

Program's Study Plan

1. Thesis Option

○ First Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 512	Algorithm Analysis and Design	3 (3+0)	Lecture	Incl	
2	CSC 524	Computer Networks	3 (3+0)	Lecture	Incl	
3	CSC 562	Artificial Intelligence	3 (3+0)	Lecture	Incl	
Total			(9) Study Units			

○ Second Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 581	Advanced Database Systems	3 (3+0)	Lecture	Incl	
2	CSC 571	Seminar and Discussions	2 (2+0)	Lecture	Incl	
3	CSC ...	Elective course (1) from list (A)	3 (3+0)	Lecture	Incl	
Total			(8) Study Units			

○ Third Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC ...	Elective course (2) from list (A)	3 (3+0)	Lecture	Incl	
2	CSC ...	Elective course (3) from list (B)	3 (3+0)	Lecture	Incl	
3	CSC 593	Thesis Proposal Preparation	One study unit	Supervision	Pass/Fail	(15) study units
Total			(7) Study Units			

○ Fourth Level & following levels:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 600	Thesis	(6) study units	Supervision	Pass/Fail	CSC 593
Total			(6) Study Units			

○ Elective Courses:

❖ **List (A) of elective courses: student must select (2) courses from the following:**

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA (incl./excl.)	Pre-requisite
1	CSC 519	Computer Security	3 (3+0)	Lecture	Incl	

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA (incl./excl.)	Pre-requisite
2	CSC 541	Advanced Software Engineering	3 (3+0)	Lecture	Incl	
3	CSC 551	Automata, Calculability and Formal Languages	3 (3+0)	Lecture	Incl	
4	CSC 564	Machine Learning	3 (3+0)	Lecture	Incl	
5	CSC 572	Advanced Computer Graphics	3 (3+0)	Lecture	Incl	
6	CSC 587	Web Databases and Information Retrieval	3 (3+0)	Lecture	Incl	
7	CSC 588	Data Warehouse and Mining Systems	3 (3+0)	Lecture	Incl	

❖ **List (B) of elective courses: the students select (1) course from the following:**

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 514	Optimization for Artificial Intelligence	3 (3+0)	Lecture	Incl	
2	CSC 520	Networking in the TCP/IP Environment	3 (3+0)	Lecture	Incl	
3	CSC 523	Distributed Unix Operating System	3 (3+0)	Lecture	Incl	
4	CSC 525	Distributed Real-Time Systems	3 (3+0)	Lecture	Incl	
5	CSC 526	Parallel Processing	3 (3+0)	Lecture	Incl	
6	CSC527	Design and Implementation of Real-Time Systems	3 (3+0)	Lecture	Incl	
7	CSC 528	Interconnection Networks	3 (3+0)	Lecture	Incl	
8	CSC 529	Selected Topics in Computer Systems	3 (3+0)	Lecture	Incl	
9	CSC 530	High-Performance Computations	3 (3+0)	Lecture	Incl	
10	CSC 535	New Advances in Programming Languages	3 (3+0)	Lecture	Incl	
11	CSC 543	Software Quality Management	3 (3+0)	Lecture	Incl	

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
12	CSC 546	Designing Object-Oriented Software Systems	3 (3+0)	Lecture	Incl	
13	CSC 547	Software Measurements	3 (3+0)	Lecture	Incl	
14	CSC 548	Software Projects Management	3 (3+0)	Lecture	Incl	
15	CSC 558	Pattern Recognition and Image Processing	3 (3+0)	Lecture	Incl	
16	CSC 559	Computer Vision	3 (3+0)	Lecture	Incl	
17	CSC 561	Expert Systems and Knowledge Engineering Applications	3 (3+0)	Lecture	Incl	
18	CSC 563	Neural Network and Machine Learning Applications	3 (3+0)	Lecture	Incl	
19	CSC 565	Deep Learning	3 (3+0)	Lecture	Incl	
20	CSC 566	Advanced Applications of Pattern Recognition and Machine Learning	3 (3+0)	Lecture	Incl	
21	CSC 569	Selected Topics in Artificial Intelligence	3 (3+0)	Lecture	Incl	
22	CSC 573	Numerical Algorithms and their Applications in Computer Science	3 (3+0)	Lecture	Incl	
23	CSC 574	Human-machine Communication and User-Interface Design	3 (3+0)	Lecture	Incl	
24	CSC 576	Applied Computer Graphics and Multimedia	3 (3+0)	Lecture	Incl	
25	CSC 578	Advance in Multimedia Applications	3 (3+0)	Lecture	Incl	
26	CSC 579	Selected Topics in Computer Graphics	3 (3+0)	Lecture	Incl	
27	CSC 583	Natural Language Processing	3 (3+0)	Lecture	Incl	
28	CSC 586	Hypermedia and GIS Techniques &	3 (3+0)	Lecture	Incl	

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
29	CSC 589	Selected Topics in DBS	3 (3+0)	Lecture	Incl	
30	CENX 523	Fault-Tolerant Computer Systems	3 (3+0)	Lecture	Incl	
31	CENX 545	Digital Image Processing	3 (3+0)	Lecture	Incl	
32	SWE 555	Software Maintenance and Evolution	3 (3+0)	Lecture	Incl	
33	SWE 562	Mobile Software Systems	3 (3+0)	Lecture	Incl	
34	IS 565	Advanced Quantitative Methods for Information Systems	3 (3+0)	Lecture	Incl	
35	IS 572	Blockchain Technologies	3 (3+0)	Lecture	Incl	

