

**MASTER MECHANICAL ENGINEERING  
CURRICULUM GROUP ENGINEERING FLUID DYNAMICS**

**I) Master Track Research & Development**

*First Year: 60 EC in total*

<b>a. Track courses: choose 4 out of 6 (20 EC)</b>	<b>Qtrr</b>	<b>EC</b>	<b>Rec</b>	<b>Group</b>	<b>Lectures</b>
115771 Numerical Methods in Mechanical Engineering	k12	5	+++	TS/TM	
115471 Fluid Dynamics	k3	5	+++	TS	
115772 Solid Mechanics I, Elasticity	k3	5	+++	TM	
114170 Transport Phenomena	k1	5	++	ThW	
113170 System Identification & Parameter Estimation	k34	5	++	WA	
115570 Solids & Surfaces	k12	5	+	PT/OTR	
<b>b. Courses from other tracks: choose 1 (5 EC)</b>	<b>Qtrr</b>	<b>EC</b>	<b>Rec</b>	<b>Group</b>	<b>Lectures</b>
113136 Constructieprincipes	k3?	5	+++	WA	
138501 Process Equipment Design	k34	5	+++	ThW/CT	
110203 Design Principles (Product Design)	k12	3	+	OPM	
115070 Ontwerpen van Biomedische Producten	k4	5	+	BW	
112472 Design of Production & Inventory Systems	k3	5		OPM	
113932 Engineering Project Management	k34	3.6		OPM	
110212 Cost, Management and Engineering	k2	3.6		OPM	
<b>c. Courses in Fluid Dynamics (<math>\geq 15</math> EC)</b>	<b>Qtrr</b>	<b>EC</b>	<b>Rec</b>	<b>Group</b>	<b>Lectures</b>
115472 Fluid Mechanics of Turbomachines 1	k2	5		TS	
115473 Computational Fluid Dynamics	k4	3.6		TS	
115540 Aeroacoustics	tbd	3.6		TS	blokcollege
115434 Gasdynamics	k1	3.6		TS	
115474 Bio-physical Fluid Dynamics: The Respiratory System	k1	5		TS	
115433 Capita Selecta TS	tbd	tbd		TS	
114122 Fluid Mechanics of Turbomachines 2	k34	3.6		TS	
115437 Aërodynamica	k2	4.0		TSm	
115477 Wave Motion	k2	5		TS	
147015 Turbulentie	k2	3.6		fTN	
147020 Meetmethoden in de Stromingsleer	k3	3.6		fTN	
<b>d. Courses in Mathematics (minimal 1 course)</b>	<b>Qtrr</b>	<b>EC</b>	<b>Rec</b>	<b>Group</b>	<b>Lectures</b>
155010 Theory of Partial Differential Equations	k2	5		fTW	
151044 Analyse C	k2	3		fTW	
155115 Num. Techniques for Partial Diff. Equations	k2	5		fTW	
<b>e. Elective Courses (?? EC)</b>	<b>Qtrr</b>	<b>EC</b>	<b>Rec</b>	<b>Group</b>	<b>Lectures</b>
11xxxx Not chosen track courses in Research & Development					
11/14xx Not chosen fluid dynamics courses					
114171 Therm. Conversion of Fuel, Biomass and Waste	k12	5		Thw	
114142 Transp. in Turb. Chem. Reacting Flows	k34	3.6		ThW	
115432 Bijz. Onderwerpen uit de Stromingsleer	tbd	tbd		TS	
115573 Tribology	k34	5		OTR	
115539 Multi-Level Methoden	tbd	3.6		TS	
115776 Solid Mechanics II, Plasticity	k4	5		TM	
115775 Engineering Acoustics	k4	5		TM	
115774 Advanced Dynamics	k12	5		TM	
115773 Computational Solid Mechanics	k4	5		TM	
115039 Biomechanics	k2	5		TS/BW	
135528 Fysiologie	?	4.3		fCT	
137004 Chemical Reaction Engineering	k34?	5		fCT	
141104 Dynamics of Non-Linear Systems	k2?	3.6		fTN	
141110 Statistical Physics	?	3.6		fTN	
141114 Relativity Theory	?	3.6		fTN	

141127 Classical Mechanics	?	3.6	FTN
144006 Electromagnetics, Fields and waves	k1	5	FTN
144118 Physical Signal Analyses and Processing	k3	5	FTN
146005 Fundamental Optics	?	3.6	FTN
150630 Applied Functional Analysis	k2	5	FTW
151110 Applied Numerical Linear Algebra	k3	5	FTW
152025 Theory of Complex Functions	k4	5	FTW
155116 Applied Finite Element Methods for PDE's Math	k34	6	FTW Nat. MSc Prog.
150910 Avanced Modelling Math	k34	6	FTW Nat. MSc Prog.
156037 Applied Analytical Methods	k4	5	FTW
157108 Random Signals and Systems	k3	5	FTW
157109 Time Series Analysis	k1	5	FTW

