

CURRICULUM 2022-2023

ME Core courses choose a minimum of 5

Obligatory for ME_HTE students, apart from these you choose 2 more ME core course to complete the minimum of 5. Please check the relevance for your preferred focus(es)*

Code	Name	EC	Period	Obligatory	Strongly recommended	Optional	Relevant for focus within ME_HTE
ME46006	Physics for Mechanical Engineers	4	1	x			all
ME46055	Engineering Dynamics	4	1	x			all
ME46085	Mechatronic System Design	4	2	x			all
ME46000	Nonlinear Mechanics	4	2		x		EM, MSD, ED
ME46007	Measurement Technology	3	3		x		all
ME44210	Drive&Energy Systems	3	1			x	MSD
ME45001	Advanced Heat Transfer	4	1			x	
SC42001	Control System Design	5	1			x	MSD
ME41055	Multibody Dynamics B	4	3,4			x	MSD, EM, ED
ME45042	Advanced Fluid Dynamics	5	1,2			x	EM, MNE
ME41106	Intelligent Vehicles	5	2			x	MSD

ME Non-technical course, minimum 3 maximum 6 EC (for list of options see studiegids.tudelft.nl)

ME_HTE obligatory (Including ME core courses obligatory for ME_HTE track. Make sure to complete with 2 additional ME core courses#)

Code	Name	EC	Period	Relevant for all ME_HTE students
ME46110	Introlab	2	full year	introweek, LATEX session + 2 additional practical sessions

ME_HTE track courses I, choose at least 3

Code	Name	EC	Period	Strongly recommended for focus*	Optional for focus*
ME46300	Optics	4	1	OPT	MNE, MSD
ME46070	Fundamentals of Mechanical Analysis	4	3	EM	MSD, ED
ME46020	Micro- & Nanosystems Design & Fab.	4	3	MNE	MSD, ED, MNE, OPT
ME46015	Precision Mechanism Design	4	3,4	MSD	EM, ED, MNE, OPT
ME46060	Engineering Optimization	3	4	EM	MSD, ED, MNE, OPT

ME_HTE track courses II, choose at least 3

Code	Name	EC	Period	Relevant for focus*	Optional for focus*
ME46115	Compliant Mechanisms	4	1,2	MSD	EM, ED, MNE
ME46310	Opto-Mechatronics	4	1,2	OPT	MSD
MS43325	Application of Materials in High-Tech Eng.	3	2	MSD, EM	ED, MNE
ME46095	Multiphysics Modelling using COMSOL [not provided in 2022]**	4	3	MSD, EM, ED	MNE, OPT
ME46035	Stability of Thin-Walled Structures	4	3	EM	MSD, ED
ME46050	Advanced Finite Elements Methods	4	3		EM, MSD, ED
ME46010	Intro to Nanoscience	3	3	MNE	EM, ED, MSD, OPT
ME46065	Thin Film Materials	3	3	MNE	ED, MSD
ME46041	Experimental Dynamics	4	3,4	ED	MSD, EM, ED
ME46120	Predictive Modelling	4	3	MSD	EM, ED, MNE, OPT
ME46072	Nonlinear Dynamics	4	4	ED, EM	MNE, MSD
ME46125	Micro and Nanofabrication for Cell Biology and Tissue Eng.	3	4	MNE	ED, MSD
ME46025	Manufacturing for the Micro and Nano Scale	3	4	MNE	ED, MSD

* Focus areas: Mechatronic System Design (MSD), Engineering Mechanics (EM), Engineering Dynamics (ED), Micro Nano Engineering (MNE) and Optics for Technology (OPT)

It is allowed to combine 2 focus areas and choose a combination of focus courses to cover both.

** when interested in this subject you are advised to choose the Q4 elective course ET4260 Microsystem Integration

Common electives

Code	Name	EC	Period	Relevant for focus*	Optional for focus*
AE4117	Fluid-structures interaction	4	3		EM, MSD, MNE, ED
AE4880	Space Instrumentation	4	3	OPT	MSD, ED
AE4ASM104	Sensor Materials	3	3		EM, MSD, MNE, ED, OPT
AE4ASM516	Materials selection in mechanical design	3	4	EM	MSD, ED
AE4S12	Space Systems Engineering	3	1,2	OPT	
AP3122	Advanced Optical Imaging	6	1,2	OPT	ED, MSD
AP3391	Geometrical Optics	6	4		OPT
AP3401	Introduction to Charged Particle Optics	6	3,4		OPT
BM41155	3D printing	4	3		MSD, EM
CIE5123	Introduction to the Finite Element Method	4	3		EM, ED, MSD, MNE
CIE5142	Computational methods in non-linear solid mechanics	3	1	EM	MSD, ED
CIE5145	Random vibrations	4	1		EM, MSD, ED, OPT
ET4117	Electrical Machines and Drives	4	2	MSD	ED
ET4257	Sensors and Actuators	4	2		MNE, ED, EM, MSD
ET4260	Microsystem Integration	4	4		MSD, MNE, ED, EM
ET4277	Microelectronics Reliability	4	3		MNE, ED
ET4391	Advanced Microelectronics packaging	3	3		MSD, MNE, ED
ME41096	Bio Inspired Design	5	1,2		MSD
ME46080	Enriched Finite Elements	4	4		EM
MS43100	Science of Failure	3	3		EM, ED
MS43210	Advanced Characterisation	4	4		EM, ED, MSD
RO47019	Intelligent Control Systems	4	3		MSD
SC42030	Control for High Resolution imaging (obl to combine with SC42065)	3	4	OPT	
SC42061	Nonlinear Systems Theory	3	2		MSD, EM, ED
SC42065	Adaptive optics (obl to combine with SC42030)	3	4	OPT	
SC42145	Robust Control	3	2	MSD	
WI4014TU	Numerical analysis	6	1,2	EM	MNE, ED
WI4019	Non-linear Differential Equations	6	1,2	EM	MNE, ED
WI4260TU	Scientific Programming for Engineers	3	3	MSD, EM	ED