

Study Programme

Academic year 2023-2024

Faculty of Engineering and Architecture Master of Science in Computer Science Engineering

Language of instruction: English Programme version 9

1 General Courses			60	credits				
Nr Course	CRDT Ref	MT1	Session	Study				
1 E034140 Parallel Computer Systems Lieven Eeckhout Department of Electronics and Information Systems	6	1	A:1	180				
2 E017930 Parallel and Distributed Software Systems Jan Fostier Department of Information Technology	6	1	A:1	180				
3 E017920 Design of Multimedia Applications Glenn Van Wallendael Department of Electronics and Information Systems	6	1	A:2	180				
4 E031710 Research Project Joris Walraevens Department of Telecommunications and Information Processing	3	1	A:1	90				
5 E033710 Design Project Femke De Backere Department of Information Technology	9	1	A:J	270				
6 E012320 Mobile and Broadband Access Networks Mario Pickavet Department of Information Technology	6	1	B:2	180				
7 E003600 Information Theory Heidi Steendam Department of Telecommunications and Information Processing	6	1	B:2	180				
8 E011322 Queueing Analysis and Simulation Joris Walraevens Department of Telecommunications and Information Processing	6	1	A:1	180				
9 E061330 Machine Learning Joni Dambre Department of Electronics and Information Systems	6	1	B:1	180				
10 E019400 Information Security Eric Laermans Department of Information Technology	6	1	B:2	180				
2 Elective Courses			36	credits				
Subscribe to 36 credit units from 1 elective path from the following list. Subject to appr 2.1 Elective Path 1	roval by the faculty.		36	credits				
Subscribe to 36 credit units from no less than 1 and no more than 3 modules (2.1.1, 2 approval by the faculty.	.1.2, 2.1.3) from the follo	owing list. Sub	ject to					
2.1.1 Major, minor	e fecultu		18	8 credits				
Subscribe to at least 1 major or minor from the following list. Subject to approval by th Students can combine two majors of combine a major with a minor. A combination of		d.		credits				
2.1.1.1 Major Artificial Intelligence								

Subscribe to no less than 18 credit units from the following list, with no less than 12 credit units with reference a. Subject to approval by the faculty.

Nr			CRDT	Ref	MT1	Session	Study	
1	E061360	Reinforcement Learning	6	а			180	
2	E061341	Natural Language Processing Thomas Demeester Department of Information Technology	6	а		A:2	180	
3	E018230	Recommender Systems Toon De Pessemier Department of Information Technology	6	а		A:2	180	
4	E061350	Deep Generative Models Bart Dhoedt Department of Information Technology	4	а		A:2	120	
5	E016340	Probabilistic Graphical Models Aleksandra Pizurica Department of Telecommunications and Information Processing	4	а		A:2	120	
40	00 0005	10.10						

