

Study & Evaluation Scheme of Bachelor of Technology in Mechanical Engineering

[Applicable for 2022-26]

Version 2022

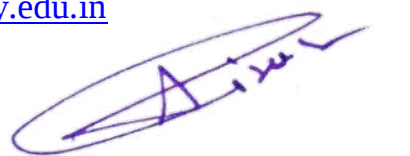
[As per CBCS guidelines given by UGC]



Approved in BOS	Approved in BOF	Approved in Academic council
14.05.2022	08/08/2022.	10/20/2022. Vide Agenda No. 8.4.1

Quantum University, Roorkee
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Website: www.quantumuniversity.edu.in




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SEMESTER 3

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
ME3308	PC	Strength of Materials	2	2	0	3	1.0	Nil
ME3302	PC	Materials Science	2	0	0	2	1.0	Nil
ME3306	PC	Thermal Engineering	3	2	0	4	1.0	Nil
ME3304	PC	Fluid Mechanics and Machines	3	2	0	4	1.0	Nil
ME3307	PC	Computer aided Machine Drawing	1	0	3	3	1.0	Nil
ME3344	PC	Strength of Material Lab	0	0	2	1	1.0	Nil
ME3341	PC	Material Science Lab	0	0	2	1	1.0	Nil
ME3342	PC	Fluid Mechanics and Machines Lab	0	0	2	1	1.0	Nil
ME3343 / ME3440	PC	Thermal Engineering Lab	0	0	2	1	1.0	Nil
ME3345	P	Project Lab I	0	0	4	2	--	--
VP3301	VP	Communication and Soft Skills-III	1	0	2	2	--	--
ME3371	FW	Internship Presentation I	1	0	0	1	--	--
HU3202	FC	United Nations Development Programme	1	0	0	1		
GP3301	GP	General Proficiency	0	0	0	1	--	--
TOTAL			14	6	17	27		

Contact Hrs: 37

SEMESTER 4

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
ME3404	PC	Heat Transfer	2	2	0	3	1.0	ME3306
ME3402	PC	Theory of Machines	3	2	0	4	1.0	Nil
ME3410	PC	Manufacturing Science I	3	0	0	3	1.0	Nil
ME3603	PC	Measurement and Metrology	3	0	0	3	1.0	Nil
--	OE	Open Elective I	3	0	0	3	--	--
ME3641	PC	Measurement and Metrology Lab	0	0	2	1	1.0	Nil
ME3443	PC	Heat Transfer Lab	0	0	2	1	1.0	Nil
ME3441	PC	Theory of Machines Lab	0	0	2	1	1.0	Nil
ME3447	PC	Manufacturing Science I Lab	0	0	2	1	1.0	Nil
ME3445	P	Project Lab II	0	0	4	2	--	--
VP3401	VP	Employability Skills I(Numerical Ability)	2	0	0	2	--	--
GP3401	GP	General Proficiency	0	0	0	1	--	--
TOTAL			16	4	12	25		

All students are required to attend 04 to 06 weeks Industrial Training after 4th semester. Performance of this training will be evaluated and awarded in 5th semester

Contact Hrs: 32



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Open Elective I

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
CE3011	OE	Carbon Emission & Control	3	0	0	3	1.0	Nil
CS3021	OE	Mining and Analysis of Big data	3	0	0	3	1.0	Nil
AG3011	OE	Ornamental Horticulture	3	0	0	3	1.0	Nil
BB3011	OE	Entrepreneurial Environment in India	3	0	0	3	1.0	Nil
JM3011	OE	Media Concept and Process (Print and Electronic)	3	0	0	3	1.0	Nil
HM3011	OE	Indian Cuisine	3	0	0	3	1.0	Nil
MB3011	OE	SAP 1	3	0	0	3	1.0	Nil
EG3011	OE	French Beginner A1	3	0	0	3	1.0	Nil
MT3011	OE	Elementary Robotics	0	0	5	3	1.0	Nil

SEMESTER 5

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
ME3501	PC	Machine Design I	3	2	0	4	1.0	ME3308
ME3510	PC	Manufacturing Science II	2	2	0	3	1.0	Nil
ME3515/ME3715	PC	Industrial Engineering and Management	2	2	0	3	1.0	Nil
ME3504	PC	Vehicle Technology	2	2	0	3	1.0	Nil
--	OE	Open Elective II	3	0	0	3	--	--
ME3547	PC	Manufacturing Science II Lab	0	0	2	1	1.0	Nil
ME3541	PC	Vehicle Technology Lab	0	0	2	1	1.0	Nil
ME3545	P	Project Lab III	0	0	4	2	--	--
VP3501	VP	Employability Skills II (Aptitude and Reasoning)	2	0	0	2	--	--
ME3571	FW	Internship Presentation II	2	0	0	2	--	--
GP3501	GP	General Proficiency	0	0	0	1	--	--
		TOTAL	16	8	8	25		

Contact Hrs: 32



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Open Elective II

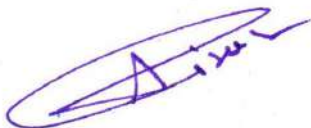
Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
CE3013	OE	Environment Pollution and Waste Management	3	0	0	3	1.0	Nil
CS3023	OE	Big Data Analytics: HDOOP Framework	3	0	0	3	1.0	Nil
AG3013	OE	Organic farming	3	0	0	3	1.0	Nil
BB3013	OE	Establishing a New Business	3	0	0	3	1.0	Nil
JM3013	OE	Photo Journalism	3	0	0	3	1.0	Nil
HM3013	OE	Chinese Cuisine	3	0	0	3	1.0	Nil
MB3013	OE	SAP 3	3	0	0	3	1.0	Nil
EG3013	OE	French Intermediate B1	3	0	0	3	1.0	Nil
EG3002	OE	Report Writing	3	0	0	3	1.0	Nil
MT3013	OE	Introduction to Automation	3	0	0	3	1.0	Nil

