Branch Code: CE1

M.Tech. in CIVIL ENGINEERING

Stream: Building Technology and Construction Management

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5010	Modern Construction Materials	3	0	0	0	6	9
2	CE5110	Building Services	3	0	0	0	6	9
3	CE6010	Construction Contracts & Specifications	3	0	0	0	6	9
4	CE5020	Construction Planning and Control	3	0	0	0	6	9
5	DPE1	Department Elective 1	3	0	0	0	6	9
6	CE5060	Industrial Seminar	0	0	0	3	1	4
7	CE5070	Building Sciences Laboratory	0	0	0	3	1	4
		Total Credits						**53**

(Work Load = 53 hours + 8 hours for HTTA/HTRA=61 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5040	Construction, Methods & Equipment	3	0	0	0	6	9
2	CE5100	Construction Software Lab	1	0	0	2	3	6
3	CE5090	Construction Materials Laboratory	0	0	0	3	3	6
4	DPE2	Dept. Elective 2	3	0	0	0	6	9
5	DPE3	Dept. Elective 3	3	0	0	0	6	9
6	FRE1	Free Elective 1	3	0	0	0	6	9
		Total Credits						**48**

(Work Load = 48 hours + 8 hours for HTTA/HTRA=56 hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6020*	Project	0	0	0	0	20	**20**

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6020#	Project	0	0	0	0	28	28
3	DPE4	Dept. Elective 4	3	0	0	0	6	9
		Total Credits						**37**

(Work Load = 37 hours + 8 hours of HTTA/HTRA=45 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6020	Project	0	0	0	0	45	45
		Total Credits :						**45**

(Work Load = 45 hours + 8 hours of HTTA/HTRA=53 hours)

Semester	I	II	Summer	III	IV	Total
Credits	53	48	20	37	45	203

REMARKS

- Credits and grades for M.Tech Project (CE6020*, CE6020# and CE6020 together) will be assigned in 4th semester

Branch Code: CE2

M.Tech. in CIVIL ENGINEERING

Stream: ENVIRONMENTAL ENGINEERING

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5015	Environmental Monitoring and Data Analysis	3	0	0	0	6	9
2	CE5150	Environmental Chemistry and Microbiology	4	0	0	0	8	12
3	CE5170	Physico-chemical Processes for Water & WW Treatment	4	0	0	0	8	12
4	CE5190	Environmental Monitoring Lab	0	0	0	3	1	4
5	DPE1	Dept. Elective 1	3	0	0	0	6	9
6	MAE1	Math. Elective	3	0	0	0	6	9
		Total Credits						**55**

(Work Load = 55 hours + 8 hours for HTTA/HTRA=63 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5160	Biological Process Design for Wastewater Treatment	4	0	0	0	8	12
2	CE5180	Air Pollution and Control Engineering	4	0	0	0	8	12
3	CE5200	Environmental Microbiology and Engineering Lab	0	0	0	6	2	8
4	CE5220	Environmental Engineering Seminar	1	0	0	0	2	3
5	DPE2	Dept. Elective 2	3	0	0	0	6	9
6	DPE3	Dept. Elective 3	3	0	0	0	6	9
		Total Credits						**53**

(Work Load = 52 hours + 8 hours for HTTA/HTRA=60 hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6290*	Project	0	0	0	0	20	**20**

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6290#	Project	0	0	0	0	30	30
2	DPE4	Dept. Elective 4	3	0	0	0	6	9
3	DPE5	Dept. Elective 5	3	0	0	0	6	9
		Total Credits						**48**

(Work Load = 48 hours + 8 hours of HTTA/HTRA=56 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6290	Project	0	0	0	0	35	35
		Total Credits :						**35**

(Work Load = 35 hours + 8 hours of HTTA/HTRA=43 hours)

Semester	I	II	Summer	III	IV	Total
Credits	55	53	20	48	35	211

REMARKS

- Credits and Grades for M.Tech Project (CE6290*, CE6290# and CE6290 together) will be assigned in 4th semester
- One of the Department Elective can be a FREE Elective