6 66/64/60 Computer Vision: Theory and Applications 6 a 180 7 E013200 Attal 180 8 E0131800 Attal 90 9 E0131800 Attal 90 10 E013200 Big Data Technology Attal 90 11 E013200 Big Data Technology Attal 90 12 E003710 Game Theory and Multilagent Systems 6 Attal 90 12 E003700 Game Theory and Multilagent Systems 6 Attal 90 14 E013200 Specific Processing Attal 90 14 100 90 14 E013200 Cognitive and Paral-Inspired Attrictal Intelligence 3 Attal 90 14 100 10 100 10 100 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10				0			400
B Evaluation Processing All Space 8 Evaluation All Space All Space 9 Evaluation All Space All Space 10 Evaluation Space All Space All Space 11 Evaluation Space All Space All Space 12 Evaluation Space All Space All Space 13 Evaluation Space All All All Space 14 Evaluation Common Multiligence All All All All 12 Evaluation Common Multiligence All All </td <td>6</td> <td></td> <td></td> <td>6</td> <td>а</td> <td></td> <td>180</td>	6			6	а		180
Part Exercision Data Visualization for and with All All 90 10 Evel 8240 Big Deta Technology 4 All 120 11 Evel 8240 Big Deta Technology 4 All 120 12 Evel 8240 Big Deta Technology 4 All 120 12 Evel 8240 Comparity on the technology 4 All 120 13 Evel 8250 Comparity on the technology 4 All 120 14 Evel 8250 Comparity on the technology 4 All 200 14 Evel 8250 Comparity on the technology 4 All 200 14 Evel 8200 Comparity on the technology 4 a All 200 14 Evel 810 Database Design [n] Evel 810 Database Design [n] Evel 810 Res avel 8100 Res avel 8100 Res avel 8100<	7	E019370		6		A:1	180
ethic tigs ethic tigs ethic tigs 10 E018240 Big Data Tochnology Date for NW - Department of Tecnological can Minipulation Systems 4 A.1 100 11 E018700 Data Countly Date for NW - Department of Tecnological scale Minipulation Systems 6 A.1 180 12 E003710 Game Theory and Multilegent Systems and Minipulation Foreessing 6 A.1 180 13 E016360 Cognitive and Brain-Inspired Artificial Intelligence 3 90 14 E010220 Speech Processing Minipulation of Minipulation Systems A.2 120 2.1.1.2 Major Data Englineering 18 credits Subscript to approval by the latter to a set Minipulation Systems 1 E01810 Database Design [01] Subscript to approval by the latter to a set Minipulation Systems 1 120 2 E018240 Big Data Tachnology and Processing 3 A.1 120 3 E017310 Cloud Storage and Computing 4 a A.1 90 5 E034105 Bioochabase Subscript to sub Minipulation Systems <td>8</td> <td>E031800</td> <td></td> <td>3</td> <td></td> <td>A:1</td> <td>90</td>	8	E031800		3		A:1	90
Interform Exercise University 3 An1 90 12 E003710 Game Theory and Multilegent Systems and Information Processing 6 An1 180 13 E016380 Cognitive and Brain-Inspired Artificial Intelligence 3 90 14 E016380 Cognitive and Brain-Inspired Artificial Intelligence 3 90 14 E016380 Cognitive and Brain-Inspired Artificial Intelligence 3 90 2.1.2 Mainter B credit units (and Information Systems 7 18 Extended to the State	9	E061370		3		A:1	90
1-2 EXPRETATION Processing 6 A:1 10 1-3 EXPRETATION Properties and information Processing 3 50 1-4 EXPRETATION Processing 4 A2 10 2-1.1.2 Major Data Engineering 10 EXPRETATION Processing 10 10 EXPRETATION Processing 10	10	E018240		4		A:1	120
12 E003710 Game Theory and Multiagent Systems 6 A:1 180 13 E016300 Cognitive and Brain-Inspired Attrifical Intelligence 3 90 14 E010220 Speech Processing 4 A:2 120 2 1.1.2. Million Data Engineering 18 Control Sector 18 2 E018200 Data Engineering 18 Control Contro Contro Contro	11	E018700	•	3		A:1	90
14 E010220 Speech Processing full creations and information Systems 4 A2 120 2.1.1.2 Major Data Engineering 18 credits Subscripts to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Note that the following list, with 12 credit units with reference a. Subject to approval by the faculty. 1 E016810 Database Design [n] 4 a A:1 120 2 E018240 Big Data Technology 4 a A:1 120 4 E018200 Big Data Technology 4 a A:1 120 4 E018200 Big Data Technology 4 a A:1 120 5 E017310 Cloud Storage and Computing technology 4 a A:2 120 6 E016200 Data Cuality 3 A:1 90 90 5 5 14 90 7 E018130 NoSQLL Databases 3 A:1 90 90 15 16 90 6 E016700 Data Cuality 3 A:1 90 16 90 <td>12</td> <td>E003710</td> <td></td> <td>6</td> <td></td> <td>A:1</td> <td>180</td>	12	E003710		6		A:1	180
Nis Desured - Department of Electronics and Information Systems 1 18 credits Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. 2010 1 2018	13	E016360	Cognitive and Brain-Inspired Artificial Intelligence	3			90
Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. N Focuses CRDT Ref M1 Section Studys 1 E018610 Databases Design [nt] 4 a A:1 120 2 E018240 Big Data Technology 4 a A:1 120 3 E017310 Cloud Storage and Computing 4 a A:1 120 4 E018240 Big Data Technologies and Apprittement of Internation Fectoality 4 a A:1 90 5 E017310 Cloud Storage and Computing 4 a A:2 120 6 E018200 Big Data Algorithms 3 A:1 90 6 E018700 Data Quality A:1 90 A:1 90 7 E018130 NoSQL Databases 3 A:2 90 8 E018160 Knowledge Graphs 3 A:1 90 9 Eo61370 Data Visualization for and windom	14	E010220		4		A:2	120
Nr. Course CRDT Ref M11 Seesion Study 1 E018610 Database Design [n1] Gry De Tré - Department of Telecommunications and Information Processing 4 a A:1 120 2 E018240 Big Data Technology Det ré - Department of Electronics and Information Systems 4 a A:1 120 3 E01730 Cloud Storage and Computing Brane Mickaet - Department of Electronics and Information Systems 4 a A:2 120 4 E018250 Big Data Algorithms 3 90 5 5034150 5 504150 90 5 E034150 Bio Chach and Technologies and Applications Brane & Store - Department of Electronics and Information Systems 3 A:1 90 6 E018700 Data Quality Action Browsteier - Department of Electronics and Information Systems 3 A:2 90 8 E018160 Knowledge Graphs Action Browsteier - Department of Electronics and Information Systems 3 A:1 90 9 E061700 Data Visualization for and with Al Action Browsteier - Department of Electronics and Information Systems 3	2.1	I.1.2 Major	Data Engineering			18	3 credits
Nr. Course CRDT Ref MT1 Seesion Study 1 E018610 Database Design [n1] Gry De Tré - Department of Telecommunications and Information Processing 4 a A:1 120 2 E018240 Big Data Technology Det ré - Department of Electronics and Information Systems 4 a A:1 120 3 E01730 Cloud Storage and Computing Brane Wickett - Department of Information Echoalogy 4 a A:2 120 4 E018250 Big Data Algorithms 3 90 5 504150 3 41 90 5 E034150 Biockchain Technologies and Applications Brane Bestrer - Department of Electronics and Information Systems 3 A:1 90 6 E018700 Data Quality Action Browsteier - Department of Electronics and Information Systems 3 A:2 90 8 E018160 Knowledge Graphs Action Browsteier - Department of Electronics and Information Systems 3 A:1 90 9 E061700 Data Visualization for and with Al Action Browsteier - Department of Electronics and Information Systems 3 A:1	Su	bscribe to no	less than 18 credit units from the following list, with 12 credit units with	n reference a Sub	iect to :		
