

# FACULTY OF ENGINEERING SCIENCE AND TECHNOLOGY

## MSC-PROGRAMME IN MARINE TECHNOLOGY (MSN1)

Term 1, 2, 3 and 4

### MARINE STRUCTURES

Ex	Subject no.	Subject title	Note	Cr	Specialization		
					1	2	3
		<b>Compulsory and optional courses</b>					
1h	TMR4115	DESIGN METHODS		7,5	v	v	-
1h	TMR4125	BUILD SHIPS/PLATF		7,5	v	v	-
1h	TMR4130	RISK ANALYSIS		7,5	v	-	-
1h	TMR4170	MARINE STRUCTURES BC	1	7,5	o	o	o
1h	TMR4190	FINITE ELEM METH		7,5	o	o	-
1h	TMR4200	FATIGUE/FRACTURE	2	7,5	v	v	-
1h	TMR4215	SEA LOADS		7,5	o	o	o
1h	TMR4235	STOCH THEORY SEALOAD		7,5	v	v	-
1h	TMR4275	MOD/SIM/AN DYN SYS		7,5	-	v	o
1h	TMR4290	MAR ELECTR PROP SYST		7,5	-	-	v
1h	TTK4115	LINEAR SYST THEORY		7,5	-	-	v
1h	TTK4150	NONLINEAR CONTR SYST		7,5	-	-	v
1v	-	EXP IN TEAM INT PRO		7,5	o	o	o
1v	TKT4145	FIN ELEM METH		7,5	v	-	-
1v	TMR4182	MARINE DYNAMICS	1	7,5	o	o	o
1v	TMR4195	DESIGN OFFSHOR STRUC		7,5	o	v	-
1v	TMR4205	BUCKLING/COLLAPS STR	2	7,5	v	-	-
1v	TMR4217	HYDRO HIGH-SPEED VEH		7,5	-	v	v
1v	TMR4220	NAVAL HYDRODYNAMICS		7,5	v	v	-
1v	TMR4225	MARINE OPERATIONS		7,5	v	v	v
1v	TMR4240	MARINE CONTROL SYST		7,5	-	-	o
1v	TTK4135	OPTIMISATION/CONTROL		7,5	-	-	v
1v	TTK4190	GUIDANCE/CONTROL		7,5	-	-	v
		<b>Supplementary courses</b>	3				
1h	TMR4135	FISH VESSEL/WORK DES		7,5	v	v	-
1v	TKT4145	FIN ELEM METH		7,5	-	-	v
1v	TMR4140	DES MAR PROD PLANTS		7,5	v	-	-
1v	TMR4195	DESIGN OFFSHORE STRUC		7,5	-	-	v
1v	TMR4217	HYDRO HIGH-SPEED VEH		7,5	v	-	-
1v	TMR4220	NAVAL HYDRODYNAMICS		7,5	-	-	v
1v	TMR4230	OCEANOGRAPHY		7,5	v	-	v
		<b>Specialization courses</b>					
2h	TMR4505	MARINE STRUCTURE SC		7,5	o	-	-
2h	TMR4515	MAR CONTR SYST SC		7,5	-	-	o
2h	TMR4525	MARINE HYDRODYN SC		7,5	-	o	-
		<b>Specialization projects</b>					
2h	TMR4500	MARINE STRUCTURE SP		7,5	o	-	-
2h	TMR4510	MAR CONTR SYST SP		7,5	-	-	o
2h	TMR4520	MARINE HYDRODYN SP		7,5	-	o	-

cont.

# FACULTY OF ENGINEERING SCIENCE AND TECHNOLOGY

## MSC-PROGRAMME IN MARINE TECHNOLOGY (MSN1)

Term 1, 2, 3 and 4

### MARINE STRUCTURES

Ex	Subject no.	Subject title	Note	Cr	Specialization		
					1	2	3
		<b>Supplementary courses</b>	4				
2h	TMA4145	LINEAR METHODS		7,5	-	-	v
2h	TMR4115	DESIGN METHODS		7,5	v	v	-
2h	TMR4130	RISK ANALYSIS		7,5	v	-	-
2h	TMR4135	FISH VESSEL/WORK DES		7,5	v	-	-
2h	TMR4200	FATIGUE/FRACTURE		7,5	v	v	-
2h	TMR4235	STOCH THEORY SEALOAD		7,5	v	v	-
2h	TMR4275	MOD/SIM/AN DYN SYS		7,5	-	v	-
2h	TMR4290	MAR ELECTR PROP SYST		7,5	-	-	v
2h	TMR4300	EXP/NUM HYDRODYN		7,5	-	v	-
2h	TMR4305	ADV ANALY MAR STRUCT		7,5	v	-	-
2h	TTK4115	LINEAR SYST THEORY		7,5	-	-	v
2h	TTK4150	NONLINEAR CONTR SYST		7,5	-	-	v
		<b>Master Thesis</b>					
2v	TMR4900	MARINE STRUCTURES		30,0	o	o	o

