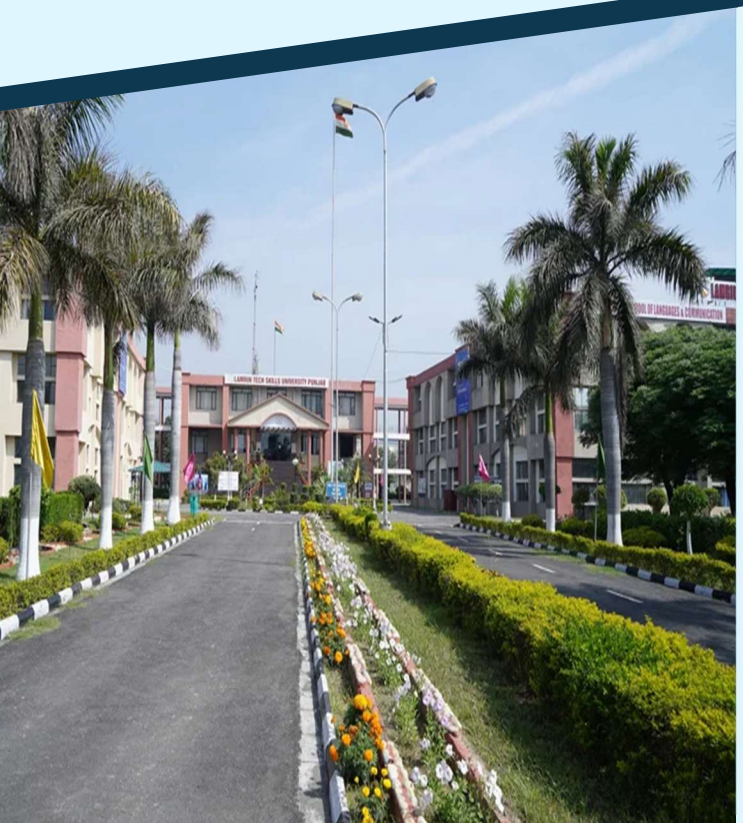
"While an academic degree validates theoretical knowledge, technical skills demonstrate practical capability. Invest in the competencies that will define the future of your career."



Shape the Future with AI Automation

"Build the future of tech with a BCA in AI & ML, where software development meets machine intelligence. Learn to design, deploy, and scale the algorithms that are transforming industries worldwide."

Address- Lamrin Tech Skills University Punjab

Chandigarh- Jalandhar National Highway (NH344A)

Postal Code-144533

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Contact us- +91 98554 28846, +91 83602 50986

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Email- office.usoc@ltsu.ac.in

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Website- https://www.ltsu.ac.in/university-school-of-computing



Lamrin Tech Skills University Punjab

BSc AI AUTOMATION

Study Scheme

University School of Computing

Batch 2026

Contact Here for admission-
+91 98554 28846, +91 83602 50986

OBJECTIVES

- Graduates will successfully design, develop, and deploy production-grade software, robust machine learning models, and complex enterprise automation pipelines using modern languages ($C++$ and Python).
- The capability to architect multi-agent systems, engineer complex prompt pipelines, handle real-time APIs, and safely integrate disparate legacy software into singular, high-availability workflows.
- Students apply the principles of **Design Thinking** and **Human-Computer Interaction (HCI)** to build frontends, conversational bots, and digital media automations that are highly accessible, functional, and visually intuitive.
- The ability to operate fluidly within a modern DevOps lifecycle, leveraging Git version control, agile sprint planning, automated data-cleaning pipelines, and rigorous software testing methodologies.

Course Curriculum Overview: Year I

This curriculum provides an industry-aligned undergraduate foundation that bridges core computer applications with AI Automation.

Our curriculum is meticulously designed to bridge the gap between fundamental computer science and modern artificial intelligence.

By combining rigorous mathematics, hands-on programming labs, global industry certifications, and creative design thinking, we prepare students to build the intelligent automation systems of tomorrow.

