



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

NEP-2020 Based BTech-IT- UG curriculum

(With effect from July 2026)

Total Credit : 160

Lecture-L: 1 Credit = 1 hr/ week

Practical-P: 1 Credit = 2 hr/week

Tutorial-T: 1 Credit = 1hr/week

Self Study-S: 1 Credit= 1 hr/week

Multidisciplinary BTech-IT Program: Sem-wise Credit Dist.- One Major, One Minor

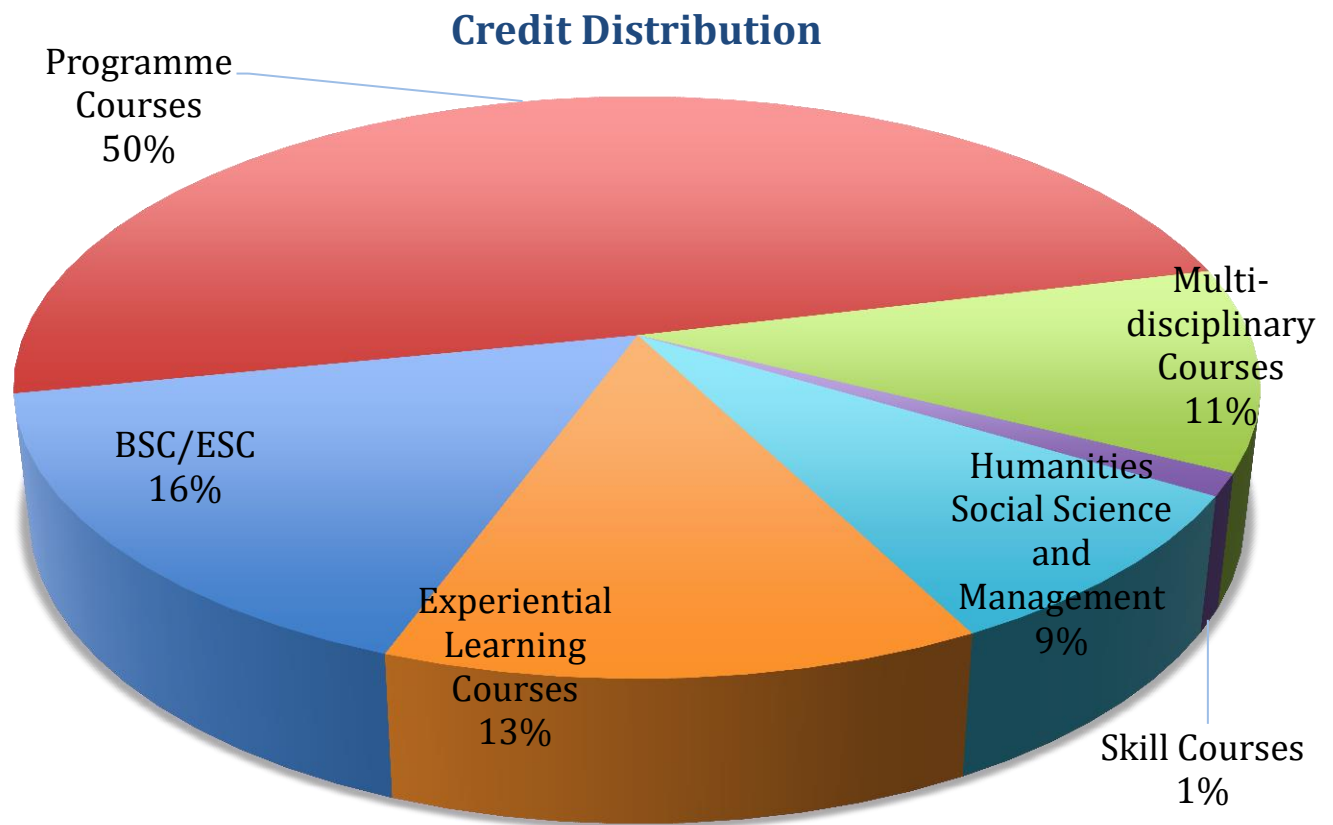
Semester		I	II	III	IV	V	VI	VII	VIII	Total Credits	
Basic Science Course	BSC/ESC	04	04	04	--	--	02	--	--	14	26
Engineering Science Course		09	03		--	--	--	--	--	12	
Programme Core Course (PCC)	Programme Courses	--	12	14	19	15	04	--	--	64	79
Programme Elective Course (PEC)		--	--	--	--	--	06	06	03	15	
Open/School Elective (OE/SE) other than particular program	Multi-disciplinary	--	--	--	--	--	--	03	03	06	18
Multidisciplinary Minor (MD M)		--	--	03	03	03	03	--	--	12	
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	--	02	--	--	--	--	--	--	02	02
Ability Enhancement Course (AEC-01)	Humanities Social Science and Management (HSMC)	02	--	--	--	--	--	--	--	02	14
Indian Language (AEC-02)		--	--	--	--	--	02	--	--	02	
Entrepreneurship/Economics/Management Courses		--	02	02	--	02	--	--	--	06	
Indian Knowledge System (IKS)		--	--	--	--	--	--	02	--	02	
Value Education Course (VEC)		01	01	--	--	--	--	--	--	02	
Research Methodology (RM)	Experiential Learning Courses (ELC)	--	--		--	--	--	--	--	--	21
Internship		--	--		--	--	--	03	--	03	
Project		--	--		--	03	04	04	06	17	
Community Engagement Activity (CEA)/Field Project		--	--	01	--	--	--	--	--	01	
Co-curricular & Extracurricular Activities (CCA)	Liberal Learning Course	--	--	--	--	--	--	--	--	0	0
Total Credits (One Major, One Minor degree)		16	24	24	22	23	21	18	12	160	160