by be Te - Department of Telecommunications and Information Systems 4 a A:1 120 2 E018240 Big Data Technology Berure Vettier - Department of Electronics and Information Systems 4 a A:1 120 3 E017310 Cloud Storage and Computing Brune Vettaer - Department of Electronics and Information Systems 3 A:1 90 4 E018250 Big Data Algorithms 3 A:1 90 5 E034150 Blockchain Technologies and Applications Berun Vettaer - Department of Electronics and Information Processing 3 A:1 90 7 E018130 NoSQL Databases Anton Tronseater - Department of Electronics and Information Processing 3 A:2 90 8 E018100 Knowledge Graphs Preter Calper - Department of Electronics and Information Systems 3 A:1 90 2 E01370 Data Visualization for and with AI 3 A:1 90 8 E01370 Data Visualization for and with AI 3 A:1 180 1 E013742 Software Hacking and Protection Bero Desother of Electronics and Information Systems							Study
Differ De Witte - Department of Electronics and Information Systems 120 1 E017310 Cloud Storage and Computing memole Networks 90 2 E018250 Big Data Algorithms 3 90 5 E034150 Biockchain Technologies and Applications Systems 3 A:1 90 6 E018700 Data Quality Algorithms 3 A:1 90 7 E018130 NoSQL Databases Algorithms and Information Processing Altoron Brosselier Department of Telecommunications Systems Altor Protection Altor Protection Altor Protection Alter Altor Altor Protection Alter Altor Altor Department of Telecommunications and Information Systems Altor Department of Telecomics and Information Systems Altor Department of Electronics and Information Systems Altor Department of Telecomics and Information Systems Altor Department of Telecomi	1	E018610		4	а	A:1	120
Burna Valckaert - Department of Information Technology 90 Image: E018250 Big Data Algorithms 3 90 E018250 Blockchain Technologies and Applications ginar De Sutter - Department of Electronics and Information Systems 3 A:1 90 E018700 Data Quality Anton Branseber - Department of Electronics and Information Processing Anton Branseber - Department of Telecommunications and Information Processing 3 A:2 90 Image: E018100 NoSOL Databases Anton Branseber - Department of Telecommunications and Information Processing Anton Branseber - Department of Telecommunications and Information Processing 3 A:2 90 Image: E018100 NoSOL Data Visualization for and with Al Jetry Liftiff - Department of Electronics and Information Systems 3 A:1 90 Image: E017902 Data Visualization for and with Al Jetry Liftiff - Department of Electronics and Information Systems 3 A:1 180 Subscribe to 18 credit units from the following list. Subject to approval by the faculty. The Course 1 180 Image: E017950 Secure Software And Systems Bart Coppers - Department of Electronics and Information Systems 6 A:1 180 Image: E017950 Secure Software and Systems Bart Coppers - Department of Electronics and Information Systems 1 180	2	E018240		4	а	A:1	120
5 E034150 Blockchain Technologies and Applications 3 A:1 90 6 E018700 Data Quality 3 A:1 90 7 E018130 NOSQL Databases 3 A:2 90 8 E018100 NosQL Databases 3 A:2 90 9 E061370 Data Vusualization for and with Al 3 A:1 90 9 E061370 Data Vusualization for and with Al 3 A:1 90 2.1.1.3 Major Cybersecurity 18 Eredits Subscribe to 18 credit units from the following list. Subject to approval by the faculty. Nr Scource CRDT Ref MT1 Session Study 1 E017950 Secure Software Hacking and Protection all information Systems 6 A:1 180 2 E017950 Secure Software and Systems 6 A:2, B:2 180 2 E017950 Secure Software and Systems 6 A:2, B:2 180 2 E017950 Secure Software and Information Systems 6 a A:1 180 2 E01795	3	E017310		4	а	A:2	120
Byon be Sutter Department of Electronics and Information Systems 3 A:1 90 6 E018700 Data Quality 3 A:1 90 7 E018130 NOSQL Databases 3 A:2 90 8 E018160 Knowledge Graphs 3 A:2 90 9 E061370 Data Visualization for and with Al 3 A:1 90 2.1.1.3 Major Cybersecurity 18 CreDits Subscribe to 18 credit units from the following list. Subject to approval by the faculty. Nr.1 180 PICTP942 Software Hacking and Protection Biornation Systems 6 A:1 180 2 E017942 Software Hacking and Information Systems 6 A:1 180 2 E017950 Secure Software Hacking and Protection Biorn Biornation Systems 6 A:2, B:2 180 2 E017950 Secure Software and Systems Biorn Desuter Department of Electronics and Information Systems 6 A:2, B:2 180 2 E017950 Secure Software and Systems Biorn Desuter Department of Electronics and Information Systems 6 A:1 180 2 E0	4	E018250	Big Data Algorithms	3			90
Antoon Bronselaer Department of Telecommunications and Information Processing 3 A:2 90 7 E018130 NSQL Databases Antoon Bronselaer Department of Telecommunications and Information Processing 3 A:2 90 8 E018160 Knowledge Graphs Peter Clapert Department of Electronics and Information Systems 3 A:2 90 9 E061370 Data Visualization for and with Al Jetrey Liftigt Department of Electronics and Information Systems 3 A:1 90 2.1.1.3 Major Cybersecurity 18 Credits 18 Credits Subscribe to 18 credit units from the following list. Subject to approval by the faculty. Nr Course Nr Course A:2 18 2 E017952 Software Hacking and Protection Bart Cappers Department of Electronics and Information Systems 6 A:2 18 3 E008710 Network Security 6 180 1 18 2.1.1.4 Major Internet-of-Things / Robotics 18 Credits 18 18 3 E008710 Network Security 6 a A:1 180 2.1.1.4 Major Internet-of-Things / Robotics Ref <	5	E034150		3		A:1	90
Anton Branslear - Department of Telecommunications and Information Processing 3 A:2 90 8 E018160 Knowledge Graphs Pieter Colpaert - Department of Electronics and Information Systems 3 A:1 90 9 E061370 Data Visualization for and with Al Jetrey Liffigt - Department of Electronics and Information Systems 3 A:1 90 2.1.1.3 Major Cybersecurity 18 credits Subscribe to 18 credit units from the following list. Subject to approval by the faculty. Nr Course 1 E017942 Software Hacking and Protection Biorn De Sutter - Department of Electronics and Information Systems 6 A:1 180 2 E017950 Secure Software and Systems Bart Coppens -: Department of Electronics and Information Systems 6 A:2, B:2 180 3 E008710 Network Security 6 180 11.1.4 Major Intermet-of-Things / Robotics 18 credits Subacribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course Ref M1 Session CRDT Ref M1 Session <t< td=""><td>6</td><td>E018700</td><td>•</td><td>3</td><td></td><td>A:1</td><td>90</td></t<>	6	E018700	•	3		A:1	90
Preter Colgaant + - Department of Electronics and Information Systems 9 E061370 Data Visualization for and with Al Jerley Lifftijt - Department of Electronics and Information Systems 3 A:1 90 2.1.1.3 Major Cybersecurity 18 credits CRDT Ref MT1 Session Study Networks 1 E017942 Software Hacking and Protection Bigin De Sutter Department of Electronics and Information Systems 6 A:1 180 2 E017950 Secure Software and Systems Bart Coppens Department of Electronics and Information Systems 6 A:2, B:2 180 3 E008710 Network Security 6 A:2, B:2 180 2.1.1.4 Major Internet-of-Things / Robotics 18 credits Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRDT Ref MT1 Session Network Security 6 a A:2, B:2 180 2.1000000000000000000000000000000000000	7	E018130		3		A:2	90
