

Computer Science for Autonomous Systems MSc

Compulsory subjects

Code	Subject	Subject prerequisite	Lecture (L)	Practice (Pr)	Credit	Semester *	Recommended semester			
							1st	2nd	3rd	4th
IPM-22AUTCVEG	3D Computer Vision L+Pr.		2	2	6	A	6			
IPM-22AUTISPE	Image and Signal Processing L.	(5*)	2	0	3	A,S	3			
IPM-22AUTISPG	Image and Signal Processing Pr.		0	2	3	A,S	3			
IPM-22AUTIVSEG	Introduction to Vehicles and Sensors L.+Pr.		2	1	4	A	4			
IPM-22AUTRMG	Research methodology L+Pr.		1	2	5	A,S	5			
IPM-22AUTAIPAEG	Deep Reinforcement Learning L+Pr.	IPM-22AUTDNDEG	2	2	6	S		6		
IPM-22AUTDAAE	Design and Analysis of Algorithms L.		2	0	4	S		4		
IPM-22AUTIDSEG	Introduction to Data Science L+Pr.		2	2	6	A,S		6		
IPM-22AUTNMEG	Numerical Methods for Optimization L+Pr.		2	2	6	S		6		
	Compulsory subject credits in total				43		21	22		
	Elective subjects				6				6	
	Compulsory elective subjects **				41		9	8	24	
IPM-22fTHCONS	Thesis consultation				30	A,S				30
IPM-22fPRG	Internship ***				0					
	Total credits per semester						30	30	30	30
	Total credits				120					

* Subjects are offered either in the Autumn semester (A) or in the Spring semester (S) or in both (A,S).

** From the list of compulsory elective subjects, students are required to fulfill subjects in the amount of 41 credits.

*** The required duration of the internship is 6 weeks (240 hours). The requirement of internship is fulfilled by the completion of subjects AUS Lab I&II.

(4*) The accomplishment is mandatory for international students. Credits are counted as compulsory elective subject credits.

(5*) Fulfilment of the practice part is the prerequisite of obtaining a grade in the lecture part.

Compulsory elective subjects of the Computer Science for Autonomous Systems MSc major

Code	Subject	Subject prerequisite	Lecture (L)	Practice (Pr)	Credit	Semester *	Recommended semester			
							1st	2nd	3rd	4th
IPM-22AUTAAE	Advanced Algorithms L.	(5*)	2	0	3	A	3			
IPM-22AUTAAG	Advanced Algorithms Pr.		0	2	3	A	3			
IPM-22AUTDNDEG	Deep Network Development		2	2	6	A,S	6			
IPM-22AUTPREPG	Preparation course for master studies and developing learning skills Pr. (4*)		0	3	2	A,S	2			
IPM-22AUTTAMEG	Topics in Applied Mathematics L+Pr.		2	2	5	A,S	5			
IPM-22AUTASTE	Advanced Software Technology L.		2	0	4	S		4		
IPM-22AUTAUSLAB1	AUS Lab I		0	3	5	S		5		
IPM-22AUTCGE	Computer graphics L.	(5*)	2	0	3	S		3		
IPM-22AUTCGG	Computer graphics Pr.		0	2	3	S		3		
IPM-22AUTDAAAG	Design and analysis of algorithms Pr.		0	2	3	S		3		
IPM-22AUTERTSEG	Embedded and Real-Time Systems L+Pr.		2	2	6	S		6		
IPM-22AUTSQTE	Software quality and testing L.	(5*)	2	0	3	S		3		
IPM-22AUTSQTG	Software quality and testing Pr.		0	2	3	S		3		
IPM-23AUTI3DCPAEG	3D point cloud processing and analysis		2	2	6	A			6	
IPM-22AUTSSFEG	3D Sensing and Sensor Fusion L.+Pr.		2	2	6	A			6	
IPM-22AUTADLEG	Advanced Deep Network Development L+Pr.	IPM-22AUTDNDEG	2	2	6	A			6	
IPM-22AUTAUSLAB2	AUS Lab II		0	3	5	A			5	
IPM-22AUTPHFTG	Human Factors in Traffic Environment Pr.		0	2	2	A			2	
IPM-22AUTIVPEG	Image and Video Processing L.+Pr.		2	2	6	A			6	
IPM-22AUTLFADE	Legal Framework for Autonomous Driving L.		2	0	2	A			2	
IPM-22AUTPME	Project Management L.		2	0	2	A			2	
IPM-22AUTSCTE	System and Control Theory L.	(5*)	2	0	3	A			3	
IPM-22AUTSCTG	System and Control Theory Pr.		0	2	3	A			3	

From the list of compulsory elective subjects, students are required to fulfill subjects in the amount of 41 credits.

The accomplishment of the following listed subjects is mandatory only for EIT students.

Students do not participating in the EIT Digital Master programme can obtain elective subject credits for fulfilling them:

IPM-22fi&EBEG	I&E Basics
IPM-22fi&EBDL1E	Business Development Lab I.
IPM-22fi&EBDL1G	Business Development Lab I.
IPM-22fi&EBDL2E	Business Development Lab II.
IPM-22fi&EBDL2G	Business Development Lab II.
IPM-22fi&EIAOEEG	Innosocial aspects of entrepreneurship
IPM-22fi&ETSSG	Thematic Summer Schools with I&E project
IPM-22fi&ESTEG	I&E Study