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Semester 1					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Engineering Physics (For Section C)	AS101	BSC	4	3-0-2-0
2	Linear Algebra (For Section A & B)	AS102	BSC	4	3-1-0-0
3	Problem Solving with Programming	IT101	ESC	5	3-0-4-0
4	Fundamentals of Electrical & Electronics Engineering	EC101	ESC	4	3-0-2-0
5	Technical Communication Skills	MS101	HSMC(AEC)	2	1-0-2-0
6	Constitution of India		HSMC (VEC)	1	1-0-0-0
	Universal Human Values				
	Professional Ethics				
	Art of Living				
Total				16	11-0-10-0/ 11-1-8-0 21/20

Semester 2					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Engineering Physics (For Section A & B & Branch Change from IT to ECE)	AS101	BSC	4	3-0-2-0
2	Linear Algebra (For Section C1, C2, C3 & Branch Change from C to IT)	AS102	BSC	4	3-1-0-0
3	Discrete Mathematical Structures	IT102	PCC	4	3-1-0-0
4	Computer Organization and Architecture	IT103	PCC	4	3-0-2-0
5	Data Structures and Algorithms	IT104	PCC	4	3-0-2-0
6	Web Development	IT105	VSEC	2	0-0-4-0
7	Principles of Data Communication	EC107	ESC	3	3-0-0-0
8	Principles of Management	MS102	HSMC (AEC)	2	2-0-0-0
9	Constitution of India		HSMC (VEC)	1	1-0-0-0
	Environmental Studies				
	Professional Ethics				
	Physical Education(Sports)				
Total				24	18-1-10-0/ 18-2-8-0
					29/28

Sec. A, B: B.Tech. IT (Max. 154 and 153 students), **Sec. C1:** Dual Degree B. Tech.-IT-M.Tech.-IT (Max. 29 students), **Sec. C2:** B.Tech.-IT(BIn) (Max. 46 students), **Sec. C3:** Dual Degree B.Tech.-IT(Bin)-MBA (Max. 25 students)

Exit: After successful completion of two semesters, a student may get an exit option (Certificate in IT) as per Ordinance. They need to do **Skill based courses of 6 credits additional**, in summer, offline before exit. The department will provide a list of such courses.



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Semester 3					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Probability and Statistics	AS201	BSC	4	3-1-0-0
2	Object Oriented Methodologies	IT201	PCC	4	3-0-2-0
3	Theory of Computation	IT202	PCC	3	2-1-0-0
4	Operating System	IT203	PCC	4	3-0-2-0
5	Software Engineering	IT204	PCC	3	2-0-2-0
6	<i>Multi-Disciplinary Minor-1</i>		MDM	3	3-0-0-0
7	<i>Entrepreneurship Development</i>	MS508	HSMC (AEC)	2	2-0-0-0
8	<i>Community Services</i> NCC, NSS, Yoga, Unnat Bharat Abhiyaan-UBA, Ek Bharat Shreshtha Bharat-EBSB, NGO, Prayas, etc.		HSMC (CEA)	1	0-0-0-1
Total				24	18-2-6-1
					27

Semester 4					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Design and Analysis of Algorithms	IT205	PCC	4	3-0-2-0
2	Principles of Programming Language	IT206	PCC	3	3-0-0-0
3	Computer Networks	IT207	PCC	4	3-0-2-0
4	Computer Graphics and Visualization	IT208	PCC	4	3-0-2-0
5	Database Management System	IT209	PCC	4	3-0-2-0
6	<i>Multi-Disciplinary Minor-2</i>		MDM	3	3-0-0-0
Total				22	18-0-8-0
					26

Exit: After successful completion of Four semesters, a student may get an exit option (Diploma in IT) as per Ordinance. They need to do **Skill Based Courses of 6 credits, additional**, in summer, before exit. The department will provide a list of such courses.