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

- a. Internship: 15 or 20 EC
- b. Courses: 5 or 0 EC
- c. MSc Assignment: 40 EC

## II) Master Track Design & Construction

*First Year: 60 EC in total*

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

	Qtr	EC	Rec	Group	Lectures
115771 Numerical Methods in Mechanical Engineering	k12	5	+++	TS/TM	tu56,th12
113136 Constructieprincipes	k34	5	+++	WA	
138501 Process Equipment Design	k34	5	+++	ThW/CT	
110203 Design Principles (Product Design)	k12	3	+	OPM	
115070 Ontwerpen van Biomedische Producten	k4	5	+	BW	
112172 Design, Production and Materials	k23	5	+	PT,OTR	

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

	Qtr	EC	Rec	Group	Lectures
115471 Fluid Dynamics	k3	5	+++	TS	
114170 Transport Phenomena	k1	5	++	ThW	
115772 Solid Mechanics I, Elasticity	k3	5	++	TM	
113170 System Identification & Parameter Estimation	k34	5	++	WA	
112472 Design of Production & Inventory Systems	k3	5		OPM	
113932 Engineering Project Management	k34	3.6		OPM	
110212 Cost, Management and Engineering	k2	3.6		OPM	

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

	Qtr	EC	Rec	Group	Lectures
115472 Fluid Mechanics of Turbomachines 1	k2	5		TS	
115473 Computational Fluid Dynamics	k4	3.6		TS	
115540 Aeroacoustics	tbd	3.6		TS	blokcollege
115434 Gasdynamics	k1	3.6		TS	
115474 Bio-physical Fluid Dynamics: The Respiratory System	k1	5		TS	
115433 Capita Selecta TS	tbd	tbd		TS	
114122 Fluid Mechanics of Turbomachines 2	k34	3.6		TS	
115437 Aërodynamica	k2	4.0		TSm	
115477 Wave Motion	k2	5		TS	
147015 Turbulentie	k2	3.6		fTN	
147020 Meetmethoden in de Stromingsleer	k3	3.6		fTN	

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

	Qtr	EC	Rec	Group	Lectures
155010 Theory of Partial Differential Equations	k2	5		fTW	
151044 Analyse C	k2	3		fTW	
155115 Num. Techniques for Partial Diff. Equations	k2	5		fTW	

### e. Elective Courses (?? EC)

	Qtr	EC	Rec	Group	Lectures
11xxxx Not chosen track courses in Research & Development					
11/14xx Not chosen fluid dynamics courses					
114171 Therm. Conversion of Fuel, Biomass and Waste	k12	5		Thw	
114142 Transp. in Turb. Chem. Reacting Flows	k34	3.6		ThW	
115432 Bijz. Onderwerpen uit de Stromingsleer	tbd	tbd		TS	
115573 Tribology	k34	5		OTR	
115539 Multi-Level Methoden	tbd	3.6		TS	
115776 Solid Mechanics II, Plasticity	k4	5		TM	
115775 Engineering Acoustics	k4	5		TM	
115774 Advanced Dynamics	k12	5		TM	
115773 Computational Solid Mechanics	k4	5		TM	
115039 Biomechanics	k2	5		TS/BW	
135528 Fysiologie	?	4.3		fCT	
137004 Chemical Reaction Engineering	k34?	5		fCT	
141104 Dynamics of Non-Linear Systems	k2?	3.6		fTN	
141110 Statistical Physics	?	3.6		fTN	
141114 Relativity Theory	?	3.6		fTN	
141127 Classical Mechanics	?	3.6		fTN	
144006 Electromagnetics, Fields and waves	k1	5		fTN	
144118 Physical Signal Analyses and Processing	k3	5		fTN	

146005 Fundamental Optics	?	3.6	fTN
150630 Applied Functional Analysis	k2	5	fTW
151110 Applied Numerical Linear Algebra	k3	5	fTW
152025 Theory of Complex Functions	k4	5	fTW
155116 Applied Finite Element Methods for PDE's Math	k34	6	fTW Nat. MSc Prog.
150910 Avanced Modelling Math	k34	6	fTW Nat. MSc Prog.
156037 Applied Analytical Methods	k4	5	fTW
157108 Random Signals and Systems	k3	5	fTW
157109 Time Series Analysis	k1	5	fTW

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- d. Internship: 15 or 20 EC
- e. Courses: 5 or 0 EC
- f. MSc Assignment: 40 EC