

Computer Science Engineering MSc

	Subject name and Neptun code	Institute of	1st sem. Fall	2nd sem. Spring	3rd sem. Fall	4th sem. Spring	cr.	
Natural Science 25-30 cr.	1. Discrete Mathematics and Applications (GEMAN383-Ma)	Mathematics	2 + 2				5	exam
	2. Numerical Methods and Optimization (GEMAK116-Ma)	Mathematics	2 + 2				5	exam
	3. Information Theory and Cryptography (GEMAK126-Ma)	Mathematics		2 + 2			5	term mark
	4. Enterprise Application Integration (GEIAK682-Ma)	Information Science		2 + 2			5	exam
	5. Theory of Error-Correcting Codes (GEMAN533-Ma)	Mathematics		2 + 2			5	exam
Economics and Social Science 10-20 cr.	1. Environmental Management (GEVGT301-Ma)	Energy Engineering and Chemical Machinery	2 + 1				5	term mark
	2. Project Management (GTVSM7003M) or Innovation Management for Engineers (MAKMKT530N)	Fac. of Economics or Fac. of Mat. Sci. & Eng.	2 + 1				5	term mark
Professional Subjects 10-30 cr.	1. Architectures and Embedded Systems (GEVAU218-Ma)	Automation and Communication Technology	2 + 2				5	term mark
	2. Operation Systems and Networks (GEIAL501-Ma)	Information Science	2 + 2				5	exam
	3. Modern Database Systems (GEIAL521G-Ma)	Information Science		2 + 2			5	exam
	4. Geometric Modelling and its applications (GEAGT232-Ma)	Mathematics		2 + 2			5	exam
	5. Software Engineering (GEIAL511-Ma)	Information Science		2 + 2			5	term mark
Specialization 10-30 cr.	1. Development of Distributed Systems (GEIAL519-Ma)	Information Science			2 + 2		5	exam
	2. Integrated Software Systems and Testing (GEIAL51C-Ma)	Information Science				2 + 2	5	exam
	3. Data Analysis and Data Mining (GEIAL526V-Ma)	Information Science			2 + 2		5	term mark
	4. Software System Security (GEIAK647-Ma)	Information Science				2 + 2	4	term mark
	5. Mobile and IoT Application Development (GEIAL51D-Ma) or Applied Machine Learning (GEIAK631-Ma)	Information Science				2 + 2	4	exam
Summer Internship*	Summer Internship (GEIAL533-Ma)	Information Science			*		0	term mark
Thesis work I Thesis work II 30 cr.	Thesis work I (GEIAL535-Ma)	Information Science			0 + 10		15	term mark
	Thesis work II (GEIAL536-Ma)	Information Science				0 + 10	15	term mark
optional 1 (e.g. Physical Basis of Information Technology)						2 + 0	2	term mark
optional 2 (Technical English)					2 + 2		5	term mark
cr/sem.			30	30	30	30	120	

* Summer Internship (0 cr.) - Obligatory: minimum of 6 weeks, preferably after the 2nd semester