| TMMV12          | Gas Turbine Engines                                 | 6       | A1F   | 4                | E   |
| TMPS35          | Emerging Factory Technologies                       | 6       | A1N   | 3                | E   |
| TMQU13          | Customer Focused Product and Service Development    | 6       | A1X   | 4                | E   |
| TPPE73          | Operations Management - Project Course              | 12*     | A1X   | 4                | E   |
| TPPE99          | Simulation in Production and Logistics              | 6       | A1X   | 3                | E   |
| TSRT10          | Automatic Control - Project Course                  | 12*     | A1F   | 4                | E   |
| TSRT62          | Modelling and Simulation                            | 6       | A1X   | 3                | E   |
| TSTE25          | Power Electronics                                   | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TAOP18          | Supply Chain Optimization                           | 6       | A1F   | 1                | E   |
| TETS31          | Logistics Strategies                                | 6       | A1X   | 4                | E   |
| TKMJ32          | Integrated Product Service Engineering              | 6       | A1N   | 3                | E   |
| TMAL08          | Aircraft Systems Engineering - Project Course       | 6       | A1X   | -                | E   |
| TMES51          | International Energy Markets                        | 6       | A1N   | 1                | E   |
| TMHL26          | Aircraft Structures - Project Course                | 6       | A1X   | -                | E   |
| TMKM13          | Experimental Evaluation of Engineering Materials    | 6       | A1X   | 4                | E   |
| TMMS20          | Structural Optimization                             | 6       | A1X   | 1                | E   |
| TMMV17          | Aircraft Aerodynamics - Project Course              | 6       | A1X   | -                | E   |
| TPPE73          | Operations Management - Project Course              | 12*     | A1X   | 4                | E   |
| TSRT08          | Optimal Control                                     | 6       | A1X   | 3                | E   |
| TSRT10          | Automatic Control - Project Course                  | 12*     | A1F   | 4                | E   |

| Course code | Course name                                       | Credits | Level | Timetable module | ECV |
|-------------|---|---------|-------|------------------|-----|
| TSRT78      | Digital Signal Processing                         | 6       | A1X   | 2                | E   |
| TSTE26      | Powergrid and Technology for Renewable Production | 6       | A1X   | 3                | E   |

*Specialisation: Aeronautical Engineering*

| Course code     | Course name                                      | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMAL07          | Prototype Realization - Project Course           | 6       | A1X   | -                | C   |
| TMMV12          | Gas Turbine Engines                              | 6       | A1F   | 4                | C   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMAL08          | Aircraft Systems Engineering - Project Course    | 6       | A1X   | -                | C/E |
| TMHL26          | Aircraft Structures - Project Course             | 6       | A1X   | -                | C/E |
| TMMV17          | Aircraft Aerodynamics - Project Course           | 6       | A1X   | -                | C/E |
| TMKM90          | Engineering Materials - Deformation and Fracture | 6       | A1X   | 2                | E   |
| TMMS20          | Structural Optimization                          | 6       | A1X   | 1                | E   |
| TMMV54          | Computational Heat Transfer                      | 6       | A1X   | 1                | E   |

*Specialisation: Energy and Environmental Engineering*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMPE08          | Project Course Advanced - Energy and Environmental Engineering | 12*     | A1X   | -                | C   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPE08          | Project Course Advanced - Energy and Environmental Engineering | 12*     | A1X   | -                | C   |
| TKMJ32          | Integrated Product Service Engineering                         | 6       | A1N   | 3                | E   |
| TMES51          | International Energy Markets                                   | 6       | A1N   | 1                | E   |

*Specialisation: Engineering Design and 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   |
| TMKT79          | Collaborative Multidisciplinary Design Optimization                  | 6       | A1X   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPM05          | Project Course Advanced - Design Engineering and Product Development | 12*     | A1X   | -                | C   |