Branch Code: CE3

M.Tech. in CIVIL ENGINEERING

Stream: GEOTECHNICAL ENGINEERING

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5310	Advanced Soil Mechanics	4	0	0	0	8	12
2	CE5330	Advanced Foundation Engg	3	1	0	0	6	10
3	CE5320	Soil Dynamics	3	1	0	0	6	10
4	CE5421	Geotechnical Engg. Seminar	1	0	0	0	1	2
5	DPE1	Dept. Elective	3	0	0	0	6	9
6	MAE1	Math. Elective	3	0	0	0	6	9
		Total Credits						**52**

(Work Load = 52 hours + 8 hours for HTTA/HTRA=60 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5300	Applied Soil Mechanics	3	1	0	0	6	10
2	CE5340	FEM and Constitutive Modelling in Geomechanics	4	0	0	0	8	12
3	CE5410	Experimental Geotechnics	0	0	0	6	2	8
4	DPE2	Dept. Elective	3	0	0	0	6	9
5	DPE3	Dept. Elective	3	0	0	0	6	9
6	DPE4	Dept. Elective	3	0	0	0	6	9
		Total Credits						**57**

(Work Load = 55 hours + 8 hours for HTTA/HTRA=63 hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6430*	Project	0	0	0	0	20	**20**

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6430#	Project	0	0	0	0	25	25
2	CE5430	GT Engg. Design Studio	1	0	0	3	2	6
3	DPE5	Dept. Elective	3	0	0	0	6	9
		Total Credits						**40**

(Work Load = 40 hours + 8 hours of HTTA/HTRA=48 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6430	Project	0	0	0	0	44	44
		Total Credits :						**44**

(Work Load = 44 hours + 8 hours of HTTA/HTRA=52 hours)

Semester	I	II	Summer	III	IV	Total
Credits	52	57	20	40	44	213

REMARKS

- Credits and Grades for M.Tech Project (CE6430*, CE6430# and CE6430 together) will be assigned in 4th semester
- One of the Department Elective can be a FREE Elective

Branch Code: CE4

M.Tech. in CIVIL ENGINEERING

Stream: HYDRAULICS AND WATER RESOURCES ENGINEERING

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5450	Applied Hydraulic Engineering	3	1	0	0	6	9
2	CE5470	Surface Water Hydrology	4	0	0	0	8	12
3	CE5460	Ground Water Engineering	4	0	0	0	8	12
4	CE5490	Hydraulic Engineering Lab.	0	0	0	3	1	4
5	DPE1	Dept. Elective 1	3	0	0	0	6	9
6	MAE1	Math. Elective	3	0	0	0	6	9
		Total Credits						**55**

(Work Load = 55 hours + 8 hours for HTTA/HTRA=63 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5480	Water Res. Planning & Mgmt.	4	0	0	0	8	12
2	CE6013	River Engineering	3	0	0	0	6	9
3	CE5520	Hyd. & Water Resources Engg. Seminar	1	0	0	0	1	2
4	CE5500	Hydro-Informatics Lab.	1	0	0	3	2	6
5	DPE2	Dept. Elective	3	0	0	0	6	9
6	DPE3	Dept. Elective	3	0	0	0	6	9
7	DPE4	Dept. Elective	3	0	0	0	6	9
		Total Credits						**56**

(Work Load = 56 hours + 8 hours for HTTA/HTRA=64 hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6490*	Project	0	0	0	0	20	**20**

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6490#	Project	0	0	0	0	30	30
2	DPE5	Dept. Elective	3	0	0	0	6	9
		Total Credits						**39**

(Work Load = 39 hours + 8 hours of HTTA/HTRA=47 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6490	Project	0	0	0	0	40	40
		Total Credits :						**40**

(Work Load = 40 hours + 8 hours of HTTA/HTRA=48 hours)

Semester	I	II	Summer	III	IV	Total
Credits	55	56	20	39	40	210

REMARKS

- Grades for M.Tech Project (CE6490*, CE6490# and CE6490 together) will be assigned in 4th semester
- One of the Department Elective can be a FREE Elective

Branch Code: CE5

M.Tech. in CIVIL ENGINEERING

Stream: Structural Engineering

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6780	Advanced Mechanics of Structures	3	1	0	0	6	10
2	CE5620	Structural Dynamics	3	1	0	0	6	10
3	CE5630	Adv. Design of Concrete Structures	3	1	0	0	6	10
4	CE5740	Experimental Techniques	1	0	0	2	3	6
5	DPE1	Dept. Elective 1	3	0	0	0	6	9
6	MAE1	Math. Elective 1	3	0	0	0	6	9
		Total Credits						**54**

