



BRAINWARE UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING
Bachelor of Technology in Mechanical Engineering - 2025

Mandatory Induction Program (Duration: 3 weeks)

- Physical activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to local Areas
- Familiarization to Department/Branch and Innovations

SEMESTER – I

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS00001	English for Technical Communication	3	0	0	40	60	100	3	HSMC
2	BBS00013	Introduction to Mechanics	3	1	0	40	60	100	4	BSC
3	BBS00011	Engineering Mathematics -I	3	0	0	40	60	100	3	BSC
4	BES00003	Basic Mechanical Engineering	3	1	0	40	60	100	4	ESC
5	BES00006	Programming for Problem Solving	3	1	0	40	60	100	4	ESC
6	BBS09021	Introduction to Mechanics Lab	0	0	2	40	60	100	1	BSC
7	BES09012	Programming for Problem Solving Lab	0	0	2	40	60	100	1	ESC
8	BES09014	Engineering Graphics and Design Lab	0	0	3	40	60	100	1.5	ESC
9	BAU00004	Yoga and Sports	2	0	0	0	0	0	0	AUC
TOTAL			17	3	7	320	480	800	21.5	



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SEMESTER – II

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS07008	Effective Communication and Soft Skills	2	0	2	40	60	100	3	HSMC
2	BHS00004	Understanding Harmony and Ethical Human Conduct	2	0	0	40	60	100	2	HSMC
3	BBS00012	Engineering Mathematics -II	3	0	0	40	60	100	3	BSC
4	BBS00010	Engineering Chemistry	3	1	0	40	60	100	4	BSC
5	BES00002	Basic Electrical and Electronics Engineering	3	1	0	40	60	100	4	ESC
6	BBS09020	Engineering Chemistry Lab	0	0	2	40	60	100	1	BSC
7	BES09008	Basic Electrical and Electronics Engineering Lab	0	0	2	40	60	100	1	ESC
8	BES09015	Workshop and Manufacturing Practices	0	0	3	40	60	100	1.5	ESC
9	BAU00002	Environmental Sciences	2	0	0	0	0	0	0	AUC
TOTAL			15	2	9	320	480	800	19.5	



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SEMESTER – III

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BBS00009	Electromagnetism	3	0	0	40	60	100	3	BSC
2	BBS00001	Advanced Engineering Mathematics	3	1	0	40	60	100	4	BSC
3	BES00005	Engineering Mechanics	3	0	0	40	60	100	3	ESC
4	BTM30101	Thermodynamics	3	0	0	40	60	100	3	PCC
5	BTM30102	Measurement and Metrology	3	0	0	40	60	100	3	PCC
6	BES09011	Engineering Mechanics Lab	0	0	2	40	60	100	1	ESC
7	BTM39103	Machine Drawing- I Lab	0	0	3	40	60	100	1.5	PCC
8	BBS09019	Electromagnetism Lab	0	0	2	40	60	100	1	BSC
9	BTM39104	Measurement and Metrology Lab	0	0	3	40	60	100	1.5	PCC
10	BAU00003	Essence of Indian Knowledge and Tradition	2	0	0	0	0	0	0	AUC
TOTAL			17	1	10	360	540	900	21	
#MOOCs to earn additional credits for optional Honors/Minor Degree										



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SEMESTER – IV

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTM40105	Engineering Materials and Metallurgy	3	0	0	40	60	100	3	PCC
2	BTM40106	Strength of Materials	3	0	0	40	60	100	3	PCC
3	BTM40107	Manufacturing Processes	3	0	0	40	60	100	3	PCC
4	BTM40108	Heat Transfer and Thermal Mechanics	3	0	0	40	60	100	3	PCC
5	BTM40109	Manufacturing Automation	3	0	0	40	60	100	3	PCC
6	BTM49110	Engineering Materials and Metallurgy Lab	0	0	3	40	60	100	1.5	PCC
7	BTM49111	Strength of Materials Lab	0	0	3	40	60	100	1.5	PCC
8	BTM49112	Manufacturing Processes Lab	0	0	3	40	60	100	1.5	PCC
9	BTM49113	Thermal Engineering Lab	0	0	3	40	60	100	1.5	PCC
TOTAL			15	0	12	360	540	900	21	
#MOOCs to earn additional credits for optional Honors/Minor Degree										



