



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

NEP-2020 Based Dual Degree B.Tech-M.Tech-IT **with Specialization in Human Machine Interaction and Immersive Technologies** (With effect from July 2026 Batch)

Total Credit : 200

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

1. Degree: Dual Degree B.Tech-M.TechIT

2. Duration: The total duration of the program will be 5 years

Multidisciplinary Engineering Program: Sem-wise Credit Distribution- One Major, One Minor

Semester		I	II	III	IV	V	VI	VII	VIII	IX	X	Total Credits	
Basic Science Course	BSC/ESC	04	04	04	--	--	02	--	--	--	--	14	23
Engineering Science Course		09	--	--	--	--	--	--	--	--	--	09	
Programme Core Course (PCC)	Programme Courses	--	15	14	19	15	04	04	08	04	--	83	101
Programme Elective Course (PEC)		--	--	--	--	--	06	03	03	06	--	18	
Open/School Elective (OE/SE) other than particular program	Multi-disciplinary	--	--	--	--	--	--	03	--	--	--	03	15
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	02	--	02	--	02	--	--	--	--	--	06	14
Indian Language (AEC-02)		--	--	--	--	--	02	--	--	--	--	02	
Entrepreneurship/Economics/ Management Courses		--	02	--	--	--	--	--	--	--	--	02	
Indian Knowledge System (IKS)		--	--	--	--	--	--	02	--	--	--	02	
Value Education Course (VEC)		01	01	--	--	--	--	--	--	--	--	02	
Research Methodology (RM)	Experiential Learning Courses	--	--	--	--	--	--	05	--	--	--	05	45
Internship		--	--	--	--	--	--	--	--	03	--	03	
Project/Dissertation/Independent Study/Thesis		--	--	--	--	03	04	04	05	05	15	36	
Community Engagement Activity (CEA)/Field Project		--	--	01	--	--	--	--	--	--	--	01	
Co-curricular & Extracurricular Activities (CCA)	Liberal Learning Course	--	--	--	--	--	--	--	--	--	--	00	00
Total Credits		16	24	24	22	23	21	21	16	18	15	200	200