(Work Load = 54 hours + 8 hours for HTTA/HTRA=62 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5610	Finite Element Analysis	3	0	1	0	8	12
2	CE5660	Adv. Metal Structures	3	1	0	0	6	10
3	CE6650	St. Engg. Seminar	1	0	0	0	1	2
4	DPE2	Dept. Elective 2	3	0	0	0	6	9
5	DPE3	Dept. Elective 3	3	0	0	0	6	9
6	DPE4	Dept. Elective 4	3	0	0	0	6	9
		Total Credits						**51**

(Work Load = 51 hours + 8 hours for HTTA/HTRA=59 hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6690*	Project	0	0	0	0	20	**20**

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6670	St. Engg. Design Studio	0	0	0	3	6	9
2	CE6690#	Project	0	0	0	0	32	32
3	DPE5	Dept. Elective	3	0	0	0	6	9
		Total Credits						**50**

(Work Load = 50 hours + 8 hours of HTTA/HTRA=58 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6690	Project	0	0	0	0	35	35
		Total Credits :						**35**

(Work Load = 35 hours + 8 hours of HTTA/HTRA=43 hours)

Semester	I	II	Summer	III	IV	Total
Credits	54	51	20	50	35	210

REMARKS

- Credits and Grades for M.Tech Project (CE6690*, CE6690# and CE6690 together) will be assigned in 4th semester
- One of the Department Elective can be a FREE Elective

Branch Code: CE6

M.Tech. in CIVIL ENGINEERING

Stream: Transportation Engineering

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5810	Urban Transportation Planning	3	0	0	0	6	9
2	CE5530	Pavement Materials	3	0	0	0	6	9
3	CE5830	Traffic Engg & Management	3	0	0	0	6	9
4	CE6810	Geometric Design of Highways	3	0	0	0	6	9
5	DPE1	Dept. Elective	3	0	0	0	6	9
6	MAE1	Math. Elective	3	0	0	0	6	9
		Total Credits						**54**

(Work Load = 54 hours + 8 hours for HTTA/HTRA=62 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5800	Pavement Analysis and Design	3	0	0	0	6	9
2	CE5840	Tr. Engg. Seminar	1	0	0	0	1	2
3	CE5850	Pavement Mat. and Eval. Lab	1	0	0	2	3	6
4	DPE2	Dept. Elective	3	0	0	0	6	9
5	DPE3	Dept. Elective	3	0	0	0	6	9
6	DPE4	Dept. Elective	3	0	0	0	6	9
7	DPE5	Dept. Elective	3	0	0	0	6	9
		Total Credits						**53**

(Work Load = 53 hours + 8 hours for HTTA/HTRA=61 hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6930*	Project	0	0	0	0	20	**20**

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5831	Transp. Engg. Design Studio	0	0	0	3	6	9
2	CE6930#	Project	0	0	0	0	22	22
3	DPE6	Dept. Elective	3	0	0	0	6	9
		Total Credits						**40**

(Work Load = 40 hours + 8 hours of HTTA/HTRA=48 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6930	Project	0	0	0	0	43	43
		Total Credits :						**43**

(Work Load = 43 hours + 8 hours of HTTA/HTRA=51 hours)

Semester	I	II	Summer	III	IV	Total
Credits	54	53	20	40	43	210

REMARKS

- Credits and Grades for M.Tech Project (CE6930*, CE6930# and CE6930 together) will be assigned in 4th semester
- One of the Department Elective can be a FREE Elective

Branch Code: CE7

M.Tech. in Construction Technology and Management

(L&T - UOP)

2017 Batch

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE5020	Construction Planning & Control	3	0	0	0	6	9
2	CE6010	Construction Contracts & Specifications	3	0	0	0	6	9
3	CE6050	Lean Construction Concepts, Tools & Practices	2	1	0	0	6	9
4	MS5020	Organizational Behaviour	2	0	0	0	4	6
5	CE5060	Industrial Seminar	0	0	0	3	1	4
6	DPE1	Department Elective 1**	3	0	0	0	6	9
		Total Credits						**46**