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SEMESTER – V

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS00006	Operations Research	3	0	0	40	60	100	3	HSMC
2	BTM50114	Fluid Mechanics and Machinery	3	0	0	40	60	100	3	PCC
3	BTM50115	Principle of Machine Tools	3	0	0	40	60	100	3	PCC
4	BTM50116	Kinematics of Machines	3	0	0	40	60	100	3	PCC
5	BTM50117	Mechatronics and IoT	3	0	0	40	60	100	3	PCC
6	BTM59118	Machine Drawing- II Lab	0	0	3	40	60	100	1.5	PCC
7	BTM59119	Fluid Mechanics and Machinery Lab	0	0	3	40	60	100	1.5	PCC
8	BTM59120	Software Tools for Mechanical Engineering	0	0	3	40	60	100	1.5	PCC
9	BTM59121	Mechatronics and IoT Lab	0	0	2	40	60	100	1	PCC
TOTAL			15	0	11	360	540	900	20.5	
#MOOCs to earn additional credits for optional Honors/Minor Degree										



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SEMESTER – VI

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS00007	Project Management and Entrepreneurship	3	0	0	40	60	100	3	HSMC
2	BTM60122	Design of Machine Elements	3	0	0	40	60	100	3	PCC
3	BTM60123	Computer Aided Design and Analysis	3	0	0	40	60	100	3	PCC
4	BTM60124	Advanced Manufacturing Technology	3	0	0	40	60	100	3	PCC
5	BTM60125	Dynamics and Control of Mechanical Systems	3	0	0	40	60	100	3	PCC
6	BTM60201	A. Turbo Machinery B. Finite Element Method C. Power Plant Engineering D. MOOC*	3	0	0	40	60	100	3	PEC
7	BTM60301	A. Industrial Engineering B. Total Quality Management C. Non-conventional Energy Sources D. Design Optimization Techniques E. MOOC*	3	0	0	40	60	100	3	OEC
8	BTM69126	Advanced Manufacturing Technology Lab	0	0	3	40	60	100	1.5	PCC
TOTAL			21	0	3	320	480	800	22.5	
#MOOCs to earn additional credits for optional Honors/Minor Degree										



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SEMESTER – VII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTM70127	Automobile Engineering	3	0	0	40	60	100	3	PCC
2	BTM70128	Refrigeration and Air Conditioning	3	0	0	40	60	100	3	PCC
3	BTM70202	A. Vehicle Dynamics B. Design for Manufacturing and Assembly C. Machine Tool Design D. MOOC*	3	0	0	40	60	100	3	PEC
4	BTM70203	A. Computer Integrated Manufacturing B. Jigs and Fixtures C. Mechanical Vibration D. MOOC*	3	0	0	40	60	100	3	PEC
5	BTM70302	A. Entrepreneurship Development B. Water Resource Engineering C. Industrial IoT with Applications D. Introduction to Artificial Intelligence E. MOOC*	3	0	0	40	60	100	3	OEC
6	BTM70303	A. Energy Conservation and Management B. Automation and Control C. Additive Manufacturing D. Computational Fluid Dynamics E. MOOC*	3	0	0	40	60	100	3	OEC
7	BTM79129	Refrigeration and Air Conditioning Lab	0	0	3	40	60	100	1.5	PCC
8	BTM79130	Manufacturing Engineering Lab	0	0	3	40	60	100	1.5	PCC
9	BTM78101	Minor Project/Internship	0	0	0	40/0	60/100	100	3	PROJ
TOTAL			18	0	6	360/320	540/580	900	24	
#MOOCs to earn additional credits for optional Honors/Minor Degree										



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SEMESTER – VIII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTM88102	Major Project/ Internship	0	0	0	40	60	100	12	PROJ
2	BTM88103	Grand Viva Voce	0	0	0	0	100	100	4	PROJ
TOTAL			0	0	0	40	160	200	16	
#MOOCs to earn additional credits for optional Honors/Minor Degree										

**MOOC/Equivalent MOOC approved by BoS Chair (Evaluation scheme as per Blended Learning and MOOCs Policy)*

#Additional 18-20 credits from MOOCs of SWAYAM platform are to be earned for the optional Honors/minor degree. Students are required to register for this after completion of their 1st year. Evaluation of MOOCs will be as per the guideline of the Blended Learning and MOOCs Policy.