

Semester	Study track: Ocean Structures	ECTS
	Students start: Aalto	
	Prerequisite: BSc Mechanical Engineering or Naval Architecture	
1 Autumn Aalto (2019)	MEC-E1003 Principles of Naval Architecture, Period I-II	5
	MEC-E1001 Mechanical Engineering in Society, Period I-II	5
	MEC-E1002 Mechanical Engineering Project (Mar. tech. track), P. I-IV	5
	MEC-E2001 Ship hydrodynamics, Period II	5
	MEC-E2002 Ship buoyancy and stability, Period II	5
	*Language studies/Scientific methodology	
	Electives (check pre-requisites for each course):	10-15
	MEC-E2009 Marine risks and safety, Period I	(5)
	MEC-E1030 Random loads and processes, Period I	(5)
	MEC-E1020 Fluid dynamics, Period I	(5)
	MEC-E2010 Computational fluid modelling, Period I**	(5)
	MEC-E4003 Ice mechanics; Period I	(5)
	MEC-E8004 Fatigue and fracture of structures, Period I	(5)
	Kul-24.4710 Analysis of large complex structures, Period II**	(5)
MEC-E1050 Finite element method in solids, Period II***	(5)	
MEC-E1040 Dynamics of structures, Period II	(5)	
MEC-E4004 Model-scale testing in ice, Period II**	(5)	
MEC-E2003 Passenger ships, Period II	(5)	
MEC-E2012 Computational marine hydrodynamics, Period II**	(5)	
2 Spring Aalto (2020)	MEC-E1002 Mechanical engineering project (Mar. tech. track), P. I-IV	5 (10)
	MEC-E2004 Ship dynamics, Period III	5
	MEC-E2007 Ship structures and construction, Period IV	5
	MEC-E2005 Ship systems, Period IV	5
	*Language studies/Scientific methodology	5
	Electives (check pre-requisites for each course):	5-10
MEC-E8001 Finite element analysis, Period III**	(5)	
MEC-E4001 Winter navigation, Period III	(5)	
MEC-E4002 Ice Loads on structures, Period IV**	(5)	
3 Autumn NTNU (2019/ 2020)	TMR4500 Ocean structures - specialization project	7.5
	TMR4505 Specialization courses – modules, select two of:	7.5
	- Structural analysis	
	- Dynamic analysis of marine structures	
	- Ship design for ice operations	
	- Experimental methods in hydrodynamics	
	- Integrated analysis of offshore wind turbines	
	Electives (choose two):	15.0
	TMR4195 Design of offshore structures (exam spring ****)	(7.5)
	TMR4190 Finite element methods in structural analysis ***	(7.5)
TMR4305 Advanced analysis of marine structures	(7.5)	
TMR4130 Risk analysis and safety management in marine transport	(7.5)	
TMR4200 Fatigue and fracture of marine structures	(7.5)	
TMR4235 Stochastic theory of sea loads	(7.5)	
TMR4215 Sea loads	(7.5)	
4 Spring NTNU (2020/1)	Master Thesis, NTNU	30

* Courses: “Kie-98.1500 Thesis writing”, “Kie-98.1503 Conference talk”, “Kie-98.1700 Integrated course in English” should be taken either during the autumn or spring semester.

** Prerequisites must be checked based on earlier studies.

*** Only one of the courses MEC-E1050 and TMR4190.

**** Exam for this course will be arranged in the exam period during the spring semester.
5 August 2019 Note: Modifications and corrections to this table may be issued without prior notice.