(Work Load = 46 hours + 8 hours for HTTA/HTRA=54 hours)

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6030	Construction Economics & Finance	3	0	0	0	6	9
2	CE5100	Construction Software Lab	1	0	0	2	3	6
3	DPL1	Department Elective Lab 1	0	0	0	3	3	6
4	DPE2	Department Elective 2**	3	0	0	0	6	9
5	DPE3	Department Elective 3**	3	0	0	0	6	9
6	DPE4	Department Elective 4**	3	0	0	0	6	9
		Total Credits						**48**

(Work Load = 48 hours + 8 hours for HTTA/HTRA=56hours)

SUMMER

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6140*	Project	0	0	0	0	20	*

(Work Load = 20 hours + 8 hours for HTTA/HTRA=28 hours)

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6140#	Project	0	0	0	0	20	*
2	CE5130	Construction Quality and Safety Management	4	0	0	0	8	12
3	DPE5	Department Elective 5**	3	0	0	0	6	9
		Total Credits						**21**

(Work Load = 41 hours + 8 hours of HTTA/HTRA=49 hours)

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C
1	CE6140	Project	0	0	0	0	48	88
		Total Credits :						**88**

(Work Load = 48 hours + 8 hours of HTTA/HTRA=56 hours)

Semester	I	II	Summer	III	IV	Total
Credits	46	48	-	21	88	203

REMARKS

* Credits and Grades for M.Tech Project (CE6140*, CE6140# and CE6140 together) will be assigned only in 4th semester

** From the "Approved List of Elective for L & T UOP CTAM

Approved List of Elective for L&T UOP CTAM

COMMON ELECTIVE COURSES								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	CE5014	Sustainable Construction	3	0	0	0	6	9
2	MS5113	Basics of Probability and Statistics	3	0	0	0	6	9
3	MS5131	Data Analysis for Management	3	0	0	0	6	9
4	MS5130	Operations Research	3	0	0	0	6	9
5	MS5480	Cross Cultural Management	3	0	0	0	6	9
6	MS6620	Infrastructure Finance	3	0	0	0	6	9
7	MS5320	Human Resource Management	3	0	0	0	6	9
8	MS5330	Supply Chain Management	3	0	0	0	6	9
9	MS6710	Financial Risk Management	3	0	0	0	6	9
10	MA5540	Probability and Statistics	3	0	0	0	6	9
11	MA5313	Introduction to Mathematical Statistics	3	0	0	0	6	9

ELECTIVE COURSES FOR CIVIL ENGINEERING STUDENTS								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	CE5010	Modern Construction Materials	3	0	0	0	6	9
2	CE5080	GIS in Civil Engineering	3	0	0	0	6	9
3	CE5014	Sustainable Construction	3	0	0	0	6	9
4	CE5110	Building Services	3	0	0	0	6	9
5	CE5120	Maintenance and Rehabilitation of Constructed Facilities	3	0	0	0	6	9
6	CE5210	Transport of Water and Wastewater	3	0	0	0	6	9
7	CE5280	Hazardous Waste Management	3	0	0	0	6	9
8	CE5300	Applied Soil Mechanics	3	0	0	0	6	9
9	CE5330	Advanced Foundation Engineering	3	0	0	0	6	9
10	CE5350	Reinforced Soil Structures	3	0	0	0	6	9
11	CE5360	Soil Exploration and Field Tests	3	0	0	0	6	9
12	CE5370	Geotechnics for Infrastructure	3	0	0	0	6	9
13	CE5800	Analysis and Design of Pavements	3	0	0	0	6	9
14	CE6110	Advanced Concrete Technology	3	0	0	0	6	9
15	CE5950	Characterization of Construction Materials	3	0	0	0	6	9
16	CE7013	Advanced Topics in Project Delivery Finance	3	0	0	0	6	9
17	CE5870	Infrastructure Planning and Management	3	0	0	0	6	9
18	CE5750	CAD in Civil Engineering	3	0	0	0	6	9
19	CE6011	Smart Buildings and Automation	3	0	0	0	6	9
20	CE6130	Construction Project Modeling	3	0	0	0	6	9
21	CE6420	Ground Improvement Techniques	3	0	0	0	6	9
22	OE5050	Ocean Structures and Materials	3	0	0	0	6	9
23	OE5090	Marine Geotechnical Engineering	3	0	0	0	6	9
24	OE5210	Port Planning and Development	3	0	0	0	6	9
25	OE5340	Ocean Environment, Policy and Coastal Zone Mgmt.	3	0	0	0	6	9
26	OE5400	Port and Harbour Structures	3	0	0	0	6	9
27	OE6400	Marine Foundations	3	0	0	0	6	9
28	OE6850	Concrete and Concrete Structure for Oceans	3	0	0	0	6	9