SEMESTER 6

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
ME3601	PC	Machine Design II	3	2	0	4	1.0	ME3501
ME3610	PC	Entrepreneurship and startup	3	0	0	3	1.0	Nil
MT3607	PC	Mechatronics and Automation	3	0	0	3	1.0	Nil
--	PE	Program Elective I	3	0	0	3	--	--
--	OE	Open Elective III	3	0	0	3	--	--
MT3643	PC	Industrial Automation Lab	0	0	2	1	1.0	Nil
MT3641	PC	Mechatronics Lab	0	0	2	1	1.0	Nil
ME3645	FW	Project Lab IV	0	0	4	2	--	--
VP3601	VP	Employability Skills III(GDPI)	2	0	0	2	--	--
ME3646	VP	Technical VAP I	2	0	0	2	--	--
GP3601	GP	General Proficiency	0	0	0	1	--	--
		TOTAL	19	2	8	25		
All students are required to attend 04 to 06 weeks Industrial Training after 6 th semester. Performance of this training will be evaluated and awarded in 7 th semester								

Contact Hrs: 29




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Open Elective III

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
CE3015	OE	Hydrology	3	0	0	3	1.0	Nil
CS3025	OE	Data Science Models : Regression, Classification and Clustering	3	0	0	3	1.0	Nil
AG3015	OE	Mushroom Cultivation	3	0	0	3	1.0	Nil
BB3015	OE	E-commerce	3	0	0	3	1.0	Nil
JM3015	OE	Media industry and Management	3	0	0	3	1.0	Nil
HM3015	OE	Italian Cuisine	3	0	0	3	1.0	Nil
MB3015	OE	SAP 5	3	0	0	3	1.0	Nil
EG3015	OE	French Advance C1	3	0	0	3	1.0	Nil
MT3015	OE	Robotic Industry 4.0	3	0	0	3	1.0	Nil

SEMESTER 7

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
ME3701	PC	CAD/CAM	3	2	0	4	1.0	Nil
ME3716	PC	Engineering Economics and Project Management	3	0	0	3	1.0	Nil
	PE	Program Elective II	3	0	0	3	1.0	--
	PE	Program Elective III	3	0	0	3	1.0	--
ME3740	PC	CAD/CAM Lab	0	0	2	1	1.0	Nil
ME3748	PC	Quality Engineering Lab	0	0	2	1	1.0	Nil
ME3745	PT	Project Lab V	0	0	4	2	--	--
ME3746	VP	Technical VAP II	2	0	0	2	--	--
ME3771	FW	Internship Presentation II	2	0	0	2	--	--
GP3701	GP	General Proficiency	0	0	0	1	--	--
		TOTAL	16	2	8	22		

Contact Hrs: 26



SEMESTER 8

Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
	PE	Program Elective IV	3	0	0	3	1.0	--
	PE	Program Elective V	3	0	0	3	1.0	--
ME3870	FW	Project	0	0	8	4	--	--
		TOTAL	6	0	8	10		

Contact Hrs: 14

OR								
It is the prerogative of the university to allow the student to opt for this option only after completing the process of approval before proceed on full semester internship on an industrial project. The evaluation of internal components will be done jointly by industrial supervisor and university supervisor. End semester evaluation will be done by a committee comprise of atleast one expert from industry/corporate.								
Course Code	Category	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
ME3871	FW	Major Industrial Project	0	0	0	10	--	--
		TOTAL	0	0	0	10		

List of Program Electives

Elective	Course Code	COURSE TITLE	L	T	P	C	Version	Course Prerequisite
I	ME3602	Refrigeration and Airconditioning	3	0	0	3	1.0	ME3401
	ME3708	Mechanical Vibrations	3	0	0	3	1.0	ME3304
	ME3612	Industrial Inspection and Quality Control	3	0	0	3	1.0	--
	ME3611	Power Plant Engineering	3	0	0	3	1.0	
II	ME3703	Alternative Fuels and Energy Systems	3	0	0	3	1.0	--
	ME3707	Finite Element Method	3	0	0	3	1.0	--
	ME3503	Operation Research	3	0	0	3	1.0	--
	MT3803	Robotics and Automation	3	0	0	3	1.0	--
III	MT3819	Microprocessors in Automation	3	0	0	3	1.0	--
	ME3713	Unconventional Manufacturing Processes	3	0	0	3	1.0	--
	ME3714	Plastic Processing and Techniques	3	0	0	3	1.0	--
	ME3806	Rapid Prototyping	3	0	0	3	1.0	--
IV	ME3815	Non-Conventional Energy Resources	3	0	0	3	1.0	--
	ME3803	Supply Chain Management	3	0	0	3	1.0	--
	ME3817	Industrial Hazards and Safety	3	0	0	3	1.0	--
	ME3808	Energy Storage Systems	3	0	0	3	1.0	--
V	ME3807	Energy Conservation and Audit	3	0	0	3	1.0	--
	ME3810	Lean Manufacturing	3	0	0	3	1.0	--
	ME3818	Hybrid Vehicle Propulsion	3	0	0	3	1.0	--
	ME3816	Facility Planning and Design	3	0	0	3	1.0	--




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