

MS in Information Technology

Program Overview:

The MS IT program at BUITEMS is designed to train our students with the technical, managerial and humanitarian skills needed by the highly competitive world. IT is one of the fastest-growing industries in the digitally connected era. In this ubiquitous computing era, organizations require graduates with an in-depth understanding of both computers and business. This comprehensive master's program not only enables our graduates with expertise in core areas of Information Technology; it also offers cutting edge research under the supervision of highly qualified faculty providing broader horizons for the job market.

Main Areas of Research:

- Internet of Things
- E-commerce technologies
- Programming languages
- Computer architecture (parallel programming, many-core, GPU)
- Operating systems
- Distributed systems
- Networks
- Databases
- Artificial intelligence
- Computational biology
- Security
- Computer graphics
- Human computer interaction
- Visualization
- Software Engineering
- Complexity theory, algorithm design
- Automata theory, formal models, logic

For more information, please refer to the list of faculty members for their research field on the Department website.

Admission Requirement:

16 years of education or equivalent e.g. B.E/BS – 4 years in the relevant field from HEC recognized university with at least 60% marks (Annual System) or CGPA 2.5 out of 4.0 (Semester System).

GAT (General) with at least 50% marks or GAT (Subject) with at least 60% marks or HAT for the admission /scholarship in the specific program of study.

For more information on application deadlines, tests and other admission requirements, please visit the admissions section of the Graduate Studies Office.

Program Requirement:

The minimum and maximum duration of the MS program is 1.5 to 4 years. Students must meet the following requirements for graduation:

- A minimum of 24 credit hours course work with a minimum CGPA of 2.5
- Successful defense of synopsis/ research proposal and its approval from Advanced Studies and Research Board (AS&RB).
- A minimum of 6 credit hours research work/ thesis.
- Thesis defense and viva.

Program Structure:

#	Course Codes	Course Title	Credit Hours
FIRST SEMESTER			
1	TE-502	Advanced Computer Networks	3 + 0
2	IT-636	Pervasive Information Systems	3 + 0
3	RES-614	Research Methods	3 + 0
SECOND SEMESTER			
1		Elective I	3 + 0
2		Elective II	3 + 0
3		Elective III	3 + 0
THIRD SEMESTER			
1		Elective IV	6 + 0
2		Elective V	6 + 0
FOURTH SEMESTER			
1	THESIS-601	Thesis	6+0

TOTAL	6
Total Courses	24
Total Credit Hours	30

List of Elective Courses

S#	Course Title	Credit Hours
1	Internet of Things and smart spaces	3+0
22	Data Analytics	3+0
33	Mobile and Wireless Networks	3+0
44	Information Technology Infrastructure	3+0
55	Telecom Management	3+0
66	Data Warehousing Trends & Issues	3+0
77	Data Mining Trends & Issues	3+0
88	Advanced Business Intelligence and Analytics	3+0
99	Multimedia Databases	3+0
110	Information Retrieval	3+0
111	Cloud Computing	3+0
112	Mobile & Pervasive Computing	3+0
113	Enterprise Data Centre Design and Methodology	3+0
114	Data Centre Network Design, Implementation, and Security	3+0
115	Virtualized Data Centre	3+0
116	Advanced Computer Networks	3+0
117	Network Performance Modelling and Evaluation	3+0
118	Integrated Services over Packet Networks	3+0
1	Stochastic Systems	3+0
220	Stochastic Processes	3+0
21	Knowledge-Based Systems	3+0

22	Distributed Databases	3+0
223	Advanced Telecommunication Networks	3+0
224	Multimedia Databases	3+0
225	Telecommunication Systems	3+0
226	Advanced Network Security	3+0
227	Principles of Multimedia Systems	3+0
228	Advanced Multimedia Systems	3+0
229	Distributed System	3+0
330	Computer Graphics	3+0
3	Computer Vision	3+0
332	Image Processing	3+0
333	Process Mining	3+0

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