



TECHNO INDIA UNIVERSITY
WESTBENGAL

Curriculum for 4-Years B. Tech in Mechanical Engineering



Department of Mechanical Engineering

Batch: 2026-30 (AY 2026-27)

**Techno India University, West Bengal
EM-4, EM Block, Sector V, Bidhannagar,
Kolkata -700091, West Bengal**



4-Years B. Tech in Mechanical Engineering Course Curriculum

SEMESTER 1

S. No.	Code	Course Title	L	T	P	C
1	TIU-ES-UCS-T11101	INTRODUCTION TO PROGRAMMING	3	0	0	3
2	TIU-BS-UMA-T11101	MATHEMATICS I	3	1	0	4
3	TIU-BS-UCH-T11101	CHEMISTRY	3	1	0	4
4	TIU-ES-UCS-L11191	BASIC COMPUTING LAB	0	0	2	1
5	TIU-ES-UCS-L11101	INTRODUCTION TO PROGRAMMING LABORATORY	0	0	3	1.5
6	TIU-BS-UCH-L11101	CHEMISTRY LAB	0	0	3	1.5
7	TIU-ES-UME-L11192	WORKSHOP PRACTICE	0	0	3	1.5
8	TIU-HSM-UEN-S11191	CAREER ADVANCEMENT & SKILL DEVELOPMENT - I COMMUNICATION SKILL	2	0	0	2
9	TIU-HSM-UES-S11191	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						19.5



SEMESTER 2

S. No.	Code	Course Title	L	T	P	C
1	TIU-ES-UEE-T12101	BASIC ELECTRICAL & ELECTRONICS ENGINEERING	4	0	0	4
2	TIU-ES-UCS-T12101	PROBLEM SOLVING USING DATA STRUCTURES	3	0	0	3
3	TIU-BS-UMA-T12101B	MATHEMATICS II B	4	0	0	4
4	TIU-BS-UPH-T12101	PHYSICS	4	0	0	4
5	TIU-ES-UME-T12101	ENGINEERING MECHANICS	3	0	0	3
6	TIU-ES-UCS-L12101	PROBLEM SOLVING USING DATA STRUCTURES LAB	0	0	3	1.5
7	TIU-ES-UEE-L12101	BASIC ELECTRICAL & ELECTRONICS ENGINEERING LAB & SIMULATION	0	0	3	1.5
8	TIU-ES-UME-L12191	ENGINEERING DRAWING & GRAPHICS	0	0	3	1.5
9	TIU-BS-UPH-L12101	PHYSICS LAB	0	0	3	1.5
10	TIU-HSM-CASD-UEN-S12191	COMMUNICATION SKILL-II	0	0	2	1
11	TIU-HSM-UES-S12191	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						26



SEMESTER 3

S. No.	Code	Course Title	L	T	P	C
1	TIU-PC-UME-T21101	FLUID MECHANICS	3	0	0	3
2	TIU-PC-UME-T21102	THERMODYNAMICS	3	1	0	4
3	TIU-PC-UME-T21103	STRENGTH OF MATERIALS	3	0	0	3
4	TIU-PC-UME-T21104	MATERIAL SCIENCE	3	0	0	3
5	TIU-BS-UMA-T21103	TRANSFORM CALCULUS	3	0	0	3
6	TIU-MC-UOG-T21101	ENVIRONMENTAL SCIENCE	2	0	0	2
7	TIU-PC-UME-L21101	FLUID DYNAMICS LABORATORY	0	0	2	1
8	TIU-PC-UME-L21103	STRENGTH OF MATERIALS LABORATORY	0	0	2	1
9	TIU-CASD-UME-S21101A	CAREER ADVANCEMENT AND SKILL DEVELOPMENT (INTRODUCTION TO PYTHON)	0	0	2	1
10	TIU-HSM-UES-S21191	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						22



SEMESTER 4

S. No.	Code	Course Title	L	T	P	C
1	TIU-PC-UME-T22101	FLUID MACHINES	3	0	0	3
2	TIU-PC-UME-T22102	MANUFACTURING TECHNOLOGY	3	0	0	3
3	TIU-PC-UME-T22103	THEORY OF MACHINES	3	0	0	3
4	TIU-BS-UMA-T22101	PROBABILITY AND STATISTICS	3	0	0	3
5	TIU-PC-UMA-T22101	NUMERICAL ANALYSIS	3	0	0	3
6	TIU-PC-UME-L22104	MACHINE DRAWING	0	0	3	1.5
7	TIU-PC-UME-L22105	HYDRAULIC MACHINES LABORATORY	0	0	2	1
8	TIU-PC-UME-L22106	MANUFACTURING LABORATORY I	0	0	2	1
9	TIU-ES-CASD-UME-S2298A	CASD: PROBLEM SOLVING WITH ADVANCE EXCEL AND POWER BI	0	0	2	1
10	TIU-HSM-UES-S22192	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						20.5



