
COURSE CURRICULUM FOR B. TECH.
(FOR STUDENTS ADMITTED IN 2024-25 ONWARDS)

**DEPARTMENT OF MECHANICAL
ENGINEERING**



GIRIJANANDA CHOWDHURY UNIVERSITY, Assam
N.H-37, Hatkhowapara, Azara, Guwahati-781017,
Kamrup, Assam

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1. SEMESTER WISE CREDIT POINT DISTRIBUTION

Sl. No	Year	Credit Points	
		Odd	Even
1.	First	20	21
2.	Second	20	25
3.	Third	23	21
4.	Fourth	18	16
Total Credit Points		81	83
		164	

1.1. SUBJECT CATEGORY WISE CREDIT POINT DISTRIBUTION

Course Category	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Sem VII	Sem VIII	Total Credit Points
Basic Science Courses (BSC)	8	11	4						23
Engineering Science Courses (ESE)	5	10	5						20
Professional Core Courses (PCC)			11	22	19	16			68
Professional Elective Courses (PEC)							6	3	9
Open Elective Courses (OEC)							6	3	9
Social Science and Management Courses (HSMC)	4				3	3			10
Project work and internship in industry or elsewhere (PROJ +INT.)					1	2	6	10	19
Mandatory Courses (MC)	3			3					6
TOTAL CREDIT POINTS									164

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2. COURSE STRUCTURE

SEMESTER-I								
	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	C
	1	BSC	BCH23111	Chemistry	3	0	2	4
	2	BSC	BMA23111T	Mathematics - I	3	1	0	4
	3	ESC	BCS23101	Programming for Problem Solving	2	0	4	4
	4	HSMC	BEN23102	English for Technical communication	2	0	2	3
	5	MC	UHV23001T	Universal Human Values	2	1	0	3
	6	ESC	BME23101P	Manufacturing Practice Workshop-I	0	0	2	1
	7	HSMC	JPN23101P RSN24101P	Communicative Japanese Communicative Russian	0	0	2	1
	8	AUC	SYN23001P	Sports/Yoga/NSS/NCC/Activities	0	0	2	0
Total					12	2	14	20

*SYN23001 – SPORTS, SYN23002 – YOGA, SYN23003 – NSS, SYN23004 – NCC, SYN23005 – OTHER ACTIVITIES

SEMESTER-II								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	C
	1	BSC	BPY23111	Physics	3	1	2	5
	2	BSC	BMA23112T	Mathematics - II	3	1	0	4
	3	BSC	BBI23101T	Biology for Engineers	2	0	0	2
	4	ESC	BEL23101	Basic Electrical Engineering	3	1	2	5
	5	ESC	BCE23101P	Engineering Graphics and Design	1	0	4	3
	6	ESC	BME23102P	Manufacturing Practice Workshop-II	0	0	2	1
	7	ESC	BME23103P	Design Thinking & Idea Lab	0	0	2	1
Total					12	3	12	21

SEMESTER-III								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	C
	1	BSC	BMA23212T	Mathematics-III	3	1	0	4
	2	PCC	BME23201	Engineering Mechanics	3	1	2	5
	3	PCC	BME23202T	Basic Thermodynamics	3	1	0	4
	4	PCC	BME23203P	Machine Drawing	0	0	4	2
	5	ESC	BEC23111	Basic Electronic Engineering	3	1	2	5
	6	MC	BCH23112T	Environmental Science	2	0	0	0
Total					14	4	8	20

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SEMESTER-IV								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	
	1	PCC	BME23204T	Applied Thermodynamics	3	1	0	4
	2	PCC	BME23205	Fluid Mechanics & Hydraulic Machines	3	1	2	5
	3	PCC	BME23206	Kinematics & Dynamics of Machines	3	1	2	5
	4	PCC	BME23207	Engineering Materials and Application	3	0	2	4
	5	PCC	BME23208T	Materials of Deformable Solids	3	1	0	4
	6	IKS	BEL23212T	Science and Technology/ Bhagavad Gita and Managerial Effectiveness	3	0	0	3
Total					18	4	6	25

Note: 2-3-weeks Mandatory Academia Internship need to be done in the 4th semester summer break and the report is to be submitted and evaluated in 5th semester.

