

# LAMRIN TECH SKILLS UNIVERSITY PUNJAB

University School of Engineering and Technology (USET)

**STUDY SCHEME** | B.Tech Mechanical Engineering (Digital Manufacturing using AI & CPS)

## PROGRAMME DETAILS

<b>Programme Name</b>	B.Tech Mechanical Engineering (Digital Manufacturing using AI & CPS)
<b>Industry Partner</b>	Powered by L&T (Larsen & Toubro)
<b>School</b>	University School of Engineering and Technology (USET)
<b>Batch</b>	2025-2029
<b>Duration</b>	4 Years (8 Semesters)
<b>Admission Year</b>	2025

### Semester I — First Year

S.No.	Course Name
1	Applied Mathematics
2	Programming for Problem Solving
3	Electrical and Electronics Engineering
4	Elements of Mechanical Engineering
5	English Communication Skills-I
6	Product Design Thinking Framework
7	Electrical and Electronics Engineering Lab
8	English Communication Skills-I Lab
9	Engineering Graphics & Drafting
10	Programming for Problem Solving Lab

### Semester II — First Year

S.No.	Course Name
1	Applied Physics
2	Engineering Mathematics
3	Programming in Python
4	English Communication Skills-II
5	Manufacturing Processes-I
6	Environmental Science
7	Engineering Workshop Lab
8	English Communication Skills-II Lab
9	Applied Physics Lab
10	Programming in Python Lab

**Note:** Workshop Training will be imparted in the Institution at the end of 2nd Semester for Four (04) weeks duration (Minimum 30 hours per week). Industrial tour will also form part of this training.

□ **After Completion of 1st Year — Certificate in Mechanical Engineering**

# LAMRIN TECH SKILLS UNIVERSITY PUNJAB

University School of Engineering and Technology (USET)

**STUDY SCHEME** | B.Tech Mechanical Engineering (Digital Manufacturing using AI & CPS)

## Semester III — Second Year

S.No.	Course Name
1	Strength of Material
2	Metrology and Measurements
3	Graphics, Geometric Tolerances & Drawing in Manufacturing
4	Material Science Engineering
5	Manufacturing Processes II
6	Professional Ethics & Civics Morals
7	Strength of Material Lab
8	Material Science Engineering Lab
9	Manufacturing Processes Lab
10	Summer Training (with Projects)

## Semester IV — Second Year

S.No.	Course Name
1	Theory of Machine
2	Fluid Mechanics and Fluid Machinery
3	Applied Thermodynamics
4	Computer Integrated Manufacturing
5	Technology and Processes in Heavy Manufacturing
6	Theory of Machine Lab
7	Fluid Mechanics and Fluid Machinery Lab
8	Applied Thermodynamics Lab
9	Computer Integrated Manufacturing Lab
10	Personality Development Workshop-I
11	Open Elective-I (Online Certification Course through MOOC, SWAYAM etc.)

**Note:** Training will be imparted in the Institution/Industry at the end of 4th Semester for Four (04) weeks duration (Minimum 30 hours per week). Industrial tour will also form part of this training.

□ **After Completion of 2nd Year — Diploma in Mechanical Engineering**

# LAMRIN TECH SKILLS UNIVERSITY PUNJAB

University School of Engineering and Technology (USET)

**STUDY SCHEME** | B.Tech Mechanical Engineering (Digital Manufacturing using AI & CPS)

## Semester V — Third Year

S.No.	Course Name
1	Digital Technologies with CPS, IIoT & Cloud in Manufacturing
2	Cognitive Manufacturing — Artificial Intelligence & Machine Vision
3	Heat Transfer
4	Machine Design
5	Automobile Engineering
6	Heat Transfer Lab
7	Machine Design Lab
8	Automobile Engineering Lab
9	Industrial Training with Project

## Semester VI — Third Year

S.No.	Course Name
1	Refrigeration & Air Conditioning
2	Mechanical Vibration
3	Additive Manufacturing
4	Collaborative Robotics in Manufacturing with AI, ML & IIoT
5	Professional Elective-I
6	Refrigeration & Air Conditioning Lab
7	Project Work
8	Personality Development Workshop-II
9	Open Elective-II (Online Certification Course through MOOC, SWAYAM etc.)

□ After Completion of 3rd Year — B.Sc. in Mechanical Engineering

## Semester VII — Fourth Year

S.No.	Course Name
1	On Job Training / On Job Deployment

## Semester VIII — Fourth Year

S.No.	Course Name
1	On Job Training / On Job Deployment

□ After Completion of 4th Year — B.Tech Degree in Mechanical Engineering (Digital Manufacturing using AI & CPS)

**LAMRIN TECH SKILLS UNIVERSITY PUNJAB**  
University School of Engineering and Technology (USET)  
**STUDY SCHEME** | B.Tech Mechanical Engineering (Digital Manufacturing using AI & CPS)

**Professional Elective-I — Course Options**

S.No.	Elective Course Name
1	Non-Traditional Machining
2	Internal Combustion Engine
3	Solar Energy
4	Mechatronics
5	Total Quality Management
6	Non-Conventional Energy Resources
7	Robotics
8	Drone Technology
9	Electric Vehicle
10	Product Engineering
11	Smart Materials

**PROGRAMME EXIT MILESTONES**

- ◆ After Year 1 (Semesters I & II) → Certificate in Mechanical Engineering
- ◆ After Year 2 (Semesters III & IV) → Diploma in Mechanical Engineering
- ◆ After Year 3 (Semesters V & VI) → B.Sc. in Mechanical Engineering
- ◆ After Year 4 (Semesters VII & VIII) → B.Tech Degree in Mechanical Engineering (Digital Manufacturing using AI & CPS)

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