MS (Computer Science)

Required Courses					
MS Computer Science has 6th Tracks, each with a different set of Pre-req (Foundation) Courses					
		MS with Thesis		MS without Thesis	
A	Core	0	0	0	0
B	Elective	8	24	9	27
C	Research Survey	1	3	1	3
D	Research Work	1	3	0	0
	Total	**10**	**30**	**10**	**30**

The Faculty of Computer Science (FCS) is an exciting place to learn about the latest developments in the area of Computer Science as well as to perform research with a high social impact. The MS program at the FCS enjoys the advantages of a rich set of courses available from both the MS as well as PhD level. From 2014 the MS Program is being offered as a Full Time Morning Program along with existing evening counterpart. The MS program comprises 6 tracks, each completely aimed at a particular field of specialization. The diverse backgrounds of students that come from various fields of study into this MS program, require a customized and tailored approach towards building the relevant fundamentals for each track. Moreover, the curriculum has been designed so that it is at par with IEEE / ACM guidelines. This ensures that the tracks do not lose relevance in the wake of the rapidly changing landscape of computing technologies. The potential of this program, in terms of imparting useful advanced computing skills and professional growth, is measured by the readiness of the job market and advanced learning schools, in absorbing our graduates. This measure has always been quite high; amongst other factors, the curriculum design ensures that the graduates can creatively find technology-based solutions, think critically and analyze systems and emerging problems independently. The MS program has two basic categories, MS with thesis, and MS without thesis.

The MS(Computer Science) program is of 30 credit hours with a thesis or research survey option. For those students who opt for thesis, 24 credit hours of course work, 3 credit hours of Research Survey and then 3 credit hours of thesis work are required. For students opting for course work only, 27 credit hours of course work along with 3 credit hours of Research Survey is required. The Research Survey course must be taken after students have completed 18 credits and must be supervised by an approved faculty member. The course work may be taken from multiple specialization tracks and a student would be required to take courses from at least two tracks. Specialization tracks include Net-Centric Computing, Human Computer Interaction, Software Engineering, Intelligent Systems, Information Management, and Theoretical Computer Science. Within a specialization track a minimum of 2 to a maximum of 4 courses may be taken. Each track has their own set of prerequisites which are usually BS level Computer Science courses. MS students may also take courses at the PhD (600) level for credit.

The key-objectives of the MS-CS program are:

* Offer maximum curriculum flexibility in order to enable students to engineer their graduate education towards their ambitions and goals in their computing professions.
* Facilitate job promotion for students, from mid-level IT positions to senior level positions, by adding to their skills and academic qualifications.
* Empower students with skills required to address modern computing challenges of their respective organizations.
* Expose students to qualified faculty with international recognition, and encourage them to undertake research that may potentially lead to doctoral work.

MS(CS) Specialization Tracks

List of Specialization Tracks (Courses and Prerequisites)

1	**Net-Centric Computing**	
	Advanced Computer Networks	ICT511
	Mobile Computing	ICT558
	Wireless Communication	ICT553
	Distributed Systems	ICT555
	Information Security	ICT554
2	**Human Computer Interaction**	
	Advanced Human Computer Interaction	CSE575
	Usability Engineering	CSE576
	Interaction Design	CSE577
	GUI Design	CSE578
	Multimedia and Multi-Modal Systems	CSE579
3	**Intelligent Systems**	
	Knowledge Discovery and Data Mining	CSE652
	Computational Intelligence	CSE659
	Probabilistic Reasoning	CSE655
	Computer Vision	CSE660
	Big Data Analytics	CSE668

List of Specialization Tracks (Courses and Prerequisites)

4	**Software Engineering**	
	Software Quality Assurance	CSE566
	Requirement Engineering	CSE567
	Software Project Management	CSE503
	Web Engineering	CSE569
	Advanced Web Technologies	ICT512
5	**Information Management**	
	SAP ABAP Programming I	MIS541
	SAP ABAP Programming II	MIS542
	Operations & Technology Management	MIS502
	Enterprise Integration	MIS503
	Social Computing Applications	MIS564
	Information: Industry Structure & Competitive Strategy	MIS513
	Advanced Data Warehousing	MIS552
	Knowledge Discovery and Data Mining	CSE652
6	**Theoretical Computer Science**	
	Advanced Analysis of Algorithms	CSE651
	Formal Methods	CSE572
	Scientific Computing	MTS551
	Combinatorial Optimization	CSE654