Jetrey Liftigit - Department of Electronics and Information Systems 18 credits Subscribe to 18 credit units from the following list. Subject to approval by the faculty. Nr Course CRDT Ref M1 Session Study 1 E017942 Software Hacking and Protection Biorn De Sutter Department of Electronics and Information Systems 6 A:1 180 2 E017950 Secure Software and Systems Bart Coppens Department of Electronics and Information Systems 6 A:2, B:2 180 3 E008710 Network Security 6 180 c1.1.4 Major Major 18 credits Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRDT Ref M1 Session Study Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRDT Ref M1 Session Course Ref M1 Session <t< td=""><td>8</td><td>E018160</td><td></td><td>3</td><td></td><td>A:2</td><td>90</td></t<>	8	E018160		3		A:2	90
Subscribe to 18 credit units from the following list. Subject to approval by the faculty.In CourseCRDTRefMT1SessionStudy1E017942Software Hacking and Protection Bjorn De Sutter - Department of Electronics and Information Systems6A:11802E017950Secure Software and Systems Bart Coppens Department of Electronics and Information Systems6A:2, B:21803E008710Network Security618credits3E008710Network Security618credits2.1.1.4Major Internet-of-Things / Robotics18creditsStudy3E008710Network Security6aA:14E019370Robotics Tony Belpaeme Department of Electronics and Information Systems6aA:12E019170Internet of Things Leroen Hoebeke Department of Electronics and Information Systems6aA:12E019170Internet of Things Leroen Hoebeke Department of Electronics and Information Systems6aA:11803E003422Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing6A:11804E061670Autonomous Vehicle Perception3A:1905E019380Intelligent Robot Manipulation3A:190	9	E061370		3		A:1	90
Nr CourseCRDTRefMT1SessionStudy1E017942Software Hacking and Protection Blom De Sutter Department of Electronics and Information Systems6A:11802E017950Secure Software and Systems Bart Coppens Department of Electronics and Information Systems6A:2, B:21803E008710Network Security61801802.1.1.4Major Internet-of-Things / Robotics18 creditsSubscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr CourseRefMT1SessionStudy1E019370Robotics Tony Belpaeme Department of Electronics and Information Systems6aA:11802E019170Internet of Things Jeroen Hoebeke Department of Electronics and Information Systems6aA:11803E003422Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing6A:11804E061670Autonomous Vehicle Perception3A:1905E019380Intelligent Robot Manipulation3A:190	2.1	I.1.3 Major	Cybersecurity			18	3 credits
Nr CourseCRDTRefMT1SessionStudy1E017942Software Hacking and Protection Blom De Sutter Department of Electronics and Information Systems6A:11802E017950Secure Software and Systems Bart Coppens Department of Electronics and Information Systems6A:2, B:21803E008710Network Security61801802.1.1.4Major Internet-of-Things / Robotics18 creditsSubscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr CourseRefMT1SessionStudy1E019370Robotics Tony Belpaeme Department of Electronics and Information Systems6aA:11802E019170Internet of Things Jeroen Hoebeke Department of Electronics and Information Systems6aA:11803E003422Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing6A:11804E061670Autonomous Vehicle Perception3A:1905E019380Intelligent Robot Manipulation3A:190	Su	bscribe to 18	credit units from the following list. Subject to approval by the faculty.				
Biorn De Sutter Department of Electronics and Information Systems 6 A:2, B:2 180 2 E017950 Secure Software and Systems and Information Systems 6 180 3 E008710 Network Security 6 180 2.1.1.4 Major Iternet-of-Things / Robotics 180 Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRD Ref M1 Session Study 1 E019370 Robotics 6 a A:1 180 2 E019170 Internet of Things A:1 180 180 Jeroen Hoebeke Department of Electronics and Information Systems 2 E019170 Internet of Things A:1 180 Jeroen Hoebeke Department of Information Technology 3 E003422 Fundamentals of Statistical Sensor Processing A:1 180 Jeroen Hoebeke Department of Telecommunications and Information Processing 4 E061670 Autonomous Vehicle Perception 3 A:1 90 <td< td=""><td></td><td>Course</td><td></td><td>CRDT</td><td>Ref</td><td></td><td></td></td<>		Course		CRDT	Ref		
Bart Coppers Department of Electronics and Information Systems 6 180 3 E008710 Network Security 6 180 2.1.1.4 Major Internet-of-Things / Robotics 18 credits Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRDT Ref MT1 Session Study 1 E019370 Robotics Tony Belpaeme - Department of Electronics and Information Systems 6 a A:1 180 2 E019170 Internet of Things Jeron Hoebeke - Department of Information Technology 6 a A:1 180 3 E003422 Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing 6 a A:1 180 4 E061670 Autonomous Vehicle Perception 3 A:1 90 5 E019380 Intelligent Robot Manipulation 3 A:1 90	1	E017942	-	6		A:1	180
2.1.1.4 Major Internet-of-Things / Robotics 18 credits Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRDT Ref MT1 Session Study 1 E019370 Robotics Tony Belpaeme Department of Electronics and Information Systems 6 a A:1 180 2 E019170 Internet of Things Jeroen Hoebeke Department of Information Technology 6 a A:1 180 3 E003422 Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing 6 A:1 180 4 E061670 Autonomous Vehicle Perception 3 90 5 E019380 Intelligent Robot Manipulation 3 A:1 90	2	E017950	-	6		A:2, B:2	180
Subscribe to no less than 18 credit units from the following list, with 12 credit units with reference a. Subject to approval by the faculty. Nr Course CRDT Ref MT1 Session Study 1 E019370 Robotics Tony Belpaeme Department of Electronics and Information Systems 6 a A:1 180 2 E019170 Internet of Things Jeroen Hoebeke Department of Information Technology 6 a A:1 180 3 E003422 Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing 6 A A:1 180 4 E061670 Autonomous Vehicle Perception 3 90 90 90 5 E019380 Intelligent Robot Manipulation 3 A:1 90	3	E008710	Network Security	6			180
Nr CourseCRDTRefMT1SessionStudy1E019370Robotics Tony Belpaeme Department of Electronics and Information Systems6aA:11802E019170Internet of Things Jeroen Hoebeke Department of Information Technology6aA:11803E003422Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing6AA:11804E061670Autonomous Vehicle Perception3905E019380Intelligent Robot Manipulation3A:190	2.1	I.1.4 Major	Internet-of-Things / Robotics			18	3 credits
Image: Constraint of Electronics and Information Systems Image: Constraint of Things 6 a A:1 180 Image: Constraint of Things 180 180 180 Image: Constraint of Things 180 180 180 Image: Constraint of Things Image: Constraint of Telecommunication Technology 6 A:1 180 Image: Constraint of Telecommunications and Information Processing 6 A:1 180 Image: Constraint of Telecommunications and Information Processing 6 A:1 180 Image: Constraint of Telecommunications and Information Processing 6 A:1 90 Image: Constraint of Telecommunications and Information Processing 3 A:1 90			less than 18 credit units from the following list, with 12 credit units with				Study
Jeroen Hoebeke Department of Information Technology6A:11803E003422Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing6A:11804E061670Autonomous Vehicle Perception3905E019380Intelligent Robot Manipulation3A:190	1	E019370		6	а	A:1	180
Hiep Luong Department of Telecommunications and Information Processing4E061670Autonomous Vehicle Perception3905E019380Intelligent Robot Manipulation3A:190	2	E019170	-	6	а	A:1	180
5 E019380 Intelligent Robot Manipulation 3 A:1 90	3	E003422	-	6		A:1	180
	4	E061670	Autonomous Vehicle Perception	3			90
	5	E019380		3		A:1	90

