



# **REVISED COURSES SCHEME**

**FOR**

**B.E. - M.B.A. (DUAL-DEGREE)  
MECHANICAL ENGINEERING**

**2015**

**Dual-Degree B.E.-M.B.A. (Mechanical Engineering) 2015 – Course Scheme****(For all Years)**

<b>First Semester</b>						
<b>S. No.</b>	<b>Course Number</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UMA003	Mathematics-I	3	1	0	3.5
2.	UTA007	Computer Programming - I	3	0	2	4.0
3.	UPH004	Applied Physics	3	1	2	4.5
4.	UEE001	Electrical Engineering	3	1	2	4.5
5.	UHU003	Introduction To Professional Engineering <sup>#</sup>	2	0	2	3.0
6.	UTA008	Engineering Design-I	2	4	0	4.0
			<b>16</b>	<b>7</b>	<b>8</b>	<b>23.5</b>

# For the students of Thapar University title of this course will be written as ‘Professional Communication’

<b>Second Semester</b>						
<b>S. No.</b>	<b>Course Number</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UMA004	Mathematics-II	3	1	0	3.5
2.	UTA009	Computer Programming-II	3	0	2	4.0
3.	UCB008	Applied Chemistry	3	1	2	4.5
4.	UEC001	Electronic Engineering	3	1	2	4.5
5.	UES009	Mechanics *	2	1	2*	2.5
6.	UTA010	Engineering Design-II (Catapult Project) 6 Self Effort Hours	1	0	2	5.0
			<b>15</b>	<b>4</b>	<b>8</b>	<b>24</b>

\* Each student will attend one lab session of 2 hrs in a semester for a bridge project in this course (Mechanics).

<b>Third Semester</b>						
<b>S. No.</b>	<b>Course Number</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UMA031	Optimization Techniques	3	1	0	3.5
2.	UES010	Solids And Structures	3	1	2	4.5
3.	UES011	Thermo-Fluids	3	1	2	4.5
4.	UTA002	Manufacturing Processes	2	0	3	3.5
5.	UTA011	Engineering Design-III (Buggy Project) 8 Self effort Hours	2	0	4	8.0
6.	UME306	Mechanics Of Machines	3	1	2	4.5
			<b>16</b>	<b>4</b>	<b>13</b>	<b>28.5</b>

Fourth Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UMA007	Numerical Analysis	3	1	2	4.5
2.	UES012	Engineering Materials	3	1	2	4.5
3.	UEN002	Energy & Environment	3	0	0	3.0
4.	UHU005	Humanities for Engineers	2	0	2	3.0
5.	UME408	Machine Design-I	3	2	0	4.0
6.	UME409	Computer Aided Design & Analysis (Includes 7 Self-Effort Hours)	3	0	3	8.0
			<b>17</b>	<b>4</b>	<b>9</b>	<b>27</b>

*First four semesters for BE MBA (Mechanical) dual degree Program are common with BE (Mechanical) Program.*

Summer Semester- 1						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UMEXXX	Elective II	3	1	0	3.5
2.	UTA012	Innovation & Entrepreneurship (5 Self Effort Hours) *	1	0	2	4.5
3.	UME515	Industrial Engineering	2	1	0	2.5
		<b>TOTAL</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>10.5</b>

\*- Lab engagement shall be on alternate weeks.

Fifth Semester						
S.No.	Course No.	Course Name	L	T	P	Cr
1.	UME501	Applied Thermodynamics	3	1	2	4.5
2.	UME713	Fluid Mechanics & Machinery	3	1	2	4.5
3.	UME712	Heat Transfer	3	1	2	4.5
4.	UME705	Machining Science	3	1	2	4.5
5.	UME505	Manufacturing Technology	3	0	3	4.5
6.	UME404	Mechanics of Deformable Bodies	3	1	0	3.5
			<b>18</b>	<b>5</b>	<b>11</b>	<b>26</b>

Sixth Semester						
S.No.	Course No.	Course Name	L	T	P	Cr
1.	UME502	Automobile Engineering	3	0	2	4.0
2.	UME793	Capstone Project ( 12 self-effort hours)	0	0	4	8.0
3.	UME513	Dynamics & Vibrations	3	1	2	4.5
4.	UME807	Gas Dynamics & Turbo Machines	3	1	0	3.5
5.	UME711	Machine Design -II	3	1	0	3.5
6.	UME803	Refrigeration and Air Conditioning	3	1	2	4.5
			<b>15</b>	<b>4</b>	<b>10</b>	<b>28</b>

<b>Summer Semester- 2**</b>						
<b>S. No.</b>	<b>Course Number</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UMEXXX	Elective I	3	1	0	3.5
2.	UME7XX	Elective III	3	1	0	3.5
3.	UME802	Mechatronics	3	0	2	4.0
		<b>TOTAL</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>11</b>

<b>Eighth Semester</b>						
<b>S. No.</b>	<b>Course Number</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UME696	Project Semester	-	-	-	<b>20.0</b>
<b>Or Alternate Semester</b>						
<b>S. No.</b>	<b>Course Number</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UME697	Group Project	-	-	-	13.0
2.	UME833	Inspection and Quality Control	3	1	0	3.5
3.	UME847	Rapid Prototyping	2	1	2	3.5
			<b>5</b>	<b>2</b>	<b>2</b>	<b>20.0</b>

**OR**

<b>Start-up Semester</b>	
This module shall be offered as an alternative to Internship for interested students. This semester will comprise of Hands-on Workshops on innovation & entrepreneurship and a project course. Students will be encouraged to extensively use Design Lab and Venture Lab.	

**Elective-I**

<b>S.No.</b>	<b>Course No.</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
1.	UME	Computational Fluid Dynamics	3	1	0	3.5
2.	UME	Internal Combustion Engines	3	1	0	3.5
3.	UME	Power Plant and Process Utility Systems	3	1	0	3.5
4.	UME	Renewable Energy Systems	3	1	0	3.5
5.	UME	Solar Energy Engineering	3	1	0	3.5

**Elective-II**

S.No.	Course No.	Course Name	L	T	P	Cr
1.	UMP6XX	Facility Planning	3	1	0	3.5
2.	UMP6XX	Supply Chain Management	3	1	0	3.5
3.	UMP	Processing of Polymers and Composites	3	1	0	3.5
4.	UME6XX	Inspection and Quality Control	3	1	0	3.5
5.	UMP8XX	Operations Management	3	1	0	3.5

**Elective-III**

S.No.	Course No.	Course Name	L	T	P	Cr
1.	UME	Finite Element Methods	3	1	0	3.5
2.	UME	Mechanics of Composite Materials	3	1	0	3.5
3.	UME	Robotics Engineering	3	1	0	3.5
4.	UME	Machine Tool Design	3	1	0	3.5
5.	UME	Tribology	3	1	0	3.5
6.	UME	CAM & Industrial Automation	3	1	0	3.5
7.	UME	Industrial Metallurgy	3	1	0	3.5
8.	UME	System Modelling and Simulation	3	1	0	3.5

SEMESTER	CREDITS
FIRST	23.5
SECOND	24.0
THIRD	28.5
FOURTH	27.0
SUMMER SEMESTER-1	10.5
FIFTH	26.0
SIXTH	28.0
SUMMER SEMESTER-2	11.0
EIGHTH	20.0
<b>TOTAL CREDITS (B.E. program)</b>	<b>198.5</b>