



BRAINWARE UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING
B.Tech. in Mechanical Engineering – 2023

Mandatory Induction Program (Duration:1 week)

- Physical activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to local Areas
- Familiarization to Dept./Branch & amp, Innovations

Different components of Mandatory Induction Program will be implemented as per the guidelines of Regulatory Bodies.

Outline of Semester I

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
HSMCME101	Communication Skills	HSMC	3-0-0	3	100
BSCME101	Physics I	BS	3-0-0	3	100
BSCME102	Calculus & Linear Algebra	BS	4-0-0	4	100
ESCME101	Basic Electrical and Electronics Engineering	ES	3-0-0	3	100
BSCME191	Physics I Lab	BS	0-0-3	1.5	100
ESCME191	Basic Electrical and Electronics Engineering Lab	ES	0-0-3	1.5	100
ESCME192	Engineering Graphics & Design Lab	ES	0-0-3	1.5	100
AU-1	Life Skill and Mentoring I	AU	1-0-0	0	0
Total				17.5	700



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Outline of Semester II

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
HSMCME201	Professional Communication Skills	HSMC	1-0-0	1	50
HSMCME202	Economics for Engineers	HSMC	3-0-0	3	100
BSCME201	Engineering Chemistry	BS	3-0-0	3	100
BSCME202	Differential Equation and Complex Analysis	BS	4-0-0	4	100
BSCME203	Biology for Engineers	BS	2-0-0	2	50
ESCME201	Programming for Problem Solving	ES	3-0-0	3	100
HSMCME291	Professional Communication Skills Lab	HSMC	0-0-2	1	50
BSCME291	Engineering Chemistry Lab	BS	0-0-3	1.5	100
ESCME291	Programming for Problem Solving Lab	ES	0-0-3	1.5	100
ESCME292	Workshop / Manufacturing Practices	ES	0-0-3	1.5	100
AU-2	Environmental Science	AU	1-0-0	1	0
Total				21.5	850

Outline of Semester III

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
ES-ME301	Engineering Mechanics	ES	3-1-0	4	100
PCC-ME301	Strength of Materials	PC	3-1-0	4	100
PCC-ME302	Thermodynamics	PC	3-1-0	4	100
PCC-ME303	Fluid Mechanics	PC	3-1-0	4	100
PCC-ME304	Manufacturing Processes	PC	3-1-0	4	100
PCC-ME391	Practice of Manufacturing Processes	PC	0-0-3	1.5	100
AU-3	Social and Professional Ethics	AU	1-0-0	0	0
Total				21.5	600



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Outline of Semester IV

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
PCC-ME401	Materials Engineering	PC	3-1-0	4	100
PCC-ME402	Applied Thermodynamics	PC	3-1-0	4	100
PCC-ME403	Fluid Machinery	PC	3-1-0	4	100
PCC-ME404	Kinematics & Theory of Machines	PC	3-1-0	4	100
PCC-ME405	Metrology and Instrumentation	PC	3-1-0	4	100
PCC-ME491	Metrology and Material Testing Lab	PC	0-0-3	1.5	100
PCC-ME492	Machine Drawing- I	PC	0-0-3	1.5	100
Total				23	700

Outline of Semester V

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
PCC-ME501	Heat Transfer	PC	3-1-0	4	100
PCC-ME502	Solid Mechanics	PC	3-1-0	4	100
PCC-ME503	Design of Machine Elements	PC	3-0-0	3	100
HS-MC501	Effective Technical Communication	HS	3-0-0	3	100
PCC-ME591	Mechanical Engineering Laboratory I (Thermal)	PC	0-0-3	1.5	100
PCC-ME592	Machine Drawing-II	PC	0-0-3	1.5	100
PROJ-ME581	Project-I	PR	0-0-6	3	100
AU-4	Constitution of India	AU	1-0-0	0	0
Total				20	700



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Outline of Semester VI

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
PCC-ME601	Manufacturing Technology	PC	3-1-0	4	100
PCC-ME602	Mechatronics	PC	3-0-0	3	100
PEC-ME601	Elective-I	PE	3-0-0	3	100
PEC-ME602	Elective-II	PE	3-0-0	3	100
PCC-ME691	Mechanical Engineering Laboratory II (Design)	PC	0-0-3	1.5	100
PROJ-ME681	Project-II	PR	0-0-8	4	100
Total				18.5	600

Outline of Semester VII

Course Code	Course Name	Course Type	L-T-P	Credit	Total Marks
PCC-ME701	Advanced Manufacturing Technology	PC	3-0-0	3	100
PEC-ME701	Elective III	PE	3-0-0	3	100
PEC-ME702	Elective-IV	PE	3-0-0	3	100
OEC-ME 701	Open Elective- I	OE	3-0-0	3	100
PCC-ME791	Mechanical Engineering Laboratory III (Manufacturing)	PC	0-0-3	1.5	100
PROJ-ME781	Project-III	PR	0-0-8	4	100
PROJ-ME782	Industrial Training	PR	0-0-0	3	100
Total				20.5	700



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Manufacturing Group	
D	Robotic Fundamentals

List of Professional Electives for Elective-III,

Subject Code	Subject name
Thermo-Fluid Group	
A	Automobile Engineering
Design Group	
B	Mechanical Vibration
Manufacturing Group	
C	Computer Integrated Manufacturing

List of Professional Electives for Elective-IV,

Subject Code	Subject name
Thermo-Fluid Group	
A	Computational Fluid Dynamics
Design Group	
B	Finite Element Method
Manufacturing Group	
C	Quantitative Methods

List of Professional Electives for Elective-V,

Subject Code	Subject name
Thermo-Fluid Group	
A	Theory of Combustion and Emission
Design Group	
B	Tribology
Manufacturing Group	
C	Sustainable Manufacturing

List of Professional Electives for Elective-VI,

Subject Code	Subject name
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Thermo-Fluid Group	
A	Power Plant Engineering
Design Group	
B	3D Printing and Design
Manufacturing Group	
C	Operations and Supply Chain Management

List of Open Electives in Semester VII,

Subject Code	Subject name
A	Industrial Engineering
B	Project Management
C	Non-conventional Energy Sources
D	Water Resource Engineering

List of Open Electives in Semester VIII,

List of Open Electives II,

Subject Code	Subject name
A	Entrepreneurship Development
B	Safety and Occupational Health

List of Open Electives III,

Subject Code	Subject name
A	Energy Conservation and Management
B	Automation & Control