6 E	2033702	Hardware-design Project Ioulia Tzouvadaki Department of Electronics and Information Systems	6			A:2	180
7 E	E032322	Sensor Based Measurement Systems Herbert De Smet Department of Electronics and Information Systems	3			A:2	90
8 E	2003710	Game Theory and Multiagent Systems Heidi Steendam Department of Telecommunications and Information Processing	6			A:1	180
9 E	E061380	Embedded Machine Learning	3				90
2.1.1	I.5 Minor	Operations Management				18	credits
Subse	cribe to no	less than 18 credit units from the following list, with 6 credit units with refere	ence a				
	Course	loss than to creat ante from the following lot, with o creat ante with force	CRDT	Ref	MT1	Session	Study
1 E	2076221	Manufacturing Planning and Control Birger Raa Department of Industrial Systems Engineering and Product Design	6	а		A:1	180
2 E	E004255	Operations Research Models and Methods El-Houssaine Aghezzaf Department of Industrial Systems Engineering and Product Design	6			A:1	180
3 E	E060240	Quality Engineering and Industrial Statistics Stijn De Vuyst Department of Industrial Systems Engineering and Product Design	6			A:2	180
4 E	E076951	Engineering Economy Sofie Verbrugge Department of Information Technology	6			A:1	180
2.1.1	I.6 Minor	Biosystems				18	credits
Subso	cribe to no	less than 18 credit units from the following list, with no less than 8 credit un	its with refe	rence a.	Subject to appr	oval bv	
the fa	aculty.	less than 18 credit units from the following list, with no less than 8 credit un					
t <mark>he fa</mark> Nr C	a <mark>culty.</mark> Course	-	CRDT	Ref	Subject to appro	Session	Study
t <mark>he fa</mark> Nr C	a <mark>culty.</mark> Course	less than 18 credit units from the following list, with no less than 8 credit un Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems					Study 150
the fa Nr C 1 E	aculty. Course E092623	Modelling of Physiological Systems	CRDT	Ref		Session	
the fa <u>Nr C</u> 1 E 2 E	aculty. Course E092623 E092662	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism	CRDT 5	Ref a		Session A:2	150
the fa Nr C 1 E 2 E 3 E	aculty. Course E092623 E092662	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine Quantitative Cell and Tissue Analysis	CRDT 5 3	Ref a a		Session A:2 A:1	150 90
the fa Nr C 1 E 2 E 3 E 4 E	aculty. Course E092623 E092662 E074011	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine Quantitative Cell and Tissue Analysis An Hendrix Department of Human Structure and Repair Biomaterials and Tissue Engineering	CRDT 5 3 6	Ref a a		Session A:2 A:1 A:1	150 90 180
the fa Nr C 1 E 2 E 3 E 4 E 5 E	aculty. Course E092623 E092662 E074011 E063671 E063682	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine Quantitative Cell and Tissue Analysis An Hendrix Department of Human Structure and Repair Biomaterials and Tissue Engineering Ruslan Dmitriev Department of Human Structure and Repair Biomechanics	CRDT 5 3 6 5	Ref a a		Session A:2 A:1 A:1 A:1 A:1	150 90 180 150
the fa Nr C 1 E 2 E 3 E 4 E 5 E 6 E	aculty. Course E092623 E092662 E074011 E063671 E063682 E010371	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine Quantitative Cell and Tissue Analysis An Hendrix Department of Human Structure and Repair Biomaterials and Tissue Engineering Ruslan Dmitriev Department of Human Structure and Repair Biomechanics Charlotte Debbaut Department of Electronics and Information Systems Medical Imaging	CRDT 5 3 6 5 6	Ref a a		Session A:2 A:1 A:1 A:1 A:1 A:1 A:1 A:1	150 90 180 150 180
the fa Nr C 1 E 2 E 3 E 4 E 5 E 6 E 2.1.2	aculty. Course E092623 E092662 E074011 E063671 E063682 E010371 2 Electiv	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine Quantitative Cell and Tissue Analysis An Hendrix Department of Human Structure and Repair Biomaterials and Tissue Engineering Ruslan Dmitriev Department of Human Structure and Repair Biomechanics Charlotte Debbaut Department of Electronics and Information Systems Medical Imaging Stefaan Vandenberghe Department of Electronics and Information Systems re Courses Computer Science Engineering	CRDT 5 3 6 5 6	Ref a a		Session A:2 A:1 A:1 A:1 A:1 A:1 A:1 A:1	150 90 180 150 180 180
the fa Nr C 1 E 2 E 3 E 4 E 5 E 6 E 2.1.2 Subso • The • The	aculty. Course E092623 E092662 E074011 E063671 E063682 E010371 2 Electiv cribe to 18 e courses v e courses v e courses v	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine Quantitative Cell and Tissue Analysis An Hendrix Department of Human Structure and Repair Biomaterials and Tissue Engineering Ruslan Dmitriev Department of Human Structure and Repair Biomechanics Charlotte Debbaut Department of Electronics and Information Systems Medical Imaging Stefaan Vandenberghe Department of Electronics and Information Systems	CRDT 5 3 6 5 6	Ref a a		Session A:2 A:1 A:1 A:1 A:1 A:1 A:1 A:1	150 90 180 150 180 180