o = compulsory course

v = optional course

Ex 1h = Term 1, Exam Autumn

Ex 1v = Term 2, Exam Spring

Ex 2h = Term 3, Exam Autumn

Ex 2v = Term 4, Master Thesis Spring

- 1) Compulsory course for students without the equivalent background.
- 2) Select at least one subject for the specialization Marine structures.
- 3) Supplementary courses are not considered when planning the teaching and examination schedules.
- 4) Select two supplementary courses. Courses are not considered when planning the teaching and examination schedules.

Specialization:

1 Marine structures

2 Marine hydrodynamics

3 Marine cybernetics

## FACULTY OF ENGINEERING SCIENCE AND TECHNOLOGY

### MSC-PROGRAMME IN MARINE TECHNOLOGY (MSN1)

Term 1 and 2

#### MARINE SYSTEMS ENGINEERING

Ex	Subject no.	Subject title	Note	Cr	Specialization	
					1	4
		<b>Compulsory and optional courses</b>				
1h	TBP4185	NATURAL GAS TECHN	1	7,5	-	v
1h	TIØ4120	OP RESEARCH INTRO		7,5	o	-
1h	TMM4150	MAC DES/MECHATRON	1	7,5	-	v
1h	TMR4115	DESIGN METHODS		7,5	-	v
1h	TMR4125	SHIPBUILDING		7,5	-	v
1h	TMR4130	RISK ANALYSIS		7,5	o	v
1h	TMR4135	FISH VESSEL WORK DES		7,5	-	o
1h	TMR4137	SUST UTIL MAR RES		7,5	-	o
1h	TMR4290	MAR ELECTR PROP SYST		7,5	-	v
1h	TMR4295	DES OF MECH SYST		7,5	o	-
1h	TPK4120	SAFETY/REALIA ANALYS		7,5	o	-
1v	-	EXP IN TEAM INT PROJ		7,5	o	o
1v	TMR4120	UNDERWATER ENG BC		7,5	v	v
1v	TMR4140	DES MAR PROD PLANTS		7,5	-	o
1v	TMR4182	MARINE DYNAMICS		7,5	v	v
1v	TMR4260	SAFE OPER/MAINTEN		7,5	o	v
1v	TMR4280	INTERNAL COMB ENGINE		7,5	v	v
		<b>Supplementary courses</b>	2			
1h	BI3061	BIOL OCEAN		7,5	-	v
1h	TIØ4120	OP RESEARCH INTRO		7,5	-	v
1h	TMR4215	SEA LOADS		7,5	-	v
1h	TMR4275	MOD/SIM/AN DYN SYST		7,5	-	v
1h	TMR4295	DES OF MECH SYST		7,5	-	v
1h	TPK4160	VALUE CHAIN CONTROL		7,5	-	v
1h	TPK5100	PROJ PLAN/CONTR		7,5	-	v
1h	TTT4175	MARINE ACOUSTICS		7,5	-	v
1h	TVM4162	INDUSTRIAL ECOLOGY		7,5	-	v

o = compulsory course

v = optional course

Ex 1h = Term 1, Exam Autumn

Ex 1v = Term 2, Exam Spring

According to their specialization the students will be assigned to an academic supervisor in the first or beginning of the second semester. The combination of courses must be approved by the programme. The courses are selected so that the total weighting each term amounts to 30 credits (Cr).

- 1) Optional courses need to be approved by the responsible professor for the specialization.
- 2) Courses are not considered when planning the teaching and examination schedules.

