

**Computer Science Engineering MSc curriculum from September 2020**

	Subject name and Neptun code	Institute of	1st sem. Fall		2nd sem. Spring		3rd sem. Fall		4th sem. Spring		credit	requirements
			lecture	practical course	lecture	practical course	lecture	practical course	lecture	practical course		
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 (GTVSM7003ML) 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 (GEIAL521-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 (GEIAL526-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
<b>cr/sem.</b>				<b>30</b>		<b>30</b>		<b>30</b>		<b>30</b>	<b>120</b>	

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