SEMESTER-V								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	
	1	PCC	BME23301	Heat Transfer	3	1	2	5
	2	PCC	BME23302T	Design of Machine Elements	3	0	0	3
	3	PCC	BME23303T	Mechatronics, Robotics and Control	3	0	0	3
	4	PCC	BME23304	Machining and Machine Tools	3	0	2	4
	5	PCC	BME23305	Measurements and Metrology	3	0	2	4
	6	HSMC	BME24111T	Entrepreneurship and Startup	3	0	0	3
	7	INT.	BME23306P	Internship - I	0	0	2	1
Total					18	1	8	23

SEMESTER-VI								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	
	1	PCC	BME23311T	Production and Operations Management	3	0	0	3
	2	PCC	BME23312	Computer Aided Design & Analysis	2	0	4	4
	3	PCC	BME23313T	Internal Combustion Engines	3	0	0	3
	4	PCC	BME23314T	Machine & Systems Design	2	1	0	3
	5	PCC	BME23315T	Manufacturing process	3	0	0	3
	6	HSMC	BCM25101T	Accounting & Finance	3	0	0	3
	7	PROJ.	BME23316P	Engineering Project – I (Literature Review & Seminar)	0	0	4	2
Total					16	1	8	21

Note: 4-weeks Mandatory Summer Internship need to be done in the 6th semester summer break and the report is to be submitted and evaluated in 7th semester.

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SEMESTER-VII								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	
	1	PEC	BME234XXT	PEC - 1	3	0	0	3
	2	PEC	BME234XXT	PEC - 2	3	0	0	3
	3	OEC	BME234XXT	OE – 1	3	0	0	3
	4	OEC	BME234XXT	OE - 2	3	0	0	3
	5	PROJ.	BME23425P	Engineering Project – II (Design & Analysis & Seminar)	0	0	10	5
	6	INT.	BME23426P	Internship - II	0	0	0	1
Total					12	0	10	18

SEMESTER-VIII								
Theory/ Practical	Sl. No	Course Type	Course Code	Course Name	Hours per week			Credit
					L	T	P	
	1	PEC	BME234XXT	PEC – 3	3	0	0	3
	2	OEC	BME234XXT	OE – 3	3	0	0	3
	3	PROJ.	BME23427P	Engineering Project – III (Prototype & Testing & Seminar)	0	0	20	10
Total					6	0	20	16

3. PROGRAM ELECTIVES

List of Program Electives (PEC) offered

SL. NO	CODE	TITLE	L	T	P	C
1.	BME23401T	Automobile Engineering	3	0	0	3
2.	BME23402T	Finite Element Analysis	3	0	0	3
3.	BME23403T	Agricultural Engineering	3	0	0	3
4.	BME23404T	Computational Fluid Dynamics	3	0	0	3
5.	BME23405T	Biomedical Engineering	3	0	0	3
6.	BME23406T	Power Plant Engineering	3	0	0	3
7.	BME23407T	Refrigeration & Air Conditioning	3	0	0	3
8.	BME23408T	Aerospace Engineering	3	0	0	3

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4. OPEN ELECTIVES

List of Open Electives (OEC) offered

SL. NO	CODE	TITLE	L	T	P	C
1.	BME23415T	Renewable Energy	3	0	0	3
2.	BME23416T	Solid Waste Management	3	0	0	3
3.	BME23417T	Additive Manufacturing	3	0	0	3
4.	BME23418T	Experimental Methods	3	0	0	3
5.	BME23419T	Operations Research	3	0	0	3
6.	BME23420T	Industrial Safety Engineering	3	0	0	3
7.	BME25230T	Fundamentals of Electric Vehicles	3	0	0	3
8.	BME25231T	Electric Vehicle Powertrain: Drives & Control	3	0	0	3
9.	BME25330T	Energy Storage System	3	0	0	3

5. INTERNSHIP

- Internship - I: Student will go for internship during summer vacation (after 4th semester) for a period of 2-3 weeks. The assessment will be done on 5th semester
- Internship - II: Student will go for internship during summer vacation (after 6th semester) for a period of 4 weeks. The assessment will be done on 7th semester.

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