Specialization:

1 Technical Operation of Marine Systems

4 Fisheries and Marine Resources

## FACULTY OF ENGINEERING SCIENCE AND TECHNOLOGY

### MSC-PROGRAMME IN MARINE TECHNOLOGY (MSN1)

Term 1 and 2

MARINE SYSTEMS ENGINEERING - for students to TU Delft\*

Ex	Subject no.	Subject title	Note	Cr	Specialization	
					2	3
		<b>Compulsory and optional courses</b>				
1h	TPE4185	NATURAL GAS TECHN	1	7,5	v	v
1h	TMM4150	MACH DES/MECHATRON	1	7,5	v	v
1h	TMR4115	DESIGN METHODS		7,5	-	o
1h	TMR4135	FISH VESSEL WORK DES		7,5	-	v
1h	TMR4137	SUST UTIL MAR RES		7,5	-	v
1h	TMR4170	MARINE STRUCTURES BC		7,5	-	v
1h	TMR4275	MOD/SIM/AN DYN SYST		7,5	o	v
1h	TMR4290	MAR ELECTR PROP SYST		7,5	o	v
1h	TMR4295	DES OF MECH SYST		7,5	o	-
		<b>Supplementary courses</b>	2			
1h	TI04120	OP RESEARCH INTRO		7,5	-	v
1h	TMR4125	SHIPBUILDING		7,5	-	v
1h	TMR4130	RISK ANALYSIS		7,5	-	v
1h	TMR4215	SEA LOADS		7,5	-	v
1h	TPK4160	VALUE CHAIN CONTROL		7,5	-	v
		<b>Compulsory courses at Delft</b>	3			
1v	MT044	NAVAL SHIP DESIGN		3,0	-	o
1v	MT113	DESIGN ADV VEHICLES		3,0	v	o
1v	MT218	MECHATRONIC MAR TECH		5,0	o	v
1v	MT313	SHIPPING MANAGEMENT		3,0	-	o
1v	MT525	MARINE PROP SYSTEMS		2,0	o	v
1v	MT713	MARINE ENGINEERING C		2,0	o	o
1v	WB4408A	DIESEL ENGINES A		4,0	o	-
1v	WB4408B	DIESEL ENGINES B		4,0	o	-
		<b>Optional courses at Delft</b>	3			

o = compulsory course

v = optional course

Ex 1h = Term 1, Exam Autumn

Ex 1v = Term 2, Exam Spring

According to their specialization the students will be assigned to an academic supervisor in the first or beginning of the second semester. The combination of courses must be approved by the programme. The courses are selected so that the total weighting each term amounts to 30 credits (Cr). The Department will give a list of optional subjects.

- 1) Optional courses need to be approved by the responsible professor for the specialization.
- 2) Courses are not considered when planning the teaching and examination schedules.
- 3) Information on the subjects, see <http://blackboard.tudelft.nl>. Altogether 30 ECTS pr. semester.

Specialization:

2 Marine Engineering

3 Marine Systems Design and Logistics

\*For students who choose the option Marine Systems Engineering and the main profiles Marine Engineering or Marine Systems Design and Logistics, there is an obligatory 6-months stay at TU Delft in the Netherlands in the second semester of the first year.

