

MECHANICAL ENGINEERING

B.TECH.				Template No. ME-1				
	SEMESTER							
	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
C	MTH101A [11]	MTH102A [11]	ESC201A [14]	HSS-2 (Level-1) [11]	HSS-3 (Level-2) [09]	HSS-4 (Level-2) [09]	HSS-5 (Level-2) [09]/ DE-2 [09]	DE-2 [09]/ HSS-5 (Level-2) [09]
O	PHY102A [11]/ PHY103A [11]	PHY103A [11]/ PHY102A [11]	ESO/SO-1 ESO201A [11]	ESO/SO-5 ESO202A [11]	ME301A [06]	ME341A [10]	ME401A [10]	ME461A [09]
U	PHY101A [03]/ CHM101A [03]	CHM101A [03]/ PHY101A [03]	ESO/SO-2 ESO209A [08]	ESO/SO-6 ESO203A [13]	ME321 [07]	ME351A [08]	ME451A [09] (UGP-2)	ME452 [06] (UGP-3)
R	TA101A [09]	ESC101A [14]	ME251A [05]	ME222A [07]	ME352A [07]	ME354A [10]	OE-3 [09]	OE-4 [09]/ DE-3 [09]
S	LIF101A [06]	CHM102A [08]	TA202A [06]/ TA201A [06]	ME231 [10]	ME361A [10]	OE-2 [09]	OE-4 [09]/ DE-3 [09]	OE-5 [09]
E	ENG112A/HSS-1 (Level-1) [11]	PE102A [03]	ESO/SO-3 MSO202a [06]	COM200A [05]	ME399A [02]	DE-1 [09]	UGP-4 [09] (ME498A) (Extra Credits)	OE-6 [09]
S	PE101A [03]		ESO/SO-4 MSO203b [06]	TA201A [06]/ TA202A [06]	OE-1 [09]	UGP-1 [04] (ME398A) (Extra Credits)		
	54	50	56	63	50	55/59	55/64	51

MINIMUM CREDIT REQUIREMENT FOR GRADUATION:

Institute Core (IC)	: 124 Credits
Department Compulsory (DC)	: 101 Credits
UGP-2 and UGP-3	: 15 Credits
Department Elective (DE)	: 27 Credits
Open Elective (OE)	: 54 Credits
ESO/ SO	: 55 Credits
HSS (Level-I)	: 22 Credits
HSS (Level-II)	: 27 Credits
Total	: 425 Credits

REMARKS:

- UGP-2 (ME451A) and UGP-3 (ME452A) are departmental compulsory courses for BTech students. However, these are optional for BT-MT students who apply for conversion to BT-MT program before the end of the sixth semester. Such students may do any two DE PG courses as substitute for UGP-2 and UGP-3. If a student opts to take ME451A or ME452A after applying for the dual degree programme before the end of the 6th semester, these courses WILL NOT count towards his/her DE-PG requirement.
- Students registering for ME451A (UGP-2) must form BTP groups and Inform Convener, DUGC, by April 30th of 6th Semester.
- ME students applying for BT-MT in ME after the formation of BTP groups will have to take UGP-2 and UGP-3. Neither of these courses may be dropped. Out of UGP-2 and UGP-3, only UGP-3 may be counted towards DE-PG credits for these students.
- UGP-1 & UGP-4 are optional and do not count towards graduation requirements.
- 15 credits of UGP-2&3 and 18 OE credits may be waived from the minimum BT requirements for students opting for dual degree in ME itself.
- Upto 36 OE credits may be waived from the minimum requirements for students opting for Dual Degree in any other department or the Double Major programme.

BT-MT (PG Part – Category A) (from the same department)		Template No. ME-2	
C O U R S E S	7 th	8 th	9 th
	DE PG-1 [09]	DE PG-4 [09]	M.TECH. THESIS [36]
	DE PG-2 [09]	DE PG-5 [09]	M.TECH. THESIS [36]
	DE PG-3 [09]/ OE PG-1 [09]	DE PG-6 [09]/ OE PG-1 [09]	-
	27	27	36

MINIMUM CREDIT REQUIREMENT IN M.TECH PART FOR GRADUATION:

PG Component : 54 Credits
Thesis Component : 72 Credits

REMARKS:

- 1) UGP-2 and UGP-3 are compulsory for UG ME students, but not for BT-MT ME students. BT-MT ME students have to take 18 credits of DE PG instead of 15 credits of UGP-2 and UGP-3. However, ME students applying for BT-MT in ME after the start of 7th semester will have to take UGP-2 and UGP-3. Neither of these courses may be dropped. Out of UGP-2 and UGP-3, only UGP-3 may be counted towards DE-PG credits. In that case, students will have to make up the remaining 12 credits of DE PG with additional PG level ME courses.
- 2) All courses to be taken with the permission of Supervisor/ DUGC Convener.
- 3) AEG75A may count as DE PG in lieu of ME623A. Similar equivalences can be established by the DUGC after deliberating the course content on a case to case basis.
- 4) Course credits and Thesis credits mentioned under the dual degree template are only for the M.Tech. part of the programme. In addition to these credits, students are required to follow and complete all their graduation requirements for their UG programme.
- 5) Upto 18 OE credits may be used from the BT minimum requirements to fulfil requirements for the BT-MT dual degree programme. These will be waived from the BT programme and counted towards PG requirements.

