

Ahmedabad University
School of Engineering and Applied Science

Bachelor of Technology in Information and Communication Technology

A student in the Bachelor of Technology in Information and Communication Technology programme takes courses leading up to a minimum of 144 credits with passing grades and a final CGPA of 2.00 in order to receive the Bachelor of Technology in Information and Communication Technology degree. Courses listed as programme core are mandatory for a student to receive the Bachelor of Technology in Information and Communication Technology degree. Student can take minimum 12 to 21 credits in each semester. Permission of Programme Chair and Dean of the school is required in case a student wishes to take more than 21 credits. The detailed programme structure is as follows.

1. Programme Structure: 144 Credits

- Programme Core: 114 Credits
- Programme Electives: 21 Credits
- Free Electives: 9 Credits

2. Programme Core: 114 Credits

Sr. No.	Course Code	Course	Credits
1	BTP402*	Project Part - 1	3
2	BTP403*	Project Part - 2	12
3	BTP404*	Project Part - 1	7
4	BTP405*	Project Part - 2	8
5	BTP406*	Project: Venture Studio Startup Fellowship	12
6	COM101	Effective Reading and Comprehension Skills	3
7	CSC100	Introduction to Computer Programming	3
8	CSC101	Introduction to Computer Programming Lab	1.5
9	CSC102	Object Oriented Programming	3
10	CSC103	Object Oriented Programming Lab	1.5
11	CSC210	Data Structures and Algorithms	3
12	CSC211	Data Structures and Algorithms Lab	1.5
13	CSC250	Database Management Systems	3
14	CSC251	Database Management Systems Lab	1.5
15	CSC300	Software Engineering	3
16	CSC330	Computer Networks	3
17	CSC331	Computer Networks Lab	1.5
18	CSC340	Operating Systems	3
19	CSC341	Operating Systems Lab	1.5
20	CSP200	Signals and Systems	4
21	CSP210	Analogue and Digital Communications	3
22	CSP211	Analogue and Digital Communications Lab	1.5
23	CSP300	Digital Signal Processing	3
24	CSP301	Digital Signal Processing Lab	1.5
25	CSP310	Wireless Communications	3
26	CSP311	Wireless Communications Lab	1.5
27	EPP291	Economics	3
28	EVD103	Electronic System Design	3
29	EVD110	Digital Design	3

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30	EVD111	Digital Design Lab	1.5
31	EVD210	Computer Organisation	3
32	EVD211	Computer Organisation Lab	1.5
33	EVD220	Embedded System Design	3
34	EVD221	Embedded System Design Lab	1.5
35	MAT100	Calculus and Differential Equations	4
36	MAT101	Discrete Mathematics	4
37	MAT200	Linear Algebra	4
38	MAT202	Probability and Random Processes	4
39	MGT166	Ethics	3
40	SCS132	Electromagnetic Theory	4
41	UWC1103	User Centered Design	3
42	UWSS101	Environmental Studies	3

3. Programme Electives: At least **21** credits from one or more of the following categories.

• **Category 1: Computer Science and Engineering**

Sr. No.	Course Code	Course	Credits
1	CSC310	Advanced Data Structures and Algorithms	3
2	CSC511	Algorithms and Optimisation for Big Data	3
3	CSC512	Algorithmic Game Theory	3
4	CSC520	Data Analytics and Visualisation	3
5	CSC523	Machine Learning	3
6	CSC540	Cloud Computing	3
7	CSC560	Models of Computation	3
8	EVD511	High Performance Computing	3
9	CSC542	Introduction to Blockchain: Technologies, Approaches and Applications	3

• **Category 2: Communication and Signal Processing**

Sr. No.	Course Code	Course	Credits
1	CSP312	Software Defined Radio	3
2	CSP500	Information and Coding Theory	3
3	CSP501	Digital Image Processing	3
4	CSP502	Computer Vision	3
5	CSP510	Advanced Wireless Communication	3

• **Category 3: VLSI Systems**

Sr. No.	Course Code	Name	Credits
1	EVD310	VLSI Design	3
2	EVD500	Integrated Circuit Device and Technology	3
3	EVD510	Circuit Characterisation of VLSI Sub-System	3
4	EVD512	VLSI Sub-system Design	3

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5	EVD520	Internet of Things	3
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• **Category 4: Multidisciplinary**

Sr. No.	Course Code	Name	Credits
1	MDT520	Intelligent Building: an Introduction	3
2	SCS530	Renewable Energy Technology	3
3	CSC513	Optimization: Tools and Techniques for Modeling, Design and Analysis	3
4	MDT420	Industrial Automation	3

• **Category 5: Mechanical Engineering**

Sr. No.	Course Code	Name	Credits
1	SCS550	Robotics	3

- 4. Free Electives:** Students can choose elective courses of 9 Credits offered by any schools across the university. These courses could be from the list mentioned earlier in the programme or from the course list of other programmes.

*A student can register for BTech Project as follows:

1. BTP402 and BTP403 **OR** 2. BTP404 and BTP405 **OR** 3. BTP402 and BTP406

Sem.VII - May register in BTP402 **OR** BTP404

Sem.VIII - Has to complete BTP403 (in continuation to BTP402) **OR** BTP405 (in continuation to BTP404)

Sem VIII - BTP402 and BTP403 **OR** BTP402 and BTP406