## FACULTY OF ENGINEERING SCIENCE AND TECHNOLOGY

### MSC-PROGRAMME IN MARINE TECHNOLOGY (MSN1)

Term 3 and 4

#### MARINE SYSTEMS ENGINEERING

Ex	Subject no.	Subject title	Note	Cr	Specialization			
					1	2	3	4
<b>Specialization courses</b>								
2h	TMR4535	MARINE MACHINERY SC		7,5	-	o	-	-
2h	TMR4555	OPER TECHN SC		7,5	o	-	-	-
2h	TMR4565	MAR SYST DESIGN SC		7,5	-	-	o	-
2h	TMR4575	FISH/MAR RES SC		7,5	-	-	-	o
<b>Specialization projects</b>								
2h	TMR4530	MARINE MACHINERY SP		7,5	-	o	-	-
2h	TMR4550	OPER TECHN SP		7,5	o	-	-	-
2h	TMR4560	MAR SYST DESIGN SP		7,5	-	-	o	-
2h	TMR4570	FISH/MAR RES SP		7,5	-	-	-	o
<b>Supplementary courses</b>								
			1					
2h	TEP4212	GAS CLEAN/EMISSION CONT		7,5	-	v	-	-
2h	TIØ4120	OP RESEARCH INTRO		7,5	v	-	-	v
2h	TIØ4130	OPT METHODS		7,5	-	-	v	-
2h	TMM4135	ANALYS/ASSESSMENT		7,5	-	v	-	-
2h	TMM4220	INNOV-WITHOUT LIMITS		7,5	v	-	-	-
2h	TMR4115	DESIGN METHODS		7,5	v	v	-	v
2h	TMR4125	SHIPBUILDING		7,5	v	v	v	v
2h	TMR4130	RISK ANALYSIS		7,5	-	-	v	-
2h	TMR4135	FISH VESSEL WORK DES		7,5	v	-	-	-
2h	TMR4137	SUST UTIL MAR RES		7,5	v	-	v	-
2h	TMR4190	FINITE ELEM METH		7,5	v	-	v	v
2h	TMR4200	FATIGUE/FRACTURE		7,5	v	-	v	-
2h	TMR4215	SEA LOADS		7,5	-	v	v	v
2h	TMR4275	MOD/SIM/AN DYN SYST		7,5	-	v	v	v
2h	TMR4290	MAR ELECTR PROP SYST		7,5	-	v	v	v
2h	TPK4160	VALUE CHAIN CONTROL		7,5	-	-	v	v
2h	TPK5100	PROJ PLAN/CONTR		7,5	v	-	v	v
2h	TTK4115	LIN SYST THEORY		7,5	-	v	-	-
2h	TTT4175	MARINE ACOUSTICS		7,5	-	-	-	v
2h	TVM4162	INDUSTRIAL ECOLOGY		7,5	-	-	-	v
<b>Master Thesis</b>								
2v	TMR4905	MARINE SYST		30,0	o	o	o	o

o = compulsory course

v = optional course

Ex 2h = Term 3, Exam Autumn

Ex 2v = Term 4, Master Thesis Spring

According to their specialization the students will be assigned to an academic supervisor in the first or beginning of the second semester. The combination of courses must be approved by the programme. The courses are selected so that the total weighting each term amounts to 30 credits (Cr).

1) Select two supplementary courses. Courses are not considered when planning the teaching and examination schedules.

Specialization:

1 Technical Operation of Marine Systems

2 Marine Engineering

3 Marine Systems Design and Logistics

4 Fisheries and Marine Resources

## FACULTY OF ENGINEERING SCIENCE AND TECHNOLOGY

### MSC-PROGRAMME IN MARINE TECHNOLOGY (MSN1)

Term 1, 2, 3 and 4

NAUTICAL SCIENCE

No admittance 2012/13

Ex	Subject no.	Subject title	Note	Cr
		<b>Compulsory courses</b>		
1h	TMA4120	CALCULUS 4K	1	7,5
1h	TMR4215	SEA LOADS		7,5
1h	TMR5230	NAUTICAL SCIENCE BC		7,5
1h	TTT4175	MAR ACOUSTICS		7,5
1v	-	EXP IN TEAM INT PROJ		7,5
1v	TMR4182	MARINE DYNAMICS	1	7,5
1v	TTT4150	NAVIGATION SYSTEMS		7,5
		<b>Optional courses</b>		
1v	TMR4217	HYDRO HIGH-SPEED VEH	2	7,5
1v	TMR4220	NAVAL HYDRODYNAMICS	2	7,5
1v	TMR4225	MARINE OPERATIONS		7,5
1v	TMR4230	OCEANOGRAPHY		7,5
1v	TMR4240	MARINE CONTROL SYST	3	7,5
1v	TTK4105	CONTROL SYSTEMS	4	7,5
1v	TTK4190	GUIDANCE AND CONTROL	2	7,5
		<b>Compulsory courses</b>		
2h	TMR5240	NAUTICAL SCIENCE AC		7,5
2h	TMR5250	NAUTICAL SCIENCE PRO		7,5
2h	TMR5260	NAUTICAL SCIENCE SC		7,5
		<b>Optional courses</b>		
2h	TMR4130	RISK ANALYSIS		7,5
2h	TMR4235	STOCH THEORY SEALOAD		7,5
		<b>Master Thesis</b>		
2v	TMR4925	NAUTICAL SCIENCE		30,0

o = Compulsory course

v = Optional course

Ex 1h = Term 1, Exam Autumn

Ex 1v = Term 2, Exam Spring

Ex 2h = Term 3, Exam Autumn

Ex 2v = Term 4, Master Thesis Spring

The courses have to be selected so that the total weighting each term amounts to 30 creditis (Cr).

- 1) Compulsory course for students without the equivalent background.
- 2) The course is not considered when planning the teaching and examination schedules.
- 3) TTK4105 or equivalent is necessary background for TMR4240.
- 4) It is recommended to study this course in parallel to TMR4240.