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Semester 5					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Cyber Security	IT301	PCC	4	3-0-2-0
2	Introduction to Machine Learning	IT302	PCC	4	3-0-2-0
3	Image and Video Processing	IT303	PCC	4	3-0-2-0
4	Artificial Intelligence	IT304	PCC	3	2-0-2-0
5	Micro Project	IT305	ELC	3	0-0-6-0
6	<i>Multi-Disciplinary Minor-3</i>		MDM	3	3-0-0-0
7	<i>Design Thinking and Innovation</i>	IT306	HSMC (AEC)	2	1-0-2-0
Total				23	15-0-16-0 31

Semester 6					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Data Analytics	IT307	PCC	4	3-0-2-0
2	Mini Project	IT308	ELC	4	0-0-8-0
3	Biology for Engineers	AS301	BSC	2	2-0-0-0
4	Elective-1		PEC	3	3-0-0-0
5	Elective-2		PEC	3	3-0-0-0
6	<i>Multi-Disciplinary Minor-4</i>		MDM	3	3-0-0-0
7	<i>Indian/Foreign Language</i> <i>Regional Language, Sanskrit, German, Japanese, French</i>		HSMC (AEC)	2	1-0-2-0
Total				21	15-0-12-0 27

Exit: After successful completion of Six semesters, a student may get an exit option ([B.Sc Engg. in IT](#)) as per ordinance. They need to do **Skill Based Courses of 6 credits, additional**, in summer, before exit. The department will provide a list of such courses

Summer Semester					
Sl.No.	Course Name	Code	Type	Credit	
1	Internship	IT402	ELC	3	<i>Credit will be added in VII Sem.</i>

Note: Internship will be evaluated in the beginning of seventh semester. Its credit and grades will be reflected in the 7th semester Grade sheet.



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Semester 7					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Minor Project	IT401	ELC	4	0-0-8-0
2	Elective-3		PEC	3	3-0-0-0
3	Elective-4		PEC	3	3-0-0-0
4	Open Elective-1		OEC	3	3-0-0-0
5	<i>History of Indian Civilizations/ Kautilya's Arthashastra/ Vedic Mathematics/ Vedic Corpus/ Wisdom from the Ages/ Panini's Grammar</i>		HSMC (IKS)	2	2-0-0-0
6	Internship (Summer Semester)	IT402	ELC	3	0-0-0-6
Total				18	11-0-8-6 25

Semester 8					
Sl.No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1	Major Project#	IT404	ELC	6	0-0-12-0 0-0-0-6 *
2	Elective-5		PEC	3	3-0-0-0 0-0-0-3 *
3	Open Elective-2		OEC	3	3-0-0-0 0-0-0-3 *
Total				12	6-0-12-0 18

*8th Semester courses may be allowed to join via MOOC/ NPTEL/SWAYAM from list of courses approved by the department.

For Major Project, the students will have 3 options:

Option 1- The student will do an internship in a company, and the same work will be presented as the project without concealing any code/module;

Option 2- The student will do an internship in a company, but a separate project will be registered with the IIITA faculty in the department;

Option 3- The student will opt for a project only with the IIITA faculty in the department.



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1. Honors

- “Honors” is an additional credential a student will earn if he/ she opts for the extra 15 credits needed for this in his/ her own discipline. The concerned department specifies the course requirements for earning the Honors.
- BTech- IT- Honor Course: Minimum 8 CGPI and No backlog.
- After 3rd semester, students may choose extra credits for Honors
- The 8th Semester project must be an academic project. At least one research publication in Tier I/II conferences or in SCI Journals communicated or one patent filed.

2. Honors by Research

Multidisciplinary Minor Cyber Security & Forensics

Sl.No.	Course Name	Course Code	Semester	Credits	Hours
					L-T-P
1	Cyber Security and Digital Forensics	IT231	III	3	3-0-0-0
2	Cyber Law and Security Standards	IT232	IV	3	3-0-0-0
3	Blockchain Technology	IT331	V	3	3-0-0-0
4	Intrusion Detection System	IT332	VI	3	3-0-0-0
Total				12	

Note: Department will float other minors in future.