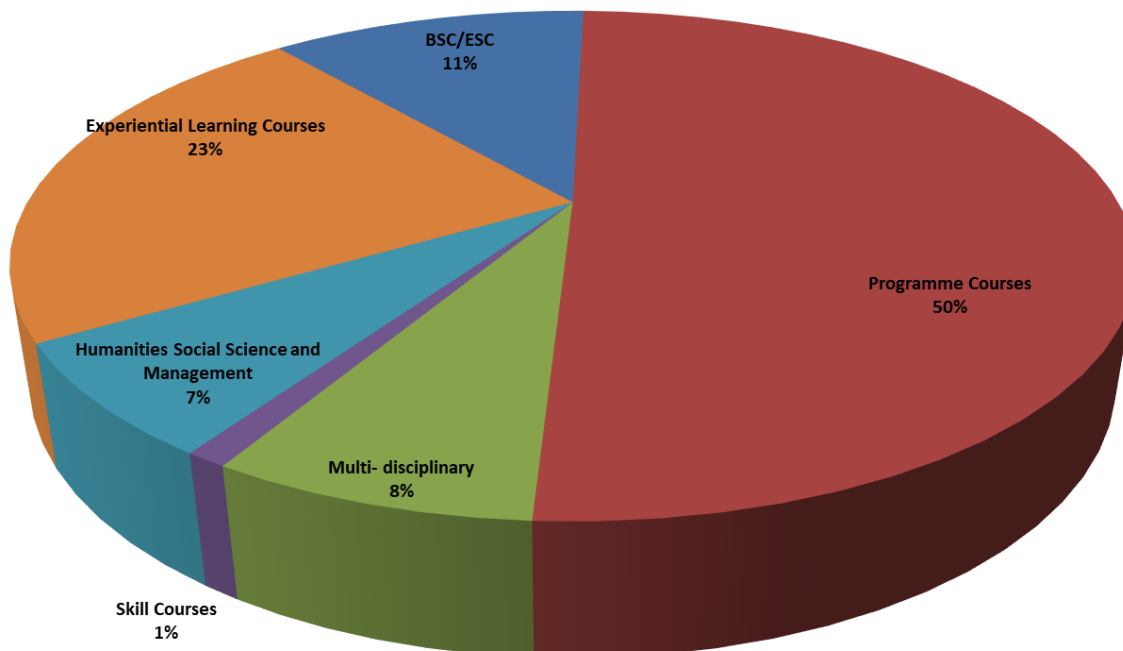


Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

Credit Distribution





Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

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			HSMC (VEC)	1	1-0-0-0
	Constitution of India				
	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			HSMC (VEC)	1	1-0-0-0
	Constitution of India				
	Environmental Studies				
	Professional Ethics				
	Physical Education(Sports)				
Total				24	15–1–8-0 24

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)



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

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, before exit. The department will provide a list of such courses.

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, offline before exit. The department will provide a list of such courses.



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

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

Specialization Choice exercise: The student will exercise his M.Tech IT specialization choice at the start of 6th Semester.

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 option: After successful completion of Six semesters, a student may get an exit option (B.ScEngg. 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.



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

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	Interaction Design and UX/UI Principles	IT511	PCC	4	3-0-2-0
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	AI Tools for Research	IT504	ELC	3	0-1-4-0
7	Research Methodology & IPR	IT505	ELC	2	2-0-0-0
Total				21	13-1-14-0
					28

Semester-8					
Sl. No.	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1.	Cognition and Cognitive Process Modeling	IT523	PCC	4	3-0-2-0
2.	Advanced Graphics and Animation	IT524	PCC	4	3-0-2-0
3.	Elective-4		PEC	3	3-0-0-0
4.	Dissertation Phase-I	IT550	ELC	3	0-1-4-0
5.	Independent Study#	IT551 **	ELC	2	0-0-4-0
Total				16	9-1-12-0
					22

** "Topic Of Study"- Will be mention on grade card

Advised by the Supervisor

Exit option 1: After successful completion of Eight semesters, a student may get an exit option (B.ScEngg. in IT with PG Diploma in IT with Specialization xxx) as per ordinance.

Exit options 2: After successful completion of Eight Semesters, students may opt for exit with B.Tech IT by completing one additional semester 9A as per requirements of B.Tech Degree (refer Ordinance)



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

Summer Semester					
Sl.No.	Course Name	Code	Type	Credit	
1	Internship	IT402	ELC	3	Credit will be added in the 9 th /9A Sem.

Note: Internship will be evaluated in the beginning/during the ninth semester. Its credit and grades will be reflected on the 9th-semester Grade sheet.

Semester-9

	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1.	Virtual and Augmented Reality Systems	IT606	PCC	4	3-0-2-0
2.	Elective-5		PEC	3	3-0-0-0
3.	Elective – 6##		PEC	3	0-0-0-3
4.	Dissertation Phase-II	IT650	ELC	5	0-2-6-0
5.	Internship	IT402	ELC	3	0-0-0-3
Total				18	6-2-8-6 22 Hrs./week

Course based on Thesis Theme advised by Supervisor from MOOC/NPTEL/SWAYAM approved by department

Semester-10

	Course Name	Code	Type	Credit	Hours
					L-T-P-S
1.	Thesis	IT651	ELC	15	0-2-26-0
Total				15	0-2-26--0 28 Hrs./week
Cumulative Degree Credits				200	



Indian Institute of Information Technology - Allahabad

Deoghat, Jhalwa- 211015, Prayagraj, Uttar Pradesh

Department of Information Technology

Semester 9A (This semester is Only for Exit Option 2 opted during 8th Semester)					
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 *
4	Internship	IT402	ELC	3	0-0-0-3
Total				15	21/15*

* 9A Semester: Courses may be allowed to join via MOOC/ NPTEL/SWAYAM. The department will offer the list of subjects

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.

1. Electives of B.Tech-IT will be offered for electives upto 7th Semester
2. Electives of M.Tech-IT will be offered for in 8th, 9th and 10th Semester.