

**MASTER MECHANICAL ENGINEERING  
CURRICULUM GROUP ENGINEERING FLUID DYNAMICS 2009/2010**

**I) Master Track Research & Development  
(not all new codes are known yet)**

***First Year: 60 EC in total***

**a. Track courses: choose 4 out of 6 (20 EC)**

	Qtrtr	EC	Rec	Lecturers
191157710 Numerical Methods in Mechanical Engineering	s1	5	+++	TS/TM
191154710 Fluid Dynamics	k1	5	+++	TS
191157720 Solid Mechanics 1, Elasticity	s2	5	+++	TM
191141700 Transport Phenomena	k1	5	++	ThW
191131700 System Identification & Parameter Estimation	s2	5	++	WA
191155700 Solids & Surfaces	s1	5	+	PT/OTR

**b. Courses from other tracks: choose 1 (5 EC)**

	Qtrtr	EC	Rec	Lecturers
191131360 Design Principles for precision mechanisms	k3	5	+++	WA
193750030 Process Equipment Design	k3	5	+++	ThW/CT
191102031 Product Design	s1	5	++	OPM
191150700 Integrative Design of Biomedical Products	k4	5	+	BW
191121720 Design, Production & Materials	k23	5		OPM
191124720 Design Production & Inventory Systems	k3	5		OPM
191139320 Engineering Project Management	s2	5		OPM
194110130 Cost Management & Engineering	k2	3.6		OPM
191102041 Manufacturing Facility Design	k2	5		OPM

**c. Courses in Fluid Dynamics ( $\geq 15$  EC)**

	Qtrtr	EC	Rec	Lecturers
191154720 Fluid Mechanics of Turbomachines	1	k2	5	TS
191154731 Computational Fluid Dynamics	k4	5		TS
191155400 Aeroacoustics	k4	3.6		TS (1-week course)
191154340 Gasdynamics	k3	5		TS
191154740 Bio-physical Fluid Dynamics: The Respiratory System	k1	5		TS
191154750 Capita Selecta TS	tbd	tbd		TS
191154760 Fluid Mechanics of Turbomachines	2	k4	3.6	TS
115437 Aerodynamics	k2	6		TS
191154770 Wave Motion	k2	5		TS
193580010 Turbulence	k2??	5		TNW
193580020 Experimental Techniques in Physics of Fluids	s2	5		TNW

**d. Courses in Mathematics (minimal 1 course)**

	Qtrtr	EC	Rec	Lecturers
191550105 Theory of Partial Differential Equations	k2	5		ETW
191510441 Analyse C	k2	3		ETW
191551150 Num. Techniques for Partial Diff. Equations	k2	5		ETW

**e. Elective Courses (remaining EC)**

	Qtrtr	EC	Rec	Lecturers
11xxxx Not chosen track courses in Research & Development				
11/35xx Not chosen fluid dynamics courses				
191121740 Rheology and Processing of Thermoplastics	s2	5		PT
114123 Practical exercises in Thermal Engineering	k2	2		ThW
191141420 Transp. in Turb. Chem. Reacting Flows	s2	3.6		ThW
191141430 Gas Technology	k4	3.6		ThW
191155730 Tribology	s2	5		OTR
115539 Multi-Level Methods	tbd	3.6		TS
191158500 Advanced Programming in Engineering	k23	5		MSM
191158510 Programming in Engineering	summer	3		MSM

191157760	Solid Mechanics 2, Plasticity	k4	5	TM	
191157750	Engineering Acoustics	k1	5	TM	
191157740	Advanced Dynamics	s1	5	TM	
191157730	Computational Structural Optimisation	k4	5	TM	
191150390	Biomechanics	k2	5	TS/BW	
191210960	Signal Processing in Acoustics & Audio	k2	5	EWI	
191211050	Micro Electro Mechanical Systems Technology	k3	5	EWI	
191410021	Statistical Physics	s2	5		TNW
193570040	Theory of General Relativity	k4	5	TNW	
144006	Electrodynamics	k1	5		TNW
146012	Introduction to Optics	k1	5	TNW	
191506300	Applied Functional Analysis	s1	6	EWI	
191509103	Advanced modeling	s2	6	EWI	
1920251	Theory of Complex Functions	k4	5	EWI	
155109	Mathematical Theory of Finite Element Methods	k4	6	EWI	
155116	Applied Finite Element Methods for PDE's	s2	6	EWI	Nat.MSc Prog. Math
156037	Applied Analytical Methods	k4	5	EWI	
157108	Random Signals and Systems	k3	5	EWI	
193400121	Nano-fluidics	k3	5	TNW	
195420900	Mathematical tools for Traffic Engineering	k3	7.5		WEM
195410200	Morphology	k2	7.5	WEM	
195400900	Mathematical Physics of water systems	k3	7.5	WEM	
195740120	Wind Energy	k3	4	SET	
195740030	Energy from Biomass	k2	4	SET	

Any other relevant course you find interesting!*E*

***Second Year: 60 EC in total***

a internship: 20 EC