

Indian Institute of Technology Tirupati  
Dual Degree (B.Tech & M.Tech) Curriculum : Geotechnical Engineering  
from Academic Year 2019-2020 onwards

### Semester-I

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	ES103M/ EA101M	Introduction to Programming/ Engineering Drawing	BET/ BES	2-0-3-4 1-0-3-3	ES1101/ EA1101	14 4
2.	CY101L/ CY102L	Physical and Theoretical Chemistry/ Organic and Inorganic Chemistry	SCY	2-1-0-3	CY1101/ CY1202	4 4
3.	ES101M	Concepts in Engineering and Design	BET	1-0-2-2	ID1101	4
4.	MA101L	Calculus	SMA	3-1-0-4	MA1101	4
5.	PH101L	Introduction to Classical Mechanics	SPH	2-1-0-3	PH1101	4
6.	PH103P/ CY103P	Physics Laboratory/ Chemistry Laboratory	SPH/ SCY	0-0-3-2	PH1103/ CY1204	4 4
7.	EA101P	Workshop-I	BES	0-0-3-2	EA1103	4
8.	HS10XN	Language Course (Pass/Fail)	HPF	2-0-0-2	HS110X	
<b>Total Credits</b>					<b>22/21</b>	

#### Approved Language Courses

Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
HS101N	Proficiency in English	HPF	2-0-0-2	HS1101	4
HS102N	Basic Course in German			HS1103	6
HS103N	Basic Course in Japanese			HS1105	6
HS104N	Basic Course in Sanskrit			HS1107	6
HS105N	Basic Course in Spanish Language			HS1109	9

### Semester-II

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	ES103M/ EA101M	Introduction to Programming/ Engineering Drawing	BET/ BES	2-0-3-4 1-0-3-3	ES1101/ EA1101	14 4
2.	CY101L/ CY102L	Physical and Theoretical Chemistry/ Organic and Inorganic Chemistry	SCY	2-1-0-3	CY1101/ CY1202	4 4
3.	ES201L	Engineering Mechanics	BET	3-1-0-4	ES2101	4
4.	MA102L	Differential Equations and Matrices	SMA	3-1-0-4	MA1202	4
5.	PH102L	Introduction to Electrodynamics and Quantum Mechanics	SPH	2-1-0-3	PH1202	4
6.	PH103P/ CY103P	Physics Laboratory/ Chemistry Laboratory	SPH/SCY	0-0-3-2	PH1103/ CY1204	4 4
7.	EA102P	Workshop-II	BES	0-0-3-2	EA1202	4
<b>Total Credits</b>					<b>21/22</b>	

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### Semester-III

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE201L	Strength of Materials	PMT	3-1-0-4	CE2101	8
2.	CE203L	Surveying	PMT	3-0-0-3	CE2103	8
3.	CE202L	Civil Engineering Materials and Construction	PMT	3-0-0-3	CE2105	8
4.	CE203P	Surveying Practical	PML	0-0-3-2	CE2191	8
5.	ES102L	Basic Electrical Engineering	BET	3-1-0-4	ES1201	8
6.	ES202L/ ES203L	Ecology and Environment/ Life Sciences	BET/ SLS	2-0-0-2 2-0-0-2	ES2103/ BS2101	8 9
7.	HSE1	Humanities Elective-1	HSS	3-0-0-3		
8.	MAE1	Mathematics Elective-1	SMA	3-0-0-3		
<b>Total Credits</b>				<b>24</b>		

### Semester-IV

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	ES202L/ ES203L	Ecology and Environment/ Life Sciences	BET/ SLS	2-0-0-2 2-0-0-2	ES2103/ BS2101	8 9
2.	CE206L	Structural Analysis	PMT	3-1-0-4	CE2202	8
3.	CE204L	Geology and Soil Mechanics	PMT	3-1-0-4	CE2204	8
4.	CE207L	Fluid Mechanics and Hydraulics	PMT	3-1-0-4	CE2206	8
5.	CE206P	Structural Engineering Laboratory	PML	0-0-3-2	CE2292	8
6.	CE205P	Building Drawing	PML	0-0-3-2	CE2294	8
7.	HSE2	Humanities Elective-2	HSS	3-0-0-3		
8.	MAE2	Mathematics Elective-2	SMA	3-0-0-3		
<b>Total Credits</b>				<b>24</b>		

