

COURSE STRUCTURE, EVALUATION SCHEME AND DETAILED SYLLABI FOR M.TECH PROGRAMMES

**Computer Aided Design (Full Time)
Mechanical Engineering Design (Part Time)
Industrial System Engineering (Part Time)**

(Effective from Session 2017-18 for New Entrants)



**DEPARTMENT OF MECHANICAL ENGINEERING
HARCOURT BUTLER TECHNICAL UNIVERSITY, KANPUR
KANPUR-208002 (U.P.)**

DEPARTMENT OF MECHANICAL ENGINEERING
Course Structure & Evaluation Scheme
M.Tech. Computer Aided Design (Full Time)
Effective from Session 2017-18 (for New Entrants)

Sl. No.	Course Code	Subject	Cr	Periods			Sessional Marks			Final Exam. ESE	Subject Total
				L	T	P	CT	TA	Total		
											100

SEMESTER I

1	EME-501	Numerical Methods & Computer Programming	5	3	2	0	30	20	50	50	100
2	EME-503	Advance Mechanics of Solids	4	3	1	0	30	20	50	50	100
3	EME-505	Computer Graphics & Geometric Modelling	5	3	2	0	30	20	50	50	100
4	EME-507	Computer Aided Design of Mechanical System	4	3	1	0	30	20	50	50	100
			18								

SEMESTER II

1	EME-502	Optimization Methods for Engineering Design	4	3	1	0	30	20	50	50	100
2	EME-504	Finite Element Method	4	3	1	0	30	20	50	50	100
3	EME-530 to 541	Elective I	4	3	1	0	30	20	50	50	100
4	EME-566 to 575	Elective II	4	3	1	0	30	20	50	50	100
			16								

SEMESTER III

1	EME-601	Product Design & Development	4	3	1	0	30	20	50	50	100
2	EME-611 to 622	Elective III	4	3	1	0	30	20	50	50	100
3	EME-655	Seminar	2	0	0	4			50	50	100
4	EME-697	Dissertation	4	0	0	8			100*		100
			14								

SEMESTER IV

1	EME-698	Dissertation	12	0	0	24				100*	100
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* EME-697 Dissertation will have Internal Evaluation while EME-698 Dissertation will have External Evaluation.

Total M.Tech. CAD Programme Credits=60

DEPARTMENT OF MECHANICAL ENGINEERING
Course Structure & Evaluation Scheme
M.Tech. Mechanical Engineering Design (Part Time)

Sl. No.	Course Code	Subject	Cr	Periods			Sessional Marks			Final Exam. ESE	Subject Total
				L	T	P	CT	TA	Total		

SEMESTER I

1	EME-515	Numerical Methods for Engineers	4	3	1	0	30	20	50	50	100
2	EME-503	Advance Mechanics of Solids	4	3	1	0	30	20	50	50	100
3	EME-509	Advance Machine Design	4	3	1	0	30	20	50	50	100
			12								

SEMESTER II

1	EME-502	Optimization Methods for Engg. Design	4	3	1	0	30	20	50	50	100
2	EME-506	Material Selection in Design	4	3	1	0	30	20	50	50	100
3	EME-508	Robotics & Control	4	3	1	0	30	20	50	50	100
			12								

SEMESTER III

1	EME-601	Product Design & Development	4	3	1	0	30	20	50	50	100
2	EME-530 to 541	Elective I	4	3	1	0	30	20	50	50	100
3	EME-655	Seminar	2	0	0	4			100		100
			10								

SEMESTER IV

1	EME-566 to 575	Elective II	4	3	1	0	30	20	50	50	100
2	EME-611 to 622	Elective III	4	3	1	0	30	20	50	50	100
3	EME-680	Mini Project	2	0	0	4			100		100
			10								

SEMESTER V

1	EME-691	Dissertation	8	0	0	16			100*		100
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SEMESTER VI

1	EME-692	Dissertation	8	0	0	16			100*		100
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* EME-691 Dissertation will have Internal Evaluation while EME-692 Dissertation will have External Evaluation.

Total M.Tech. MED Programme Credits=60

DEPARTMENT OF MECHANICAL ENGINEERING
Course Structure & Evaluation Scheme
M.Tech. Industrial System Engineering (Part Time)

Sl. No.	Course Code	Subject	Cr	Periods			Sessional Marks			Final Exam. ESE	Subject Total 100
				L	T	P	CT	TA	Total		

SEMESTER I

1	EME-515	Numerical Methods for Engineers	4	3	1	0	30	20	50	50	100
2	EME-511	Manufacturing System	4	3	1	0	30	20	50	50	100
3	EME-513	Operation Research	4	3	1	0	30	20	50	50	100
			12								

SEMESTER II

1	EME-502	Optimization Methods for Engg. Design	4	3	1	0	30	20	50	50	100
2	EME-510	Production and Operation Management	4	3	1	0	30	20	50	50	100
3	EME-512	Rapid Prototyping	4	3	1	0	30	20	50	50	100
			12								

SEMESTER III

1	EME-601	Product Design & Development	4	3	1	0	30	20	50	50	100
2	EME-530 to 541	Elective I	4	3	1	0	30	20	50	50	100
3	EME-655	Seminar	2	0	0	4			100		100
			10								

SEMESTER IV

1	EME-566 to 575	Elective II	4	3	1	0	30	20	50	50	100
2	EME-611 to 622	Elective III	4	3	1	0	30	20	50	50	100
3	EME-680	Mini Project	2	0	0	4			100		100
			10								

SEMESTER V

1	EME-691	Dissertation	8	0	0	16			100*		100
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SEMESTER VI

1	EME-692	Dissertation	8	0	0	16			100*		100
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* EME-691 Dissertation will have Internal Evaluation while EME-692 Dissertation will have External Evaluation.

Total M.Tech. ISE Programme Credits=60

DEPARTMENT OF MECHANICAL ENGINEERING
List of Elective Courses for M.Tech. Programmes
(Full time + Part time)

ELECTIVE I : From EME-530 to 541 **4(3-1-0)**

EME-530/531:	Theory of Elasticity & Plasticity
EME-532/533:	Computational Fluid Dynamics
EME-534/535:	Smart Materials & Structures
EME-536/537:	Industrial Design and Ergonomics
EME-538/539:	Rapid Prototyping & Tooling
EME-540/541:	Advance Manufacturing Processes

ELECTIVE II : From EME-566 to 575 **4(3-1-0)**

EME-566/567:	Advance Mechanical Vibrations
EME-568/569:	Introduction to Robotics
EME-570/571:	Flexible Manufacturing System
EME-572/573:	Reliability & Maintenance
EME-574/575:	Composite Materials

ELECTIVE III : From EME-611 to 622 **4(3-1-0)**

EME-611/612:	Computer Aided Manufacturing
EME-613/614:	Fracture Mechanics
EME-615/616:	Neural Network & Fuzzy Systems
EME-617/618:	Design of Thermal System
EME-619/620:	Advance Machine Design
EME-621/622:	Simulation, Modelling & Analysis