



# **COURSES SCHEME**

**FOR**

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

**2017**

**Dual-Degree B.E.-M.B.A. (Mechanical Engineering) 2017 – Course Scheme  
(ALL YEARS)**

First Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1	UPH004	APPLIED PHYSICS	3	1	2	4.5
2	UTA007	COMPUTER PROGRAMMING - I	3	0	2	4.0
3	UEC001	ELECTRONIC ENGINEERING	3	1	2	4.5
4	UTA015	ENGINEERING DRAWING	2	4	0	4.0
5	UHU003	PROFESSIONAL COMMUNICATION	2	0	2	3.0
6	UMA003	MATHEMATICS-I	3	1	0	3.5
<b>Total</b>			<b>16</b>	<b>7</b>	<b>8</b>	<b>23.5</b>

Second Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1	UCB008	APPLIED CHEMISTRY	3	1	2	4.5
2	UTA009	COMPUTER PROGRAMMING-II	3	0	2	4.0
3	UEE001	ELECTRICAL ENGINEERING	3	1	2	4.5
4	UEN002	ENERGY AND ENVIRONMENT	3	0	0	3.0
5	UTA013	ENGINEERING DESIGN PROJECT-I (6 Self-Effort Hours) (Mangonel)	1	0	2	5.0
6	UMA004	MATHEMATICS-II	3	1	0	3.5
7	UES009	MECHANICS	2	1	2*	2.5
<i>MECHANICS (2*) 2 HOURS LAB ONCE IN SEMESTER</i>						
<b>Total</b>			<b>18</b>	<b>4</b>	<b>8</b>	<b>27</b>

Third Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1	UTA014	ENGINEERING DESIGN PROJECT-II (6 Self-Effort Hours) (Buggy)	1	0	4	6
2	UTA002	MANUFACTURING PROCESSES	2	0	3	3.5
3	UMA031	OPTIMIZATION TECHNIQUES	3	1	0	3.5
4	UES010	SOLIDS AND STRUCTURES #	3	1	2	4.5
5	UES011	THERMO-FLUIDS #	3	1	2	4.5
6	UME306	MECHANICS OF MACHINES	3	1	2	4.5
<i>#:UES010, UES011 Lab to be conducted every alternate week.</i>						
<b>Total</b>			<b>15</b>	<b>4</b>	<b>13</b>	<b>26.5</b>

Fourth Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1	UES012	ENGINEERING MATERIALS	3	1	2	4.5
2	UMA007	NUMERICAL ANALYSIS	3	1	2	4.5
3	UME409	COMPUTER AIDED DESIGN & ANALYSIS (7 SELF EFFORT HOURS)	3	0	3	8
4	UME408	MACHINE DESIGN-I	3	2	0	4
5	UME802	MECHATRONICS	3	0	2	4
6	UME501	APPLIED THERMODYNAMICS	3	1	2	4.5
<b>Total</b>			<b>18</b>	<b>5</b>	<b>11</b>	<b>29.5</b>

Summer Semester- 1						
S. NO.	COURSE NUMBER	COURSE TITLE	L	T	P	CR
1.	UHU005	HUMANITIES FOR ENGINEERS	2	0	2	3.0
2.	UME515	INDUSTRIAL ENGINEERING	2	1	0	2.5
3.	UTA012	INNOVATION & ENTREPRENEURSHIP# (5 SELF EFFORT HOURS)	1	0	2*	4.5
<b>TOTAL</b>			<b>5</b>	<b>1</b>	<b>2</b>	<b>10.0</b>

**UTA012 Lab to be conducted every alternate week**

Fifth Semester						
S.NO.	COURSE NO.	COURSE NAME	L	T	P	CR
1.	UME716	FLUID MECHANICS & MACHINERY	3	1	2	4.5
2.	UME712	HEAT TRANSFER	3	1	2	4.5
3.	UME733	INDUSTRIAL METALLURGY	3	1	0	3.5
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
7.		GENERIC ELECTIVE	3	0	0	3.0
<b>TOTAL</b>			<b>21</b>	<b>5</b>	<b>9</b>	<b>28.0</b>