2. Non-Thesis option

○ First Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 512	Algorithm Analysis and Design	3 (3+0)	Lecture	Incl	
2	CSC 524	Computer Networks	3 (3+0)	Lecture	Incl	
3	CSC 562	Artificial Intelligence	3 (3+0)	Lecture	Incl	
Total			(9) Study Units			

○ Second Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 581	Advanced Database Systems	3 (3+0)	Lecture	Incl	-
2	CSC 571	Seminar and Discussions	2 (2+0)	Lecture	Incl	-
3	CSC ...	Elective course (1) from list (A)	3 (3+0)	Lecture	Incl	
Total			(8) Study Units			

○ Third Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC ...	Elective course (2) from list (A)	3 (3+0)	Lecture	Incl	
2	CSC ...	Elective course (3) from list (B)	3 (3+0)	Lecture	Incl	
3	CSC 575	Research Project (1)	3 (0+6)	Project	Incl	CSC 571
Total			(8) Study Units			

○ Fourth Level:

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC ...	Elective course (4) from list (B)	3 (3+0)	Lecture	Incl	
2	CSC 577	Research Project (2)	3 (0+6)	Project	Incl	CSC 575
Total			(6) Study Units			

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❖ **List (A) of elective courses: student must select (2) courses from the following:**

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA (incl./excl.)	Pre-requisite
1	CSC 519	Computer Security	3 (3+0)	Lecture	Incl	
2	CSC 541	Advanced Software Engineering	3 (3+0)	Lecture	Incl	
3	CSC 551	Automata, Calculability and Formal Languages	3 (3+0)	Lecture	Incl	
4	CSC 564	Machine Learning	3 (3+0)	Lecture	Incl	

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA (incl./excl.)	Pre-requisite
5	CSC 572	Advanced Computer Graphics	3 (3+0)	Lecture	Incl	
6	CSC 587	Web Databases and Information Retrieval	3 (3+0)	Lecture	Incl	
7	CSC 588	Data Warehouse and Mining Systems	3 (3+0)	Lecture	Incl	

❖ **List (B) of elective courses: the students select (2) courses from the following:**

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
1	CSC 514	Optimization for Artificial Intelligence	3 (3+0)	Lecture	Incl	
2	CSC 520	Networking in the TCP/IP Environment	3 (3+0)	Lecture	Incl	
3	CSC 523	Distributed Unix Operating System	3 (3+0)	Lecture	Incl	
4	CSC 525	Distributed Real-Time Systems	3 (3+0)	Lecture	Incl	
5	CSC 526	Parallel Processing	3 (3+0)	Lecture	Incl	
6	CSC527	Design and Implementation of Real-Time Systems	3 (3+0)	Lecture	Incl	
7	CSC 528	Interconnection Networks	3 (3+0)	Lecture	Incl	
8	CSC 529	Selected Topics in Computer Systems	3 (3+0)	Lecture	Incl	
9	CSC 530	High-Performance Computations	3 (3+0)	Lecture	Incl	
10	CSC 535	New Advances in Programming Languages	3 (3+0)	Lecture	Incl	
11	CSC 543	Software Quality Management	3 (3+0)	Lecture	Incl	
12	CSC 546	Designing Object-Oriented Software Systems	3 (3+0)	Lecture	Incl	
13	CSC 547	Software Measurements	3 (3+0)	Lecture	Incl	
14	CSC 548	Software Projects Management	3 (3+0)	Lecture	Incl	

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
15	CSC 558	Pattern Recognition and Image Processing	3 (3+0)	Lecture	Incl	
16	CSC 559	Computer Vision	3 (3+0)	Lecture	Incl	
17	CSC 561	Expert Systems and Knowledge Engineering Applications	3 (3+0)	Lecture	Incl	
18	CSC 563	Neural Network and Machine Learning Applications	3 (3+0)	Lecture	Incl	
19	CSC 565	Deep Learning	3 (3+0)	Lecture	Incl	
20	CSC 566	Advanced Applications of Pattern Recognition and Machine Learning	3 (3+0)	Lecture	Incl	
21	CSC 569	Selected Topics in Artificial Intelligence	3 (3+0)	Lecture	Incl	
22	CSC 573	Numerical Algorithms and their Applications in Computer Science	3 (3+0)	Lecture	Incl	
23	CSC 574	Human-machine Communication and User-Interface Design	3 (3+0)	Lecture	Incl	
24	CSC 576	Applied Computer Graphics and Multimedia	3 (3+0)	Lecture	Incl	
25	CSC 578	Advance in Multimedia Applications	3 (3+0)	Lecture	Incl	
26	CSC 579	Selected Topics in Computer Graphics	3 (3+0)	Lecture	Incl	
27	CSC 583	Natural Language Processing	3 (3+0)	Lecture	Incl	
28	CSC 586	Hypermedia and GIS: Techniques &	3 (3+0)	Lecture	Incl	
29	CSC 589	Selected Topics in DBS	3 (3+0)	Lecture	Incl	
30	CENX 523	Fault-Tolerant Computer Systems	3 (3+0)	Lecture	Incl	
31	CENX 545	Digital Image Processing	3 (3+0)	Lecture	Incl	

#	Course Code	Name	No. of Study Units	Activity	Assessment GPA: (incl./excl.)	Pre-requisite
32	SWE 555	Software Maintenance and Evolution	3 (3+0)	Lecture	Incl	
33	SWE 562	Mobile Software Systems	3 (3+0)	Lecture	Incl	
34	IS 565	Advanced Quantitative Methods for Information Systems	3 (3+0)	Lecture	Incl	
35	IS 572	Blockchain Technologies	3 (3+0)	Lecture	Incl	