SEMESTER 5

S. No.	Code	Subject Name	L	T	P	C
1	TIU-UME-T301	HEAT TRANSFER	3	1	0	4
2	TIU-UME-T311	DESIGN OF MACHINE ELEMENTS I	3	1	0	4
3	TIU-UME-T313	DYNAMICS OF MACHINERY	3	0	0	3
4	TIU-UME-T315	CONVENTIONAL AND NON-CONVENTIONAL MACHINING TECHNOLOGY	3	1	0	4
5	TIU-UME-T321	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	3	0	0	3
6	TIU-UME-L307	HEAT TRANSFER LAB	0	0	3	1.5
7	TIU-UME-L311	AUTOCAD LAB	0	0	3	1.5
8	TIU-UTR-S301	CAREER ADVANCEMENT & SKILL DEVELOPMENT (SAP ERP)	3	0	0	3
9	TIU-UES-S381	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						25



SEMESTER 6

S. No.	Code	Subject Name	L	T	P	C
1	TIU-UME-T328	THERMAL SYSTEMS	3	1	0	4
2	TIU-UME-T320	DESIGN OF MACHINE ELEMENTS II	3	1	0	4
3	TIU-UME-T330	ROBOTICS AND AUTOMATION	3	0	0	3
4	TIU-UME-T324	METROLOGY AND MECHANICAL MEASUREMENT	3	1	0	4
5	TIU-UME-T326	METAL CUTTING AND CNC MACHINES	3	0	0	3
6	TIU-UME-E302A	PROFESSIONAL ELECTIVE I	3	0	0	3
7	TIU-UME-L324	METROLOGY AND MECHANICAL MEASUREMENT LAB	0	0	3	1.5
8	TIU-UME-L310	MODELLING AND SIMULATION USING SOLIDWORKS	0	0	3	1.5
9	TIU-CASD-UTR-S306A	CAREER ADVANCEMENT & SKILL DEVELOPMENT (SAP ERP)	0	0	2	1
10	TIU-UES-S382	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						26



SEMESTER 7

S. No.	Code	Subject Name	L	T	P	C
1	TIU-UME-T413	OPERATIONS RESEARCH AND INDUSTRIAL MANAGEMENT	3	1	0	4
2	TIU-UME-T415	MECHATRONICS AND INDUSTRIAL CONTROL	3	1	0	4
3		PROFESSIONAL ELECTIVE II	3	0	0	3
4		PROFESSIONAL ELECTIVE III	3	0	0	3
5	TIU-UME-L403	INDUSTRIAL TRAINING	0	0	0	1.5
6	TIU-UME-P403	B. TECH PROJECT I	0	0	3	1.5
7	TIU-CASD-UME-S497	CAREER ADVANCEMENT & SKILL DEVELOPMENT	0	0	2	1
8	TIU-UES-S481	ENTREPRENEURSHIP SKILL DEVELOPMENT	0	0	2	1
Total						19



SEMESTER 8

S. No.	Code	Subject Name	L	T	P	C
1	TIU-UME-P404	B. Tech Project II	0	0	6	3
2	TIU-UME-S496	Grand Viva Voce	0	0	0	1.5
3	TIU-CASD-UME-S498	Career Advancement and Skill Development	0	0	2	1
4	TIU-UES-S482	Entrepreneurship Skill Development	0	0	2	1
Total						6.5



PROFESSIONAL ELECTIVES

S. No.	Code	Subject Name	L	T	P	C
Professional Elective I						
1	TIU-UME-E302A	RENEWABLE ENERGY SOURCES AND APPLICATIONS	3	0	0	3
2	TIU-UME-E302B	OPTIMIZATION TECHNIQUES	3	0	0	3
Professional Elective II						
1	TIU-UME-E421A	COMPUTER AIDED DESIGN AND MANUFACTURING	3	0	0	3
2	TIU-UME-E421B	SMART MATERIALS AND STRUCTURES	3	0	0	3
Professional Elective III						
1	TIU-UME-E423A	ADDITIVE MANUFACTURING AND 3D PRINTING	3	0	0	3
2	TIU-UME-E423B	FLUID POWER AND CONTROL SYSTEMS	3	0	0	3

***NOTE: As per the prescribed curriculum, the total academic requirement comprises 164.5 credits. In addition to this, the department offers one integrated industry-oriented course in collaboration with L&T EduTech, for which each student is required to complete an additional 24 credits. These additional credits are uniformly distributed across all eight semesters of the B. Tech programme.

Upon successful completion of the integrated course requirements, students will be awarded either an **Honours** or a **Minor specialization** in the respective domain, based on the course undertaken and the fulfilment of the prescribed criteria.