Interdisciplinary Program in Marine Engineering - Program of Courses

A graduate student in the MSc Thesis Program or the ME program will be required to take at least 11 credits from the courses in List A, which will include:

The compulsory course from list A-1 Introduction to Ocean Engineering;

At least a single course from each of two different disciplines of the three lists: A-2 Fluid Mechanics, A-3 Structural, A-4 Information Sciences;

At least a single course from the list A-5 Math courses.

A graduate student in the ME Program (with no thesis) will be required to take a seminar/project from the list A-ME.

The remaining courses, for completion of the required credits (20 for MSc and 40 for ME), will be taken from the Lists A and B.

A student will be allowed to take 2 elective courses that are not from List B upon approval by his supervisor and the Program Committee.

List A- Compulsory Courses

Classification	Number	Faculty	Course Name	Credits	Comments
A-1 General		IDP	Introduction to Ocean Engineering	2.0	new course
A-2 Fluids	016210	Civil	Water Waves	2.5	
	036044	Mechanical	Analytical Fluid Mechanics	3.0	
A-3 Structures	036005	Mechanical	Analytical Dynamics	3.0	
	036027	Mechanical	Dynamics of Marine Structures	3.0	
A-4 Information	046201	Electrical	Intro. Random Signals Processes in Computer Vision	3.0	
	046746	Electrical	Algorithms and Applications	3.0	parallel 236873
	236327	Computer	Digital and Signal Processing	3.0	
	236873	Computer	Computer Vision	3.0	
A-5 Math	036001	Mechanical	Analytical Methods 1	4.0	parallel 088103
	036002	Mechanical	Analytical Methods 2	3.0	parallel 088104
	046197	Electrical	Comp. Methods in Optimization	3.0	
	088103	Aerospace	Applied Math 1	3.0	
	088104	Aerospace	Applied Math 2	3.0	
	198002	Math	Asymptotic Methods 2	3.0	
A-ME Projects	018310	Civil	Adv. Sem. in Environmental Eng.	5.0	
	038789	Mechanical	Adv. Sem. in Mechanical Eng.	5.0	

	088785	Aerospace	Final Project in Aerospace Eng.	6.0	

List B – Elective Courses

Number	Faculty	Course Name	Credits	Comments
016206	Civil	Environmental Fluid Mechanics	3.0	
016208	Civil	Marine Engineering	2.5	Water Waves knowledge essential
016209	Civil	Port and Coastal Engineering	2.5	
018222	Civil	Ocean Waves – From theory to Experiments	3.0	One Week Eilat
036007	Mechanical	Vibrations of Structures	3.0	
036012	Mechanical	Linear Control Systems	3.0	Parallel 048912
036015	Mechanical	Finite Element Methods 1	3.0	Parallel 086574
036039	Mechanical	Control of Structures and Mechanical Systems	3.0	
036047	Mechanical	Estimation of Stochastic Processes	3.0	Parallel 048825
036050	Mechanical	Nonlinear Control Systems	3.0	Parallel 046196
038504	Mechanical	Viscous Flow	2.0	
038782	Mechanical	Computational Fluid Dynamics	3.0	Parallel 086172
046042	Electrical	Introduction to power systems and smart grids	3.5	Parallel 044195
046195	Electrical	Machine Learning	3.0	
046242	Electrical	Statistics Physics for Electrical Engineering	3.0	Parallel 114016
046249	Electrical	Electro Optic Systems	3.0	
046256	Electrical	Antennas and Radiation	3.0	
046743	Electrical	Spatial Signal Processing	3.0	
046968	Electrical	Micromachining & Microelectromechanical Systems	3.0	
048860	Electrical	Image Processing	2.0	Parallel 236327
048823	Electrical	Analytical methods in wave theory 1	2.0	
048954	Electrical	Statistical methods in image processing	2.0	
048979	Electrical	Selected Topics Probability and Stochastic Processes	2.0	
049058	Electrical	Machine Learning for Complex Problems	2.0	
049062	Electrical	Three-Dimensional Imaging and Reconstruction	2.0	Parallel 048972
086389	Aerospace	Aerodynamics of Wings and Bodies	3.0	
086390	Aerospace	Int. Aeroacoustics	3.0	
086574	Aerospace	Finite Elements in Aerospace Engineering	3.0	Parallel 036015
086755	Aerospace	Automatic Control of Flight Vehicles	3.0	
086761	Aerospace	Vision-Aided Navigation	3.0	
088320	Aerospace	Aerodynamics of Propulsion in Nature	3.0	
207953	Architecture	Coastal zone management	3.0	
236604	Computer	Advanced Topics in Computer Science	2.0	
236861	Computer	Geometric Computer Vision	3.0	

IDP – Inter Disciplinary Program