

Computer Science

College/Institution: CNS

Department/School/Center: Department of Computer Science

Program title: B.Sc. in Computer Science

Program duration (in years): Four for regular and five for extension

Study Language: English

Credits and the equivalent ECTS: ECTS – 240 Credit=147

Mode of delivery: Regular and Extension

Program Objective – the main objective of the modular B.Sc. program in Computer Science is to provide a strong conceptual and theoretical understanding of computer science that will enable students create, evaluate, adapt, and utilize appropriate methods, theories, and techniques for solving real world problems. It also helps students develop critical, analytical and interpersonal skills to become active professionals who contribute to the intellectual life of the society. The specific objectives of the program are:

- Educating and training students for the very dynamic and rapidly changing science and technology market.
- Educating and training students to become life-long learners by providing them with a sound base in computer science, basic sciences as well as general education.
- Motivating students to become innovators who can respond very positively to the challenges and opportunities presented by new ideas and technologies.
- Laying a strong foundation for, and instilling confidence in students who may want to pursue post-graduate studies later in life.

Admission requirements – admission requirements would be similar to the general institutional requirements. That is, the student should complete preparatory level education and the entry point is determined by the Ministry of Education (MoE) for regular students whereas the admission criteria for distance and continuing education programs are as per the University's requirement.

Graduation requirement:

- Total ECTS of 240 (credit=148)
- Minimum CGPA and MGPA of 2.00
- No "F" grade in any course taken.

Module and Courses

Core modules

CoSc-M1011	Basic Programming	CoSc1011	Introduction to Computer Science	4	6
		CoSc1012	Fundamentals of Programming I	3	5
		CoSc1013	Fundamentals of Programming II	3	5
Total				10	16
CoSc-M3051	Database Systems	CoSc3051	Fundamentals of Database	4	6
		CoSc3052	Advanced Database System	4	6
Total				8	12
CoSc - M4171	Computer Security	CoSc4171	Computer Security	3	5
Total				3	5
CoSc-M2041	Computer Networking	CoSc2041	Computer Networking & Data Communication	4	6
		CoSc2043	Wireless Communication and Mobile Computing	3	5
		CoSc2042	Network and System Administration	3	5
Total				10	16
CoSc - M3091	Web Development	CoSc3091	Internet Programming	4	7
Total				4	7
CoSc-M2021	Advanced Programming	CoSc2021	Object Oriented Programming	4	6
		CoSc2022	Data structures and Algorithms	4	6
		CoSc2023	Advanced Programming	4	6
Total				12	18
CoSc - M2031	Computer Architecture and Operating Systems	CoSc2031	Computer organization and architecture	3	5
		CoSc2032	Operating System	4	6
		CoSc2033	Microprocessor and Assembly Language Programming	3	5
Total				10	16
CoSc-M3101	Computer Graphics and HCI	CoSc3101	Computer Graphics	3	5
		CoSc3102	Human Computer Interaction	3	5
Total				6	10
CoSc-M3071	System Development	CoSc3071	Fundamentals of Software Engineering	3	5
		CoSc3072	Object Oriented Software Engineering	3	5
Total				6	10
CoSc-M4111	Algorithms and Complexity	CoSc4111	Analysis of Algorithms	3	5
		CoSc4112	Complexity Theory	3	5
Total				6	10
CoSc-M3061	Compiler Development	CoSc3061	Formal Language and Automata Theory	3	5
		CoSc3062	Compiler Design	4	6
Total				7	11
CoSc-M3081	Intelligent Systems	CoSc3081	Introduction to Artificial Intelligence	4	6
Total				4	6
CoSc-M4121	Project	CoSc4121	Technical Report Writing in Computer Science	2	4
		CoSc4122	Final Project I	4	6
		CoSc4123	Final Project II	4	6
Total				10	16
CoSc-M4141	Selected Topics	CoSc4141	Selected topics in Computer Science	3	5
Total				3	5
CoSc-M4161	Distributed Systems	CoSc4161	Int. to Distributed Systems	3	5
Total				3	5
Program Total				102	163

Elective Module

Courses in a Module	Credit hrs.	EICTS
Elective I (one course)	3	5
Elective II (one course)	3	5

Elective I				
No.	Course Code	Course title	Credit	CP
	CoSc4151	System Programming	3	5
	CoSc4152	Introduction to Neural Network	3	5
	CoSc4153	Multimedia	3	5
	CoSc4154	Industrial Practice	3	5
	CoSc4155	Computer Vision and Image processing	3	5
Elective II				
No.	Course Code	Course title	Credit	CP
	CoSc4156	Real –time and Embedded Systems	3	5
	CoSc4157	Int. to Data mining and Warehousing	3	5
	CoSc4158	Windows Programming	3	5
9.	CoSc4159	Simulation and Modeling	3	5

General Education Modules

Module Code	Module Name	Course Code	Courses in a Module	Credit hrs.	EICTS
EnLa- M1013	Communication Skills	EnLa1011	Communicative English Skills	3	5
		EnLa1012	Basic Writing Skills	3	5
CvEt –M1023	Civics and Ethics	CvEt1023	Civics and Ethics	3	5
Phil-M1033	Introduction to Logic	Phil1033	Introduction to Logic	3	5
Total				12	20

Supportive Modules

Module Code	Module Name	Course Code	Courses in a Module	Credit hrs.	EICTS
Math- M2193	Introduction to Linear Algebra	Math2191	Introduction to Linear Algebra	3	5
Math-M2021	Basic Calculus	Math2021	Calculus I	4	7
Math-M2233	Discrete Mathematics and Combinatorics	Math2231	Discrete Mathematics and Combinatorics	3	5
Math-M3223	Applied Numerical Analysis	Math3221	Applied Numerical Analysis	3	5
ECEG-M1359	Electronics for Computer Science	ECEG1351	Fundamentals of Electricity and Electronic Devices	3	5
		ECEG1352	Digital Electronics	3	5
Stat- M2183	Statistics and Probability	Stat2181	Introduction to Statistics	3	5
		Stat2182	Introduction to Probability	3	5
MGMT-M4111	INNOVATION and Project Management	MGMT4111	ENTREPRENEURSHIP AND ENTERPRISE DEVELOPMENT	3	5
Total				28	47

QUICK LINKS

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- Jobs
- Colleges
- Institutes
- Research office

Announcement _ Graduate Admission Test (GAT)

SYSTEMS

- Portal
- ICT Support
- Research Management
- Report issues

UPCOMING EVENTS

Feb 20 Sat all-day Period of Application for Remark... Period of Application for Remark... Feb 20 – Mar 3 all-day

Feb 22 Mon all-day Examination Period Examination Period Feb 22 – Feb 27 all-day

Mar 3 Wed all-day Last Date for Submitting Grades ... Last Date for Submitting Grades ... Mar 3 all-day

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