ELECTIVE COURSES FOR MECHANICAL ENGINEERING STUDENTS								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	ME6320	Pump Application Engineering	3	0	0	0	6	9
2	ME6530	HVAC Systems and Applications	3	0	0	0	6	9
3	ME6960	Design of Materials Handling Equipment	3	0	0	0	6	9
4	ME5570	Pipeline Engineering	3	0	0	0	6	9
5	MM5180	Nondestructive Evaluation	3	0	0	0	6	9
6	MM5012	Welding Processes	3	0	0	0	6	9
7	ME5710	Welding Processes – I	3	0	0	0	6	9
8	MM5760	Advanced Topics in Metal Joining	3	0	0	0	6	9
9	ME6005	Solar energy for process heat and power generation	3	0	0	0	6	9
10	ME7010	Microprocessors in Automation	3	0	0	0	6	9
11	ME7740	Structural Health and Integrity Monitoring	3	0	0	0	6	9
12	ME7680	Optimization Methods for Mechanical Design	3	0	0	0	6	9
13	NE6000	Introduction to Nuclear Engineering	3	0	0	0	6	9
14	NE6010	Advanced Non-destructive Evaluation	3	0	0	0	6	9

ELECTIVE COURSES FOR ELECTRICAL ENGINEERING STUDENTS								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	EE5020	Topics in Electromagnetic Compatibility	3	0	0	0	6	9
2	EE5070	Instrumentation Engineering	3	0	0	0	6	9
3	EE5140	Computer Communication Network	3	0	0	0	6	9
4	EE5360	Microprocessor and Application	3	0	0	0	6	9
5	EE5430	Optical Communication	3	0	0	0	6	9
6	EE5510	Analysis of Networks & Systems	3	0	0	0	6	9
7	EE5610	Transducers	3	0	0	0	6	9
8	EE5620	Power System Instrumentation	3	0	0	0	6	9
9	EE5870	Power Electronic Control of Electric Mechanics	3	0	0	0	6	9
10	EE5910	Computer Methods in Power System Analysis	3	0	0	0	6	9
11	EE5920	High Voltage Technology	3	0	0	0	6	9
12	EE5940	Power Circuit Breakers & Protective Relays	3	0	0	0	6	9
13	EE5950	High Voltages Power Transmission	3	0	0	0	6	9
14	E5960	Computer Applications in Power System Operation & Planning	3	0	0	0	6	9
15	EE5970	Energy Management System & SCADA	3	0	0	0	6	9
16	EE6920	Advance Topics in Electrical Insulation	3	0	0	0	6	9

LIST OF ELECTIVE LAB COURSES FOR CIVIL ENGINEERING STUDENTS								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	CE5090	Construction Materials Laboratory	0	0	0	3	3	6
2	CE5850	Pavement Engineering Laboratory	0	0	0	3	3	6
3	CE5410	Experimental Geotechnics Laboratory	0	0	0	3	3	6
4	CE5190	Environmental Monitoring Laboratory	0	0	0	3	3	6

LIST OF ELECTIVE LAB COURSES FOR MECHANICAL ENGINEERING STUDENTS								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	MM5190	Non-Destructive Testing Laboratory	0	0	0	3	3	6
2	MM5770	Welding Laboratory I	0	0	0	3	3	6

LIST OF ELECTIVE LAB COURSES FOR ELECTRICAL ENGINEERING STUDENTS								
S.No	**Course No**	**Course Name**	**L**	**T**	**E**	**P**	**O**	**C**
1	EE5000	Electrical Engineering Laboratory I	0	0	0	3	3	6
2	EE5500	Electrical Engineering Laboratory II (CGI/PS Stream/Microprocessors)	0	0	0	3	3	6