|  |  |  |  |
| --- | --- | --- | --- |
| Student name |  | Specialisation PM/DC/HF/MAT |  |
| Student number |  | e-mail |  |

## COURSES Obligatory for the MSc Mechanical Engineering

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
| ME46000 | Nonlinear Mechanics | 4 |
| ME46006 | Physics for Mechanical Engineers | 4 |
| ME46007 | Measurement Technology | 3 |
|  | **Total** | **11** |

## COURSES Recommended for the MSc Mechanical Engineering (≥ 5 EC Obligatory)

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
| ME41105 | Intelligent Vehicles (*obligatory for all students of the track Vehicle Engineering*) | 4 |
| ME44210 | Drive & Energy Systems | 3 |
| ME45000 | Advanced Heat Transfer | 3 |
| ME45042 | Advanced Fluid Dynamics | 5 |
| SC42000 | Control System Design | 3 |
|  | **Total** |  |

## SOCIAL COURSES Select one course or no more than 6 EC

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
| ID4235 | Reflection on Designing | 3 |
| MOT1442 | Social and Scientific Values | 5 |
| SPM9448 | Methods for Risk Analysis and Management | 5 |
| WM0320TU | Ethics and Engineering 3 | 3 |
| WM0338TU | Identity in a Technological Culture | 4 |
| WM0349WB | Philosophy of Engineering Science and Design | 3 |
| WM1401TU | Ethics of Healthcare Technologies | 3 |
| WM0506TU | Ready to Startup | 6 |
| WM0516TU | Turning Technology into Business | 6 |
| WM0801TU | Introduction to Safety Science | 3 |
| WM0903TU | Technological Entrepreneurship and Global Development | 3 |
| WM1301TU | Ethics of Transportation | 3 |
| WM1302TU | Ethics of Transportation + Essay | 5 |
|  | **Total** |  |

## COURSES Obligatory for the Track Vehicle Engineering

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
| ME41000 | Automotive Human Factors | 3 |
| ME41100 | Vehicle Dynamics A | 4 |
|  | **Total** | **7** |

**COURSES** Obligatory for the Specialisation PM/DC/HF/MAT

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
| CS4240 | Deep Learning (obligatory for PM) | 5 |
| ME41025 | Robotics Practicals (obligatory for PM) | 3 |
| ME47030 | 3D Robot Vision (obligatory for PM) | 4 |
| CSE2510 | Machine Learning (obligatory for PM) | 5 |
|  |  |  |
| ME41116 | Vehicle Dynamics B – Vehicle Control (obligatory for DC) | 4 |
| SC42025 | Filtering & Identification (obligatory for DC) | 6 |
| ME47035 | Robot Motion Planning and Control (obligatory for DC) | 4 |
|  |  |  |
| ME41015 | Applied Experimental Methods: Human Factors (obligatory HF) | 4 |
| ME41070 | The Human Controller (obligatory for HF) | 3 |
| ME41080 | Human-Machine Systems (obligatory for HF) | 4 |
|  |  |  |
| MS43025 | Mechanical Behaviour of Materials (obligatory for MAT) | 4 |
| MS43100 | Science of Failure (obligatory for MAT) | 3 |
| MS43110 | Joining Technologies (obligatory for MAT) | 3 |
|  | **Total** |  |

## 15 EC OF THE 2nd YEAR

|  |  |  |
| --- | --- | --- |
| Code | Course name | EC |
| ME57015 | ME-VE Research Assignment | 15 |
| 3mE4040TU | Joint Interdisciplinary Project | 15 |
|  | Additional elective Courses | 15 |
|  | **Total** | **15** |

## LITERATURE SURVEY & THESIS (2nd year)

|  |  |  |
| --- | --- | --- |
| Code | Course name | EC |
| ME57510 | ME-VE Literature Survey | 10 |
| ME57035 | ME-VE Thesis | 35 |
|  | **Total** | **45** |

**ELECTIVE COURSES (1st year)** from the *ME-VE Elective courses* list in [www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
| AE4ASM001 | Design of lightweight structures I: Composites & Metals (for MAT) | 3 |
| AE4ASM508 | Design of self-healing materials (for MAT) | 3 |
| BM41040 | Neuromechanics & Motor Control (for HF) | 5 |
| CIE4801-18 | Transportation and Spatial Modelling (for DC) | 6 |
| CIE4825 | Traffic Flow Modelling and Control Part 1 (for DC & HF) | 6 |
| CIE5128 | Fibre-reinforced Polymer (FRP) Structures (for MAT) | 3 |
| CIE5805-18 | Intelligent Vehicles for Safe and Efficient Traffic (for DC & HF) | 4 |
| CIE5810-18 | Traffic Safety (for HF) | 4 |
| CS4245 | Seminar Computer Vision by Deep Learning (for PM) | 5 |
| ET4117 | Electrical Machines and Drives (for DC) | 4 |
| ET4173 | Introduction to UWB Technology, Systems and Applications (for PM) | 4 |
| ID5242 | Automotive Design (for HF & MAT) | 6 |
| IN4010 | Artificial Intelligence Techniques (for PM & DC) | 6 |
| ME41025 | Robotics Practicals (for DC & HF) | 3 |
| ME41055 | Multibody Dynamics B (for DC & HF) | 4 |
| ME41065 | System Identification and Parameter Estimation (for DC & HF) | 7 |
| ME41070 | The Human Controller (for PM & DC) | 3 |
| ME41080 | Human-Machine Systems (for PM & DC) | 4 |
| ME41116 | Vehicle Dynamics B - Vehicle Control (for PM) | 4 |
| ME46041 | Experimental Dynamics (for DC) | 4 |
| ME47030 | 3D Robot Vision (for DC) | 4 |
| MS43025 | Mechanical Behaviour of Materials (for MAT) | 4 |
| MS43115 | Material Selection in Engineering Applications (for MAT) | 3 |
| MS43120 | Corrosion and Protection Against Corrosion (for MAT) | 3 |
| MT44010 | Advanced Materials in Marine Structures (for MAT) | 2 |
| SC42010 | Robust and Multivariable Control Design (for DC) | 5 |
| SC42050 | Knowledge Based Control Systems (for DC) | 4 |
| SC42055 | Optimization in Systems and Control (for DC) | 4 |
| SC42075 | Modeling and Control of Hybrid Systems (for DC) | 3 |
| SC42095 | Digital Control (for DC) | 3 |
| WI4771TU | Object Oriented Scientific Programming C++ (for PM) | 3 |
| SC42105 | Non-linear control (for DC) | 5 |
| SC42125 | Model Predictive Control (for DC) | 4 |
|  | **Total** |  |

## ELECTIVE COURSES that are not in the *ME-VE Elective courses* list in [www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)

|  |  |  |
| --- | --- | --- |
| Course code | Course name | EC |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  | **Total** |  |

## For ELECTIVE COURSES that are not in the *ME-VE Elective courses* list, please briefly explain your choice

|  |  |
| --- | --- |
| Course code | Motivation |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **Total of study program** |  |

|  |  |  |
| --- | --- | --- |
| Signature Track Coordinator  Date: | Signature Student  Date: | On behalf of the Examination Board  Date: |