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### Semester-V

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE301L	Basic Structural Steel Design	PMT	3-1-0-4	CE3101	8
2.	CE302L	Water Resources Engineering	PMT	3-1-0-4	CE3103	8
3.	CE303L	Environmental Engineering	PMT	3-1-0-4	CE3105	8
4.	CE305P	Hydraulics and Environmental Engineering Laboratory	PML	0-0-3-2	CE3191	8
5.	CE304P	Building Materials Laboratory	PML	0-0-3-2	CE3193	8
6.	FRE1	Free Elective 1	FRE	3-0-0-3		
7.	FRE2	Free Elective 2	FRE	3-0-0-3		
<b>Total Credits</b>				<b>22</b>		

### Semester-VI

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE306L	Basic Reinforced Concrete Design	PMT	3-1-0-4	CE3202	8
2.	CE307L	Geotechnical Engineering	PMT	3-1-0-4	CE3204	8
3.	CE308L	Transportation Engineering	PMT	3-1-0-4	CE3206	8
4.	CE308P	Transportation Engineering Laboratory	PML	0-0-3-2	CE3292	8
5.	DPE1	Department Elective-1	PMT	3-0-0-3		
6.	HSE3	Humanities Elective-3	HSS	3-0-0-3		
<b>SUMMER</b>						
7.	CE391G	Industrial/Research Internship	PIT	---2	IT3202	1
<b>Total Credits</b>				<b>22</b>		

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### Semester-VII

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE401L	Estimation and Construction Management	PMT	3-1-0-4	CE4101	8
2.	CE402L	Functional Design of Buildings	PMT	2-0-0-2	CE4103	8
3.	CE534L	Advanced Soil Mechanics	PMT	3-0-0-3	CE5112	11
4.	DPE2	Department Elective-2	PMT	3-0-0-3		
5.	DPE3	Department Elective-3	PMT	3-0-0-3		
6.	CE534P	Advanced Soil Mechanics Laboratory	PML	0-0-3-2	CE5199	11
7.	MAE3	Mathematics Elective-3	SMA	2-0-0-2		
8.	CE493N	Industrial Lecture	PIL	1-0-0-1	IL4101	1
<b>Total Credits</b>				<b>20</b>		

### Semester-VIII

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE526L	Ground Improvement and Geosynthetics	PMT	3-0-0-3	CE5206	8
2.	CE507L	Soil Dynamics and Geotechnical Earthquake Engineering	PMT	3-0-0-3	CE5211	3
3.	DPE4	Department Elective-4	PMT	3-0-0-3		
4.	DPE5	Department Elective-5	PMT	3-0-0-3		
5.	FRE3	Free Elective-3	FRE	3-0-0-3		
6.	CE526P	Ground Improvement and Geosynthetics Laboratory	PML	0-0-3-2	CE5294	11
7.	HS401L	Professional Ethics	HPE	2-0-0-2	HS4202	7
<b>Total Credits</b>				<b>19</b>		

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### Semester-IX

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE693G	Seminar	PMT	- - -1	CE6110	4
2.	CE691G	Project Phase-I	PMP	- - -10	CE6150	4
3.	FRE4	Free Elective-4	FRE	3-0-0-3		
<b>Total Credits</b>				<b>14</b>		

### Semester-X

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CE692G	Project Phase-II	PMP	- - -15	CE6250	4
2.	FRE5	Free Elective-5	FRE	3-0-0-3		
<b>Total Credits</b>				<b>18</b>		

**TOTAL CREDITS: 206**