

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

Department of Information Technology (IT) Bachelor of Technology in Information Technology

Basic Science Core (BSC)			Programme Specific Electives (PSE)		
MA110	Engineering Mathematics – I	(3-0-0) 3	IT360	Information Systems	(3-0-2) 4
PH110	Physics	(3-1-0) 4	IT361	Paradigms of Programming	(3-0-2) 4
PH111	Physics Laboratory	(0-0-2) 1	IT362	Computer Graphics	(3-0-2) 4
MA111	Engineering Mathematics – II	(3-0-0) 3	IT363	Microprocessors and Interfacing	(3-0-2) 4
CY110	Chemistry	(3-0-0) 3	IT364	Performance Modeling	(3-0-2) 4
CY111	Chemistry Laboratory	(0-0-3) 2	IT365	Advanced Computer Networks	(3-0-2) 4
Engineering Science Core (ESC)			IT366	Object Oriented Analysis and Design	(3-0-2) 4
ME110	Elements of Mechanical Engineering	(2-0-0) 2	IT400	Perceptual Audio Processing	(3-0-2) 4
ME111	Engineering Graphics	(1-0-3) 3	IT401	Perceptual Video Processing	(3-0-2) 4
WO110	Engineering Mechanics	(3-0-0) 3	IT402	Soft Computing	(3-0-2) 4
CS110	Computer Programming	(3-1-0) 4	IT403	Genetic Algorithms	(3-0-2) 4
CS111	Computer Programming Lab	(0-0-2) 1	IT404	Artificial Neural Networks	(3-0-2) 4
Humanities and Social Science Core (HSC)			IT405	Fuzzy System Models	(3-0-0) 3
SM110	Professional Communication	(3-0-0) 3	IT406	Distributed Computing Systems	(3-0-2) 4
SM300	Engineering Economics	(3-0-0) 3	IT407	Technologies for Internet of Things	(3-0-2) 4
SM302	Principles of Management	(3-0-0) 3	IT408	Mobile Computing	(3-0-0) 3
Programme Core (PC)			IT409	Embedded Systems	(3-0-0) 3
IT110	Digital System Design	(3-0-2) 4	IT410	Bioinformatics	(3-0-0) 3
IT150	Object Oriented Programming	(3-0-2) 4	IT411	Knowledge Management	(3-0-0) 3
IT200	Computer Communication and Networking	(4-0-0) 4	IT412	Time Series Analysis	(3-0-0) 3
IT201	Computer Organization and Architecture	(3-0-0) 3	IT413	System Integration	(3-0-0) 3
IT202	Data Structures and Algorithms-I	(3-0-0) 3	IT414	Data Warehousing and Data Mining	(3-0-2) 4
IT203	Discrete Mathematics	(3-0-0) 3	IT415	Middleware Technologies	(3-0-2) 4
IT204	Signals and Systems	(3-0-2) 4	IT416	Computer Vision	(3-0-2) 4
IT205	Computer Networking Lab	(0-0-3) 2	IT417	Pattern Recognition	(3-0-2) 4
IT206	Data Structures and Algorithms-I Lab	(0-0-3) 2	IT418	Cloud Computing	(3-0-2) 4
IT250	Automata and Compiler Design	(3-0-2) 4	IT419	Wireless Sensor Networks	(3-0-2) 4
IT251	Data Structures and Algorithms-II	(3-0-2) 4	IT420	Mobile Adhoc Networks	(3-0-2) 4
IT252	Database Systems	(3-0-2) 4	IT421	Semantic Web Technologies	(3-0-2) 4
IT253	Operating Systems	(3-0-2) 4	IT422	Virtual Reality	(3-0-2) 4
IT254	Web Technologies and Applications	(3-0-2) 4	IT423	Rich Internet Applications	(3-0-2) 4
IT300	Design and Analysis of Algorithms	(3-0-2) 4	IT450	Web Services	(3-0-0) 3
IT301	Parallel Computing	(3-0-2) 4	IT451	Software Architecture	(3-0-0) 3
IT302	Probability and Statistics	(3-0-2) 4	IT452	Advanced Computer Architecture	(3-0-0) 3
IT303	Software Engineering	(3-0-2) 4	IT453	Transaction Processing	(3-0-0) 3
IT350	Data Analytics	(3-0-2) 4	IT454	Software Quality Assurance	(3-0-0) 3
IT351	Human Computer Interaction	(3-0-2) 4	IT455	Information Technology for Healthcare	(3-0-0) 3
IT352	Information Assurance and Security	(3-0-2) 4	IT456	Enterprise Resource Planning and Systems	(3-0-0) 3
Major Project (MP)			IT457	Natural Language Processing	(3-0-2) 4
IT449	Major Project-I	(0-0-3) 2	IT458	Information Retrieval	(3-0-2) 4
IT499	Major Project-II	(0-0-6) 4	IT459	Simulation and Modelling	(3-0-2) 4
Mandatory Learning Courses (MLC)			IT460	E-Commerce	(3-0-0) 3
CV110	Environmental Studies	(1-0-0) 1	IT461	Advanced Database Systems	(3-0-2) 4
SM111	Professional Ethics and Human Values	(1-0-0) 1	IT462	Number Theory and Cryptography	(3-0-2) 4
IT290	Seminar	1	IT463	Linux Kernel Internals	(3-0-2) 4
IT440	Practical Training	2	IT464	Foundations of Machine Learning	(3-0-2) 4
			IT465	Cryptocurrencies and Blockchain Technologies	(3-0-2) 4
			B.Tech (Minor) in Information Technology for Other Branches		
			IT210	Data Structures and Algorithms	(3-0-2) 4
			IT252	Database Systems	(3-0-2) 4
			IT254	Web Technologies and Applications	(3-0-2) 4
			IT301	Parallel Computing	(3-0-2) 4
			IT350	Data Analytics	(3-0-2) 4

For B.Tech (Honors) in Information Technology :

Students seeking Honors degree shall credit five courses of M.Tech (IT) including Program Core/Electives, offered by the Department of Information Technology and as decided by DUGC with 20 credits. For other details, please see M.Tech (IT) Curriculum.

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Suggested Plan of Study

Semester →	I	II	III	IV	V	VI	VII	VIII
1	MA110	MA111	IT200	IT250	IT300	IT350	IT440	IT499
2	CY110	PH110	IT201	IT251	IT301	IT351	IT449	Elective-5
3	CY111	PH111	IT202	IT252	IT302	IT352	Elective-2	Elective-6
4	WO110	ME110	IT203	IT253	IT303	SM302	Elective-3	Elective-7
5	CS110	ME111	IT204	IT254	SM300	Elective-1	Elective-4	---
6	CS111	SM110	IT205	IT290	---	---	---	---
7	CV110	SM111	IT206	---	---	---	---	---
8	IT110	IT150	---	---	---	---	---	---

Degree Requirements:

Category of Courses	Minimum Credits to be Earned
Basic Science Core (BSC)	16
Engineering Science Core (ESC)	13
Humanities and Social Sciences Core (HSC)	9
Programme Core (PC)	77
Electives (ELE): Programme Specific Electives (PSE)	24
Major Project (MP)	6
Mandatory Learning Courses (MLC)	5
Total	150