Students can subscribe to a maximum of 6 ECTS credits internship	(Research Internship	E099400 and/or	Industry	Internship
Engineering and Architecture E099300).				

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E016330	Artificial Intelligence Aleksandra Pizurica Department of Telecommunications and Information Processing	6	AI		A:1	180
2	E031251	Design Methodology for FPGAs Dirk Stroobandt Department of Electronics and Information Systems	6			A:1	180
3	E012130	Modulation and Detection Nele Noels Department of Telecommunications and Information Processing	6			B:1	180
4	E030210	Analog Electronics [nl] Jeroen De Maeyer Department of Electromechanical, Systems and Metal Engineering	6			A:1	180
5	E018520	Compilers Bjorn De Sutter Department of Electronics and Information Systems	6			A:2	180
6	E010010	Signal Processing Nilesh Madhu Department of Electronics and Information Systems	6			A:2	180
7	E007920	Computer Control of Industrial Processes Clara Ionescu Department of Electromechanical, Systems and Metal Engineering	6				180
8	E012802	Broadband cable-TV and in-home networks Luc Martens Department of Information Technology	4			(A:1) ^d	120

18-06-2025 10:10

9	E010310	Image Processing [nl] Wilfried Philips Department of Telecommunications and Information Processing	6		A:1	180
10	E011610	Performance Analysis of Telecommunication Systems Sabine Wittevrongel Department of Telecommunications and Information Processing	4		A:1	120
11	C003241	Fundaments of Programming Languages [nl] Christophe Scholliers Department of Mathematics, Computer Science and Statistics	6		A:1	165
12	E012210	Advanced Modulation and Coding Heidi Steendam Department of Telecommunications and Information Processing	4		A:2	120
13	E016712	Computer Graphics Danilo Babin Department of Telecommunications and Information Processing	6		A:2	180
14	E004720	Network Modelling and Design Mario Pickavet Department of Information Technology	4		B:2	120
15	E004120	Optimisation Techniques [nl, en] Ljubomir Jovanov Department of Telecommunications and Information Processing	6		A:2, B:2	180
16	C003349	Discrete Algorithms [nl] Veerle Fack Department of Mathematics, Computer Science and Statistics	6		A:2	165
17	C003711	Computational Challenges in Bioinformatics Jan Fostier Department of Information Technology	6		A:2	180
18	E034500	Sustainable Computing Lieven Eeckhout Department of Electronics and Information Systems	3		A:2	90
19	E061390	Quantum Computing: Architecture and Algorithms Koen Bertels Department of Electronics and Information Systems	3		A:1	90
20	E061360	Reinforcement Learning	6	AI		180
21	E061341	Natural Language Processing Thomas Demeester Department of Information Technology	6	AI	A:2	180
22	E018230	Recommender Systems Toon De Pessemier Department of Information Technology	6	AI	A:2	180
23	E061350	Deep Generative Models Bart Dhoedt Department of Information Technology	4	AI	A:2	120
24	E016340	Probabilistic Graphical Models Aleksandra Pizurica Department of Telecommunications and Information Processing	4	AI	A:2	120
25	E061460	Computer Vision: Theory and Applications	6	AI		180
26	E019370	Robotics Tony Belpaeme Department of Electronics and Information Systems	6	AI, IR	A:1	180
27	E031800	AI Research Seminar Thomas Demeester Department of Information Technology	3	AI	A:1	90
28	E061370	Data Visualization for and with AI Jefrey Lijffijt Department of Electronics and Information Systems	3	AI	A:1	90
29	E018240	Big Data Technology Dieter De Witte Department of Electronics and Information Systems	4	AI	A:1	120
30	E018700	Data Quality Antoon Bronselaer Department of Telecommunications and Information Processing	3	AI	A:1	90
31	E003710	Game Theory and Multiagent Systems Heidi Steendam Department of Telecommunications and Information Processing	6	AI, IR	A:1	180
32	E016360	Cognitive and Brain-Inspired Artificial Intelligence	3	AI		90
33	E010220	Speech Processing Kris Demuynck Department of Electronics and Information Systems	4	AI	A:2	120
34	E018610	Database Design [nl] Guy De Tré Department of Telecommunications and Information Processing	4	DE	A:1	120
35	E018240	Big Data Technology Dieter De Witte Department of Electronics and Information Systems	4	DE	A:1	120
36	E017310	Cloud Storage and Computing Bruno Volckaert Department of Information Technology	4	DE	A:2	120
37	E018250	Big Data Algorithms	3	DE		90
38	E034150	Blockchain Technologies and Applications Bjorn De Sutter Department of Electronics and Information Systems	3	DE	A:1	90

