

This list below provides students with an overview about the role of industry in the Master's courses offered in the ME, SET, AT and S&C programs. It has been compiled because the National Student Enquiry showed students want have insight how the industry is involved in the program.

Please note:

- For SET, AT and S&C the core courses and specialization courses followed by many students are included in the list.
- This information has been listed in 2022 based upon responsible lecturers' input. Courses may change every year.

Department	Section	Course code	Name course	Guest lecturer(s) from industry?	Attention for industrial applications in the course by means of examples being treated?	Assignment that is related to industrial applications?
IE&IS	TIS	0EM140	Energy, economy and society	Y	Y	Y
IE&IS	TIS	0EM150	Sustainability transitions and responsible innovation	Y	Y	Y
IE&IS	HTI	0HM310	Automotive human factors	N	N	N
MCS	INF	2IN70	Real-time software system engineering	N	N	N
AP	PMP	3MP110	Solar cells	N	Y	N
ME	PF	4AT020	Clean engines and future fuels	Y	Y	N
ME	PF	4AT060	Powertrains	Y	Y	Y
ME	PF	4BM00	Advanced engineering mathematics	Y	Y	N
ME	PF	4BM10	Hydraulic turbomachines	Y	Y	Y
ME	PF	4BM20	Experimentation for Mechanical Engineering	N	N	N
ME	PF	4BM30	Modelling combustion	N	Y	Y
ME	PF	4BM40	Optical diagnostics for combustion and fluid flow	N	N	N
ME	PF	4BM50	Introduction to petroleum production	Y	Y	Y
ME	PF	4BM60	Interfacial transport phenomena in engineering flows	N	Y	Y
ME	PF	4RM00	Introduction to computational fluid dynamics	N	Y	N
ME	DC	4AT080	Vehicle control	Y	Y	N
ME	DC	4AT000	Vehicle dynamics	N	Y	N

ME	DC	4CM80	Extremum Seeking Control	Y	Y	N
ME	DC	4DM00	Structural dynamics and vibro-acoustics	Y	Y	Y
ME	DC	4DM10	Multibody and non-linear dynamics	N	Y	N
ME	DC	4DM30	Non-linear control	N	Y	N
ME	DC	4DM40	Modelling and control of manufacturing networks	N	Y	N
ME	DC	4DM70	Analysis and design of networked dynamical systems	N	N	N
ME	DC	4DM60	Control of distributed parameter systems	N	Y	N
ME	DC	4SC050	Performance of nonlinear control systems	Y	Y	N
ME	CST	4AT030	Advanced full-electric and hybrid powertrain design	Y	Y	Y
ME	CST	4AT070	Advanced control for future HD powertrains	Y	Y	Y
ME	CST	4AT100	Automotive systems engineering project	Y	Y	Y
ME	CST	4CM00	Control engineering	Y	Y	Y
ME	CST	4CM10	System theory for control	N	N	N
ME	CST	4CM20	Hybrid systems and control	N	N	N
ME	CST	4CM30	Supervisory control	Y	Y	N
ME	CST	4CM40	Physical and data-driven modelling	N	N	N
ME	CST	4CM50	Applications of design principles	Y	Y	Y
ME	CST	4CM60	Advanced motion control	Y	Y	Y
ME	CST	4CM70	Integrated system design	N	Y	Y
ME	CST	4DM20	Engineering optimization	N	N	N
ME	CST	4SC000	Optimal control and reinforcement learning	N	N	N
ME	CST	4SC010	Control and operation of tokamaks	N	Y	N
ME	CST	4SC020	Mobile robot control	Y	Y	N
ME	CST	4SC030	Control of magnetic instabilities in fusion plasmas	N	Y	N
ME	CST	4SC040	Haptics - perception and technology	N	Y	N
ME	CST	4SC070	Learning control	Y	Y	Y
ME	ET	4EM10	Gasdynamics	N	Y	N
ME	ET	4EM30	Scientific computing for Mechanical Engineering	N	N	N

ME	ET	4EM40	Heat and flow in microsystems	N	Y	N
ME	ET	4EM50	Thermal energy storage	Y	Y	N
ME	ET	4EM60	Advanced discretization techniques	N	N	Y
ME	ET	4EM70	Sustainable Energy Sources	Y	Y	Y
ME	PP	4LM20	Polymer processing	N	Y	Y
ME	PP	4LM30	Multiscale modelling for polymer mechanics	N	Y	N
ME	PP	4LM50	Rheology	N	Y	N
ME	PP	4LM60	Structural performance of polymers and their composites	Y	Y	N
ME	PP	4MM60	Advanced and Additive Manufacturing	Y	Y	Y
ME	MM	4MM00	Composite and light-weight materials: design and analysis	Y	Y	N
ME	MM	4MM10	Advanced computational continuum mechanics	N	Y	N
ME	MM	4MM20	Computational and experimental micro-mechanics	N	Y	N
ME	MM	4MM50	Fracture mechanics – theory and application	Y	Y	N
ME	MS	4UM00	Microfabrication methods	N	Y	Y
ME	MS	4UM10	Microfluidics put-to-work	Y	Y	Y
EE	EPE	5AT010	Electrical components	Y	Y	Y
EE	EES	5SEF0	Smart grids, ICT and electricity markets	Y	Y	Y
EE	EES	5LEE0	Electrical power engineering and system integration	Y	Y	Y
EE	EES	5LEF0	System integration project	Y	Y	Y
EE	EES	5LEG0	Pulsed power technology	Y	Y	Y
EE	EES	5LEL0	Power quality phenomena	Y	Y	N
EE	CS	5LMA0	Model reduction	N	Y	Y
EE	CS	5LMC0	Robust control	Y	Y	N
EE	CS	5LMD0	Selected topics in systems and control	Y	Y	Y
EE	CS	5CSA0	Modeling dynamics	N	Y	Y
EE	CS	5LMB0	Model predictive control	N	Y	Y
EE	CS	5SC26	Systems & control integration project	N	N	N
EE	CS	5SC28	Machine learning for Systems and control	N	Y	N

EE	CS	5SMB0	System identification	N	Y	Y
B	BPS	7LS3M0	Sustainable buildings/physical aspects of building materials	Y	Y	N
B	BPS	7LY3M0	Building performance and energy systems simulation	N	Y	Y

- More details about courses can be found on [Osiris Course Catalogue](#).