



### PROGRAMME DETAILS

<b>Programme Name</b>	B.Tech Computer Science and Engineering with Minor Degree in AI by IIT Mandi
<b>Industry Partner</b>	Minor Degree in AI — IIT Mandi
<b>School</b>	University School of Engineering and Technology (USET)
<b>Batch</b>	2026 Onwards
<b>Duration</b>	4 Years (8 Semesters)
<b>Admission Year</b>	2026

### Semester I — First Year

S.No.	Course Name
1	Applied Mathematics
2	Applied Physics
3	Applied Physics Lab
4	Computational Thinking
5	Computational Thinking Lab
6	Object-Oriented Programming in C++
7	Object-Oriented Programming in C++ Lab
8	English Communication Skills-I
9	English Communication Skills-I Lab
10	Seminar (Field Visit)

**Note:** Total: 29 Hrs

### Semester II — First Year

S.No.	Course Name
1	Discrete Mathematical Structures
2	Data Structures & Algorithms with C++
3	Data Structures & Algorithms with C++ Lab
4	Python Programming
5	Python Programming Lab
6	Electrical & Electronics Engineering
7	Electrical & Electronics Engineering Lab
8	Environmental Science
9	English Communication Skills-II



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10	English Communication Skills-II Lab
11	Seminar (Field Visit)
<b>Note:</b> Total: 22 Hrs	
<input type="checkbox"/> <b>After Completion of 1st Year — Certificate in Computer Science and Engineering</b>	

### Semester III — Second Year

S.No.	Course Name
1	Computer System Organization and Architecture
2	Operating Systems (Linux)
3	Introduction to Quantum Computing
4	Relational Database Management System
5	Relational Database Management System Lab
6	Personality Development Workshop-I
7	Accounting
8	Seminar (Field Visit)
9	Open Elective-I (Online Certification Course through MOOC, SWAYAM, EDX etc.)
<b>Note:</b> Total: 25 Hrs	

### Semester IV — Second Year

S.No.	Course Name
1	Principle of Modern Software Engineering
2	Design Thinking
3	Design Thinking Lab
4	Introduction to Data Analytics
5	Health & Fitness
6	Entrepreneurship & Startup Management
7	Seminar (Field Visit)
<b>Note:</b> Total: 26 Hrs	
<input type="checkbox"/> <b>After Completion of 2nd Year — Diploma in Computer Science and Engineering</b>	

### Semester V — Third Year

S.No.	Course Name
1	Data Communication and Computer Networks
2	Data Communication and Computer Networks Lab



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3	Automata Theory & Computability
4	Elective-I
5	Personality Development Workshop-II
6	Seminar (Field Visit)
7	Open Elective-II (Online Certification Course through MOOC, SWAYAM, EDX etc.)
<b>Note:</b> Total: 19 Hrs	

### Semester VI — Third Year

S.No.	Course Name
1	Cloud Computing Technology
2	Cloud Computing Lab
3	Web Technologies & Applications
4	Web Technologies & Applications Lab
5	Elective-II
6	Minor Project
7	Seminar (Field Visit)
<b>Note:</b> Total: 21 Hrs	
<input type="checkbox"/> After Completion of 3rd Year — B.Sc. in Computer Science and Engineering	

### Semester VII — Fourth Year

S.No.	Course Name
1	Project
2	Seminar
3	Internship

### Semester VIII — Fourth Year

S.No.	Course Name
1	Project
2	Seminar
3	Internship
<input type="checkbox"/> After Completion of 4th Year — B.Tech Degree in Computer Science and Engineering (with Minor in AI by IIT Mandi)	



### ELECTIVES — COURSE OPTIONS

#### Elective-I (Semester V)

S.No.	Course Name
1	IT Infrastructure Landscape Overview (UGCC-206)
2	Computer Graphics (UGCC-208)
3	Linux Administration (UGCC-225)
4	Full Stack Foundation — Java (UGCC-114)

#### Elective-II (Semester VI)

S.No.	Course Name
1	Predictive Analytics (UGCC-227)
2	Descriptive Analytics (UGCC-228)
3	Data Wrangling & Data Visualisation (UGCC-229)
4	Software Project Management (UGCC-230)
5	Front-End UI/UX Development (UGCC-209)

#### IIT Mandi Minor Degree — AI Course Thread

S.No.	Course Name
1	Sem 1: Foundations of Intelligence & Computing
2	Sem 2: Data, SQL & Mathematical Foundations for AI
3	Sem 3: Machine Learning Fundamentals
4	Sem 4: Deep Learning Foundations
5	Sem 5: Computer Vision & Natural Language Processing
6	Sem 6: Generative AI, Transformers & AI Systems
7	Sem 6/7: AI / GenAI Capstone Project (optional)

### PROGRAMME EXIT MILESTONES

- ◆ After Year 1 → Certificate in CSE
- ◆ After Year 2 → Diploma in CSE
- ◆ After Year 3 → B.Sc. in CSE
- ◆ After Year 4 → B.Tech Degree in CSE (with Minor in AI by IIT Mandi)