BT-MT (PG Part – Category – B) (from other departments)				Template No. ME-3
Sl. No.	Specialization	Compulsory Course Credits	Elective Credits	Thesis Credits
1.	SOLID MECHANICS AND DESIGN (SMD)	ME621A [09] ME625A [09] ME681A [09]	DE PG-1 [09] DE PG-2 [09] DE PG-3 [09]	M.TECH. THESIS [72]
2.	FLUID & THERMAL SCIENCES (FTS)	ME631A [09] ME641A [09] ME642A [09] ME681A [09]	DE PG-1 [09] DE PG-2 [09]	M.TECH. THESIS [72]
3.	MANUFACTURING SCIENCES (MFS)	ME661A [09] ME662A [09] ME663A [09] ME681A [09]	DE PG-1 [09] DE PG-2 [09]	M.TECH. THESIS [72]

MINIMUM CREDIT REQUIREMENT IN M.TECH PART FOR GRADUATION:

PG Component	:	54	(27 Compulsory + 27 Electives) Credits for SMD
PG Component	:	54	(36 Compulsory + 18 Electives) Credits for FTS and MFS
Thesis Component	:	72	Credits

REMARKS:

- 1) All courses to be taken with the permission of Supervisor/ DUGC Convener.
- 2) Some of the compulsory courses in any of the above streams may be replaced with DE PG by the DUGC Convener based on the UG courses done by the student for his UG graduation requirement.
- 3) Course credits and Thesis credits mentioned under the dual degree template are only for the M.Tech. part of the programme. In addition to these credits, students are required to follow and complete all their graduation requirements for their UG programme.
- 4) Upto 36 CE credits may be used from the parent department's BT/BS minimum requirements to fulfil requirements for the BT/BS-MT dual degree programme. These will be waived from the parent department's BT programme requirements and counted towards PG requirements.

DOUBLE MAJOR		Template No. ME-4	
C O U R S E S	Odd Semester		Even Semester
	Pre-Requisites		
	ESO201A [11]/ ESO202A [11]		ESO201A [11]/ ESO202A [11]
	ESO209A [08]		
	19		11
	ME Mandatory Courses		
	ME251A [05]	ME231A [10] *	
	ME301A [06]	ME341A [10] **	
	ME321A [07]	ME351A [08]	
	ME352A [07]	ME354A [10]	
	ME361A [10]	ME461A [09]	
	ME401A [10]		
	45		47

TOTAL MANDATORY CREDITS FOR SECOND MAJOR IN MECHANICAL ENGINEERING: 92 CREDITS

REMARKS:

- 1) Equivalent courses for ME231A are (ESO204A + AE311A) or (ESO204A + CE262A).
- 2) **Equivalent course for ME341A is CHE312A.
- 3) Upto 36 OE credits may be waived from the parent department BT/ES graduation requirements when they are used to fulfill requirements for the double major.

MINOR		Template No. ME-5	
Title	MANUFACTURING SCIENCES	COMPUTATIONAL TECHNIQUES IN MECHANICAL ENGINEERING	
C O U R S E S	Any THREE from:	Any THREE from:	
	ME661A [09] (Prerequisite TA202A)	ME623A [09] (Prerequisite ESO202A, MSO203B)	
	ME662A [09] (Prerequisite TA202A)	ME630A [09] (Prerequisite ESO201A, ESO204A, MSO203B)	
	ME663A [09] (Prerequisite ESO202A, MSO203B)	ME685A [09] (Prerequisite – No backlog in core courses)	
	ME664A [09] (Prerequisite TA202A, ESO204A or Equivalent Heat Transfer Course)	ME751A [09] (Prerequisite TA101A)	
	ME665A [09] (Prerequisite TA202A)	MEXXXA [09] (Nonlinear Finite Element Techniques in Solid Mechanics)	
	ME774A [09] (Prerequisite ESO202A, MSO203B)	MEXXXA [09] (Atomistic Simulations in Engineering)	
	ME751A [09] (Prerequisite TA101A)		
	ME761A [09] (Prerequisite TA202A)		
	27	27	

ME 100 Introduction to Profession
ME 231N Fluid Mechanics
ME 321N Advanced Mechanics of Solids
ME 352N Theory of Mechanisms & Machines

Open Elective-I

ME 301N Energy Systems-I
ME 353N Dynamics & Vibration of Machinery

Departmental Elective-I

Science Elective-I

ME 300 Summer Industrial Training
ME 451N Project-I
ME 471 M.E. Laboratory II

Science Elective-II

ME 452N Manufacturing Systems

Open Elective-3

Departmental Elective-2

Departmental Elective-3

HSS-4

ME 251N Graphics In Mechanical Design
ME 251N Engineering Design and Graphics
ME 341N Heat & Mass Transfer
ME 361N Manufacturing Technology

ME 351N Design of Machine Elements
ME 371N M.E. Laboratory I

ME 401N Energy Systems II
ME 453N Automation & Control
Open Elective-II

ME 461N Project-II