

**LAMRIN TECH SKILLS UNIVERSITY PUNJAB**  
University School of Engineering and Technology (USET)  
**STUDY SCHEME** | B.Tech CSE with Internet of Things (IoT) Specialization

**PROGRAMME DETAILS**

<b>Programme Name</b>	B.Tech Computer Science and Engineering (Internet of Things — IoT)
<b>Industry Partner</b>	Powered by IBM Specialization
<b>School</b>	University School of Engineering and Technology (USET)
<b>Batch</b>	2024 Onwards
<b>Duration</b>	4 Years (8 Semesters)
<b>Admission Year</b>	2024

**Semester I — First Year**

S.No.	Course Name
1	Applied Mathematics
2	Applied Physics / Electrical & Electronics Engineering
3	Applied Physics Lab / Electrical & Electronics Engineering Lab
4	Computing Fundamental and Programming Essentials Skills
5	Computing Fundamental and Programming Essentials Skills Lab
6	Python Programming
7	Python Programming Lab
8	Computational Thinking, Problem Solving, Application Planning & Automated Software Testing
9	Computational Thinking, Problem Solving, Application Planning & Automated Software Testing Lab
10	English Communication Skills-I
11	English Communication Skills-I Lab
12	Environmental Science

**Semester II — First Year**

S.No.	Course Name
1	Discrete Mathematical Structures
2	Applied Statistics
3	Applied Statistics Lab
4	Data Structures & Algorithms with C++
5	Data Structures & Algorithms with C++ Lab
6	Applied Physics / Electrical & Electronics Engineering
7	Applied Physics Lab / Electrical & Electronics Engineering Lab
8	Design Thinking & Strategic Innovation
9	Design Thinking & Strategic Innovation Lab

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10	English Communication Skills-II
11	English Communication Skills-II Lab
12	Introduction to Internet of Things (IoT)

**Note:** Summer Training of 6 hrs per day for 4 weeks (Phase I Project) to be conducted after the completion of 1st Year.

**After Completion of 1st Year — Certificate in Computer Science and Engineering**

### Semester III — Second Year

S.No.	Course Name
1	Relational Database Management System & NoSQL
2	Relational Database Management System & NoSQL Lab
3	Sensor Technology & Instrumentation
4	Sensor Technology & Instrumentation Lab
5	Operating Systems
6	Operating Systems Lab
7	Principle of Modern Software Engineering
8	Emerging Tech 1 — Data Analytics
9	III Semester Electives (EL)-1
10	Industry Elective Module 1 (Self-Paced Online Learning)
11	Personality Development Workshop-I
12	Health & Fitness
13	Summer Training & Phase I Project
14	Open Elective-I (Online Certification Course through MOOC, SWAYAM etc.)

### Semester IV — Second Year

S.No.	Course Name
1	Web Technologies & Applications
2	Web Technologies & Applications Lab
3	Wireless Sensor Networks (WSN) & IoT Standards
4	Wireless Sensor Networks (WSN) & IoT Standards Lab
5	Personality Development Workshop-II
6	Computer System Organization and Architecture
7	Computer System Organization and Architecture Lab
8	Emerging Tech 2 — Artificial Intelligence and Machine Learning
9	IV Semester Electives (EL)-2

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10	Industry Elective Module 2 (Self-Paced Online Learning)
11	Project on Real Time App. (Phase II Project)
<b>Note:</b> Summer Training-II: Project assignment & field work to collect real data — summer break 4 weeks.	
<input type="checkbox"/> <b>After Completion of 2nd Year — Diploma in Computer Science and Engineering (IoT)</b>	

### Semester V — Third Year

S.No.	Course Name
1	Data Communication and Computer Networks
2	Embedded Technology for IoT
3	Embedded Technology for IoT Lab
4	Emerging Tech 3 — IT Security
5	Compiler Design
6	Data Communication and Computer Networks Lab
7	V Semester Electives (EL)-3
8	Industry Elective Module 3 (Self-Paced Online Learning)
9	Summer Training-III
10	Project on Real Time App. (Phase III Project)
11	Open Elective-II (Online Certification Course through MOOC, SWAYAM etc.)

### Semester VI — Third Year

S.No.	Course Name
1	IoT Enterprise Solution Architecture
2	IoT Enterprise Solution Architecture Lab
3	IoT for Industries (Use Case Scenarios)
4	IoT for Industries Lab
5	VI Semester Electives (EL)-4
6	Industry Elective Module 4 (Self-Paced Online Learning)
7	LIVE / LIVE Like Major Project (Phase IV Project)
<input type="checkbox"/> <b>After Completion of 3rd Year — B.Sc. Engineering in Computer Science and Engineering (IoT)</b>	

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**Semester VII — Fourth Year**

S.No.	Course Name
1	Semester On Job Deployment (OJD-I)

**Semester VIII — Fourth Year**

S.No.	Course Name
1	Semester On Job Deployment (OJD-II)

□ **After Completion of 4th Year — B.Tech Degree in Computer Science and Engineering (IoT)**

**SEMESTER ELECTIVES & INDUSTRY ELECTIVE MODULES**

**Industry Elective Modules (Modules 1–4):**

Industry Elective Modules are offered in partnership with IBM Specialization and are aligned with current IoT industry requirements. Delivered as Self-Paced Online Learning, students select one module per semester from Semesters III–VI, gaining hands-on, industry-relevant skills that complement the core curriculum.

**Semester Electives (EL-1 to EL-4):**

One elective course is offered per semester (Semesters III–VI). The list of elective courses is notified each semester by the School/University.

**Project Phases:**

The programme incorporates a four-phase project thread spanning all years: Phase I (Summer Training after Year 1), Phase II (Semester IV Real Time App), Phase III (Semester V Real Time App), and Phase IV (Semester VI LIVE/LIVE Like Major Project).

**PROGRAMME EXIT MILESTONES**

- ◆ After Year 1 (Semesters I & II) → Certificate in Computer Science and Engineering (IoT)
- ◆ After Year 2 (Semesters III & IV) → Diploma in Computer Science and Engineering (IoT)
- ◆ After Year 3 (Semesters V & VI) → B.Sc. Engineering in Computer Science and Engineering (IoT)
- ◆ After Year 4 (Semesters VII & VIII) → B.Tech Degree in Computer Science and Engineering (IoT)

*Lamrin Tech Skills University Punjab | [www.ltsu.ac.in](http://www.ltsu.ac.in) | [info@ltsu.ac.in](mailto:info@ltsu.ac.in)*