*Specialisation: Engineering materials*

| Course code     | Course name  | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMPM09          | Project Course Advanced - Engineering Materials      | 12*     | A1X   | -                | C   |
| TFYA88          | Additive Manufacturing: Tools, Materials and Methods | 6       | A1N   | 3                | E   |
| TMHL19          | Advanced Material and Computational Mechanics        | 6       | A1X   | 1                | E   |
| TMMI68          | CAD and Drafting Techniques, Continued Course        | 6*      | G2F   | 2                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPM09          | Project Course Advanced - Engineering Materials      | 12*     | A1X   | -                | C   |
| TMMI68          | CAD and Drafting Techniques, Continued Course        | 6*      | G2F   | 4                | E   |

*Specialisation: Engineering Mechanics*

| Course code     | Course name                                   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMPM07          | Project Course Advanced - Applied Mechanics   | 12*     | A1X   | -                | C   |
| TMHL19          | Advanced Material and Computational Mechanics | 6       | A1X   | 1                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMPM07          | Project Course Advanced - Applied Mechanics   | 12*     | A1X   | -                | C   |
| TMMS20          | Structural Optimization                       | 6       | A1X   | 1                | E   |

*Specialisation: Logistics*

| Course code     | Course name                            | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TETS38          | Logistics Project                      | 12*     | A1X   | 4                | C   |
| TETS23          | Purchasing                             | 6       | A1N   | 2                | E   |
| TPPE99          | Simulation in Production and Logistics | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TETS38          | Logistics Project                      | 12*     | A1X   | 2                | C   |
| TAOP18          | Supply Chain Optimization              | 6       | A1F   | 1                | E   |
| TETS31          | Logistics Strategies                   | 6       | A1X   | 4                | E   |

*Specialisation: Mechatronics*

| Course code     | Course name                            | Credits | Level | Timetable module | ECV |
|-----------------|--|---------|-------|------------------|-----|
| <b>Period 1</b> |  |         |       |                  |     |
| TMPM06          | Project Course Advanced - Mechatronics | 12*     | A1X   | -                | C/E |
| TSRT10          | Automatic Control - Project Course     | 12*     | A1F   | 4                | C/E |
| TMMS13          | Electro Hydraulic Systems              | 6       | A1X   | 2                | E   |
| TSRT62          | Modelling and Simulation               | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |  |         |       |                  |     |
| TMPM06          | Project Course Advanced - Mechatronics | 12*     | A1X   | -                | C/E |
| TSRT10          | Automatic Control - Project Course     | 12*     | A1F   | 4                | C/E |

*Specialisation: Production Engineering*

| Course code     | Course name   | Credits | Level | Timetable module | ECV |
|-----------------|---|---------|-------|------------------|-----|
| <b>Period 1</b> |   |         |       |                  |     |
| TMPI03          | Project Course Advanced - Industrial Manufacturing  | 12*     | A1X   | -                | C/E |
| TMPM08          | Project Course Advanced - Manufacturing Engineering | 12*     | A1F   | -                | C/E |
| TMQU27          | Quality Management - Project Course                 | 12*     | A1X   | 2                | C/E |
| TMPS35          | Emerging Factory Technologies                       | 6       | A1N   | 3                | E   |
| TMQU13          | Customer Focused Product and Service Development    | 6       | A1X   | 4                | E   |
| TPPE16          | Manufacturing Strategies                            | 6       | A1X   | 2                | E   |
| TPPE99          | Simulation in Production and Logistics              | 6       | A1X   | 3                | E   |
| <b>Period 2</b> |   |         |       |                  |     |
| TMPI03          | Project Course Advanced - Industrial Manufacturing  | 12*     | A1X   | -                | C/E |
| TMPM08          | Project Course Advanced - Manufacturing Engineering | 12*     | A1F   | -                | C/E |
| TMQU27          | Quality Management - Project Course                 | 12*     | A1X   | 4                | C/E |

**Semester 10 (Spring 2019)**

| 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