39 E01870	D Data Quality Antoon Bronselaer Department of Telecommunications and Information Processing	3	DE	A:1	90
40 E01813	NoSQL Databases Antoon Bronselaer Department of Telecommunications and Information Processing	3	DE	A:2	90
41 E01816	O Knowledge Graphs Pieter Colpaert Department of Electronics and Information Systems	3	DE	A:2	90
42 E06137	D Data Visualization for and with Al Jefrey Lijffijt Department of Electronics and Information Systems	3	DE	A:1	90
43 E01794	2 Software Hacking and Protection Bjorn De Sutter Department of Electronics and Information Systems	6	С	A:1	180
44 E01795	Secure Software and Systems Bart Coppens Department of Electronics and Information Systems	6	С	A:2, B:2	180
45 E00871	0 Network Security	6	С		180
46 E01917	D Internet of Things Jeroen Hoebeke Department of Information Technology	6	IR	A:1	180
47 E00342	2 Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing	6	IR	A:1	180
48 E06167	Autonomous Vehicle Perception	3	IR		90
49 E01938	D Intelligent Robot Manipulation Francis wyffels Department of Electronics and Information Systems	3	IR	A:1	90
50 E03370	2 Hardware-design Project Ioulia Tzouvadaki Department of Electronics and Information Systems	6	IR	A:2	180
51 E03232	2 Sensor Based Measurement Systems Herbert De Smet Department of Electronics and Information Systems	3	IR	A:2	90
52 E06138	D Embedded Machine Learning	3	IR		90
53 E09940	D Research Internship Patrick Segers Department of Electronics and Information Systems	3		B:J	90
54 E09940	D Research Internship Patrick Segers Department of Electronics and Information Systems	6		A:J	180
55 E09930	D Industry Internship Engineering and Architecture [en, nl] Patrick Segers Department of Electronics and Information Systems	6		A:J	180
2.1.3 Elec	tive Course Ghent University				
	no more than 9 credit units from the programmes of Ghent University, inclu proval by the faculty.	iding the <u>Gher</u>	nt University El	ective Courses.	
2.2 Electi	ve Path 2			36 0	credits
Subscribe to a faculty.	36 credit units from no less than 1 and no more than 2 elective modules fro	om the followin	ig list. Subject	to approval by the	
2.2.1 Elec	tive Courses Computer Science Engineering			36	credits
The courseThe course	no more than 36 credit units from the following list. Subject to approval by t s with reference 'AI' are from the major Artificial Intelligence s with reference 'DE' are from the major Data Engineering s with reference 'C' are from the major Cybersecurity	he faculty.			

- The courses with reference 'C' are from the major Cybersecurity
 The courses with reference 'IR' are from the major Internet-of-Things / robotics

Students can subscribe to a maximum of 6 ECTS credits internship (Research Internship E099400 and/or Industry Internship Engineering and Architecture E099300).

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E016330	Artificial Intelligence Aleksandra Pizurica Department of Telecommunications and Information Processing	6	AI		A:1	180
2	E031251	Design Methodology for FPGAs Dirk Stroobandt Department of Electronics and Information Systems	6			A:1	180
3	E012130	Modulation and Detection Nele Noels Department of Telecommunications and Information Processing	6			B:1	180
4	E030210	Analog Electronics [nl] Jeroen De Maeyer Department of Electromechanical, Systems and Metal Engineering	6			A:1	180
5	E018520	Compilers Bjorn De Sutter Department of Electronics and Information Systems	6			A:2	180
6	E010010	Signal Processing Nilesh Madhu Department of Electronics and Information Systems	6			A:2	180