Sixth Semester						
S.NO.	COURSE NO.	COURSE NAME	L	T	P	CR
1.	UME502	AUTOMOBILE ENGINEERING	3	0	2	4.0
2.	UME892	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>TOTAL</b>			<b>15</b>	<b>4</b>	<b>10</b>	<b>28</b>

Summer Semester- 2						
S.No.	COURSE NUMBER	COURSE TITLE	L	T	P	CR
1.	UMEXXX	ELECTIVE I	3	1	0	3.5
2.	UMPXXX	ELECTIVE II	3	1	0	3.5
3.	UME7XX	ELECTIVE III	3	1	0	3.5
		<b>TOTAL</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>10.5</b>

\*- Lab engagement shall be on alternate weeks.

Eighth Semester						
S. NO.	COURSE NUMBER	COURSE TITLE	L	T	P	CR
1.	UME696	PROJECT SEMESTER	-	-	-	20.0
Or Alternate Semester						
S. NO.	COURSE NUMBER	COURSE TITLE	L	T	P	CR
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

Start-Up Semester	
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						
S. No.	Course No.	Course Name	L	T	P	Cr
1.	UME832	FINITE ELEMENT METHODS	3	1	0	3.5
2.	UME842	MECHANICS OF COMPOSITE MATERIALS	3	1	0	3.5
3.	UME805	ROBOTICS ENGINEERING	3	1	0	3.5
4.	UME722	SYSTEM MODELLING AND SIMULATION	3	1	0	3.5
5.	UME721	TRIBOLOGY	3	1	0	3.5

Elective-II						
S. No.	Course No.	Course Name	L	T	P	Cr
1.	UPE501	WORK STUDY AND ERGONOMICS ENGINEERING	3	1	0	3.5
2.	UPE703	METAL FORMING	3	1	0	3.5
3.	UPE732	CAM & INDUSTRIAL AUTOMATION	3	1	0	3.5
4.	UME844	MACHINE TOOL DESIGN	3	1	0	3.5

Elective-III						
S. No.	Course No.	Course Name	L	T	P	Cr
1.	UME831	COMPUTATIONAL FLUID DYNAMICS	3	1	0	3.5
2.	UME834	INTERNAL COMBUSTION ENGINES	3	1	0	3.5
3.	UME852	POWER PLANT AND PROCESS UTILITY SYSTEMS	3	1	0	3.5
4.	UME839	RENEWABLE ENERGY SYSTEMS	3	1	0	3.5
5.	UME853	SOLAR ENERGY ENGINEERING	3	1	0	3.5

#### GENERIC ELECTIVE

S.NO	CODE	TITLE	L	T	P	CR
1	UHU006	INTRODUCTORY COURSE IN FRENCH	3	0	0	3.0
2.	UCS001	INTRODUCTION TO CYBER SECURITY	3	0	0	3.0
3.	UHU007	EMPLOYABILITY DEVELOPMENT SKILLS	2	2	0	3.0
4.	UEN004	TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT	3	0	0	3.0
5.	UHU008	INTRODUCTION TO CORPORATE FINANCE	3	0	0	3.0
6.	UHU009	INTRODUCTION TO COGNITIVE SCIENCE	3	0	0	3.0
7.	UPH063	NANO SCIENCE AND NANO-MATERIALS	3	0	0	3.0
8	UMA066	GRAPH THEORY AND APPLICATIONS	3	0	0	3.0

SEMESTER	CREDITS
FIRST	23.5
SECOND	27.0
THIRD	26.5
FOURTH	29.5
SUMMER SEMESTER-1	10.0
FIFTH	28.0
SIXTH	28.0
SUMMER SEMESTER-2	10.5
EIGHTH	20.0
<b>TOTAL CREDITS</b>	<b>203.0</b>