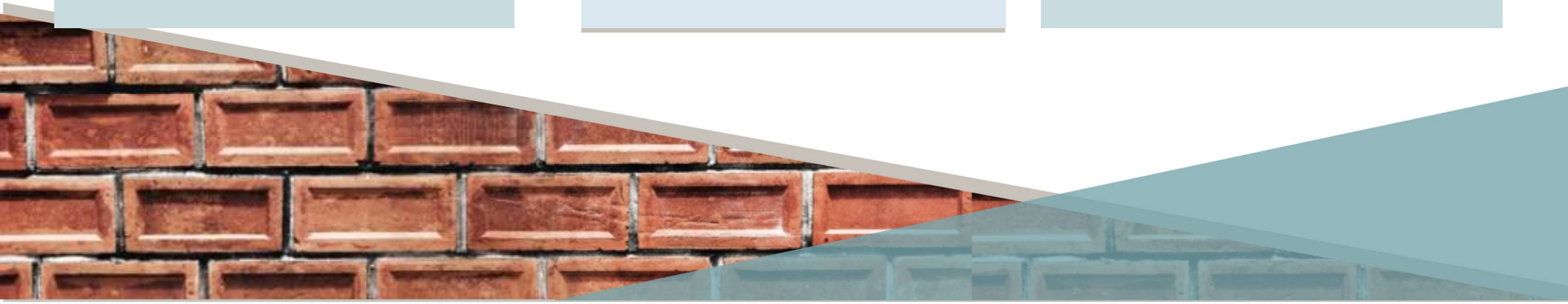
"Code is the foundation. AI is the engine. You are the architect."

Semester- I

- Problem Solving with Python & Lab
- Computer Fundamentals
- Mathematics for AI I — Linear Algebra & Discrete Math
- English Communication I & Lab
- Introduction to Artificial Intelligence and Automation
- Design Thinking and Creative Problem Solving
- AI Tools Exploration Lab
- CISCO- PCEP-Certified Entry -Level Python Programmer

Semester- II

- Computer Organization & Architecture
- AI-Assisted Content Authoring and Prompt Engineering
- English Communication II & Lab
- Mathematics for AI II — Probability, Statistics & Calculus
- Multimedia and Content Automation Lab
- Data Analytics for Digital Platforms & Lab
- Computer Networks
- Microsoft Applied Skills: Create an AI Agent



PROGRAMME OUTCOMES

- Diagnose model performance issues such as overfitting and underfitting using bias-variance trade-offs and validation curves.
- Implement feature engineering, data preprocessing, and regularization techniques to optimize model accuracy.
- Build, deploy, and monitor end-to-end machine learning pipelines using industry-standard libraries (e.g., Scikit-Learn, TensorFlow).
- Automate repetitive data engineering tasks, model training schedules, and inference pipelines.
- Apply Agile methodologies, object-oriented design patterns, and Git-based version control to collaborate on large-scale codebases.
- Design comprehensive testing strategies, including unit, integration, and automated CI/CD deployment pipelines.
- Evaluate digital media interfaces using established user-experience (UX) research principles and usability testing heuristics.
- Prototype highly accessible, intuitive front-end interfaces specifically designed for seamless human-AI collaboration.

Course Curriculum Overview: Year II

Focuses on agile methodologies, git version control, object-oriented design patterns, and system testing to write production-grade code.

Intelligent Agents and Conversational Systems & Lab Build multi-agent frameworks capable of reasoning, calling APIs, and autonomously resolving multi-layer user intents. The lab emphasizes creating contextual, stateful bots that handle complex multi-turn dialogs.

Human-Computer Interaction for Digital Media & Lab Study user psychology, wireframing, and interactive design. Learn how to craft intuitive, seamless user interfaces (UI) specifically optimized for AI-driven platforms and rich media environments.



Semester- III

- Machine Learning Fundamentals
- Social Media Systems and Digital Marketing
- Environmental Sciences
- Workflow Automation & System Integration
- Ethics, Privacy & Governance in AI Systems
- ML & Automation Lab
- Software Engineering
- Microsoft Applied Skills: Streamline Business Workflows with AI Chat

Semester- IV

- Generative AI: Foundations, Architecture & Advanced Prompt Engineering & Lab
- Enterprise Integration Engineering and Automation Architecture
- Intelligent Agents and Conversational Systems & Lab
- Human-Computer Interaction for Digital Media & Lab
- Digital Video & AI-Driven Content Automation & Lab
- ByteXL Certification on AI – Driven Content Automation



INDUSTRY & SKILLING PARTNERS

Course Curriculum Overview: Year III

Learn how to monetize your computing and AI skillset in the global gig economy and startup ecosystem. This course covers personal branding, proposal writing, contract negotiation, project pricing strategies, and platform mechanics (like Upwork and Toptal), alongside the legalities of launching a digital agency or SaaS startup.

This module bridges academic theory with workplace reality, ensuring students gain direct exposure to large-scale codebases, corporate sprints, and professional dev-ops workflows, frequently leading to direct pre-placement job offers.



Semester- V

- Digital Entrepreneurship and Freelancing Strategies
- Technical Ideation and Innovation Presentation
- Industry Internship

Semester- VI

- Capstone Project Development
- Industry Internship