7	7	E007920	Computer Control of Industrial Processes Clara lonescu Department of Electromechanical, Systems and Metal Engineering	6			180
8	3	E012802	Broadband cable-TV and in-home networks Luc Martens Department of Information Technology	4		(A:1) ^d	120
ç	9	E010310	Image Processing [nl] Wilfried Philips Department of Telecommunications and Information Processing	6		A:1	180
1	0	E011610	Performance Analysis of Telecommunication Systems Sabine Wittevrongel Department of Telecommunications and Information Processing	4		A:1	120
1	1	C003241	Fundaments of Programming Languages [nl] Christophe Scholliers Department of Mathematics, Computer Science and Statistics	6		A:1	165
1	2	E012210	Advanced Modulation and Coding Heidi Steendam Department of Telecommunications and Information Processing	4		A:2	120
1	3	E016712	Computer Graphics Danilo Babin Department of Telecommunications and Information Processing	6		A:2	180
1	4	E004720	Network Modelling and Design Mario Pickavet Department of Information Technology	4		B:2	120
1	5	E004120	Optimisation Techniques [nl, en] Ljubomir Jovanov Department of Telecommunications and Information Processing	6		A:2, B:2	180
1	6	C003349	Discrete Algorithms [nl] Veerle Fack Department of Mathematics, Computer Science and Statistics	6		A:2	165
1	17	C003711	Computational Challenges in Bioinformatics Jan Fostier Department of Information Technology	6		A:2	180
1	8	E034500	Sustainable Computing Lieven Eeckhout Department of Electronics and Information Systems	3		A:2	90
1	9	E061390	Quantum Computing: Architecture and Algorithms Koen Bertels Department of Electronics and Information Systems	3		A:1	90
2	20	E061360	Reinforcement Learning	6	AI		180
2	21	E061341	Natural Language Processing Thomas Demeester Department of Information Technology	6	AI	A:2	180
2	22	E018230	Recommender Systems Toon De Pessemier Department of Information Technology	6	AI	A:2	180
2	23	E061350	Deep Generative Models Bart Dhoedt Department of Information Technology	4	AI	A:2	120
2	24	E016340	Probabilistic Graphical Models Aleksandra Pizurica Department of Telecommunications and Information Processing	4	AI	A:2	120
2	25	E061460	Computer Vision: Theory and Applications	6	AI		180
2	26	E019370	Robotics Tony Belpaeme Department of Electronics and Information Systems	6	AI, IR	A:1	180
2	27	E031800	AI Research Seminar Thomas Demeester Department of Information Technology	3	AI	A:1	90
2	28	E061370	Data Visualization for and with Al Jefrey Lijffijt Department of Electronics and Information Systems	3	AI	A:1	90
2	<u>29</u>	E018240	Big Data Technology Dieter De Witte Department of Electronics and Information Systems	4	AI	A:1	120
3	30	E018700	Data Quality Antoon Bronselaer Department of Telecommunications and Information Processing	3	AI	A:1	90
3	31	E003710	Game Theory and Multiagent Systems Heidi Steendam Department of Telecommunications and Information Processing	6	AI, IR	A:1	180
З	32	E016360	Cognitive and Brain-Inspired Artificial Intelligence	3	AI		90
З	33	E010220	Speech Processing Kris Demuynck Department of Electronics and Information Systems	4	AI	A:2	120
З	34	E018610	Database Design [nl] Guy De Tré Department of Telecommunications and Information Processing	4	DE	A:1	120
3	35	E018240	Big Data Technology Dieter De Witte Department of Electronics and Information Systems	4	DE	A:1	120
3	36	E017310	Cloud Storage and Computing Bruno Volckaert Department of Information Technology	4	DE	A:2	120

37 EC	018250	Big Data Algorithms	3	DE		90
38 EC	034150	Blockchain Technologies and Applications Bjorn De Sutter Department of Electronics and Information Systems	3	DE	A:1	90
39 EC	018700	Data Quality Antoon Bronselaer Department of Telecommunications and Information Processing	3	DE	A:1	90
40 EC	018130	NoSQL Databases Antoon Bronselaer Department of Telecommunications and Information Processing	3	DE	A:2	90
41 EC	018160	Knowledge Graphs Pieter Colpaert Department of Electronics and Information Systems	3	DE	A:2	90
42 EC	061370	Data Visualization for and with AI Jefrey Lijffijt Department of Electronics and Information Systems	3	DE	A:1	90
43 EC	017942	Software Hacking and Protection Bjorn De Sutter Department of Electronics and Information Systems	6	С	A:1	180
44 EC	017950	Secure Software and Systems Bart Coppens Department of Electronics and Information Systems	6	С	A:2, B:2	180
45 EC	008710	Network Security	6	С		180
46 EC	019170	Internet of Things Jeroen Hoebeke Department of Information Technology	6	IR	A:1	180
47 EC	003422	Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing	6	IR	A:1	180
48 EC	061670	Autonomous Vehicle Perception	3	IR		90
49 EC	019380	Intelligent Robot Manipulation Francis wyffels Department of Electronics and Information Systems	3	IR	A:1	90
50 EC	033702	Hardware-design Project Ioulia Tzouvadaki Department of Electronics and Information Systems	6	IR	A:2	180
51 EC	032322	Sensor Based Measurement Systems Herbert De Smet Department of Electronics and Information Systems	3	IR	A:2	90
52 EC	061380	Embedded Machine Learning	3	IR		90
53 EC	099400	Research Internship Patrick Segers Department of Electronics and Information Systems	3		B:J	90
54 EC	099400	Research Internship Patrick Segers Department of Electronics and Information Systems	6		A:J	180
55 EC	099300	Industry Internship Engineering and Architecture [en, nl] Patrick Segers Department of Electronics and Information Systems	6		A:J	180

2.2.2 Elective Courses Ghent University

Subscribe to no more than 9 credit units from the programmes of Ghent University, including the <u>Ghent University Elective Courses</u>. Subject to approval by the faculty.

3 Master's Dissertation	aster's Dissertation 24 credi					
Nr Course	CRDT Re	MT1	Session	Study		
1 E091103 Master's Dissertation	24	2	B:J	720		

Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the cours name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Kroatian/Serbian	zh: Chinese
cs: Czech	el: Greek	fr: French	nl: Dutch	pt: Portuguese	sl: Slovene	
da: Danish	en: English	it: Italian	no: Norwegian	ru: Russian	sv: Swedish	

Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2. When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned. When a semester is shown in brackets, the course in not offered this year in the specific offering. The offering frequency and first year of offering are indicated by the following codes:

a: bi-annually	c: a
b: tri-annually	d: b
-	e: t

annually, from 2024-2025 bi-annually, from 2024-2025 tri-annually, from 2024-2025 f: annually, from 2025-2026 g: bi-annually, from 2025-2026 h: tri-annually, from 2025-2026 i: annually, from 2026-2027 j: bi-annually, from 2026-2027 k: tri-annually, from 2026-2027