



DELHI SKILL AND ENTREPRENEURSHIP UNIVERSITY

**Diploma in Civil
Engineering**

Syllabus Document



EFFECTIVE FROM ACADEMIC YEAR 2021-22

Program Summary

Duration of the Programs: Three Years

- To work towards sustainable engineering education system with emphasis on sustainable, tenable, healthy and durable practices
- To inculcate quality education in the field of Civil Engineering and create valuable technical force for industry
- To impart technical skills, soft skills and nurture personality traits to meet the challenges and cater the needs of society
- To tap early potential and provide quality education & training at various levels i.e., Diploma & Integrated Under Graduate courses, of Civil Engineering with multiple entry and exit opportunity

Program Outcome

a) Basic Knowledge/Skills:

Scientific temperament and analytical ability, Mathematical computational skills, Basic sciences- Applied Physics & Chemistry, communication skills, computer skills, project management

b) Technical Knowledge/Skills:

- **Building Engineer-**
Core Engineering Skills-
Theoretical concepts & Practical knowledge- in all Civil Engineering courses such as- Building Materials, Construction and Planning, Civil Engg Drawing, RCC and Steel Design, CE-workshop, Construction Management, Green Building
- **Surveyor-**
Core Engineering Skills
Theoretical concepts & Practical knowledge - in all Civil Engineering courses such as- Basic Surveying and Advanced Surveying, Civil Engg Drawing, Transportation Engg, Remote sensing and GIS
- **Material Testing-**
Core Engineering Skills-
Theoretical concepts & Practical knowledge - in all Civil Engineering courses such as- Building Materials, Concrete Technology, Material Testing, Soil and Foundation Engineering, Strength of Materials
- **Quantity Surveying and Valuation-**
Core Engineering Skills-
Theoretical concepts & Practical knowledge - in all Civil Engineering courses such as- Estimation & Costing, Building construction, Civil Engineering Drawing

- **Water Resources & Environmental Engineer-**

Core Engineering Skills-

Theoretical concepts & Practical knowledge - in all Civil Engineering courses such as- Water and WasteWater Engineering, Public health Engineering, Irrigation Engineering, Civil Engineering Drawing, Surveying

- **Roads & Railway Engineer-**

Core Engineering Skills-

Theoretical concepts & Practical knowledge - in all Civil Engineering courses such as- Transportation Engineering (Road, Railway, Bridge, Tunnel, Airway), Surveying, Irrigation Engineering, Civil Engineering Drawing

c) Software Skill and Project Skills:

AutoCAD, MS Office, MS Project/Primavera, Revit, STAD, SAFE, TEKLA

Civil Engineering Major Project performance and report writing skills, intricacies of Practical Trainings/Internships

d) Personality Traits and Ethics:

Openness, Conscientiousness, Extraversion, Agreeableness, Low Neuroticism, self-respect, appreciating good work, Integrity, Focus & Result-oriented approach, Risk taking ability, Passion, Patience & Persistence

e) Soft Skills:

- i. Communication Skills-Listening, Verbal Communication, Public speaking, Report writing
- ii. Critical Thinking- Adaptability, Flexibility, Logical Thinking, Tolerance to uncertainties, Troubleshooting, Value education
- iii. Leadership- Decision making, Dispute resolution, Management, Mentoring, Motivating, Supervising
- iv. Positive Attitude-Friendliness, Courtesy, Patience
- v. Team work- Accepting feedback, Networking, persuasion
- vi. Work Ethic- Multi Tasking, Dependability, Reliability

Credit Scheme

SEMESTER I							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-FC101	Applied Mathematics – I	3	1	0	4	4
2	CE-FC102	Engineering Mechanics	3	0	2	5	4
3	CE-FC103	Basic Engineering Graphics	0	0	6	6	3
4	CE-FC104	Basic Engineering Workshop Technology	1	0	4	5	3
5	CE-HS101	Face The World (FTW) Skills- I	-	-	-	-	3
6	CE-HS102	English Communication – I	2	0	0	2	2
7	CE-HS103	Sports & Yoga	0	0	2	2	1
8	CE-PC101	Construction Materials- 1	1	0	2	3	2
Total			10	1	16	27	22

NOTE- Syllabus for Applied Mathematics- I, Basic Engineering Graphics, Basic Engineering Workshop Technology, FTW Skills- I, English Communication-I and Sports and Yoga are given separately.

SEMESTER II							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-HS201	Face The World (FTW) Skills II	-	-	-	-	1
2	CE-HS202	English Communication II	0	0	2	2	1
3	CE-FC201	Applied Mathematics – II	3	1	0	4	4
4	CE-FC202	CAD based Engineering Drawing	0	0	4	4	2
5	CE-FC203	Basic Sciences*	4	0	2	6	5
6	CE-PR201	Field Work	0	0	4	4	2
7	CE-PC201	Building Construction- 1	2	0	2	4	3
8	CE-PC202	Construction Materials- 2	3	0	2	5	4
Total			12	01	16	29	22

NOTE- Syllabus for FTW Skills-II, English Communication II, Applied Mathematics II and Basic Sciences are given separately.

NB: Students will undergo Summer Internship/Training I (CE-SI301) during summer break after II Sem and will be assessed/evaluated during III sem. Refer framework of Sem III for details.

***Basic Sciences includes 2.5 credits each of Applied Physics and Applied Chemistry.**

SEMESTER III							
S No.	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PC301	Basic Surveying	3	0	4	7	5
2	CE-PC302	Mechanics of Materials	3	0	2	5	4
3	CE-PC303	Building Construction- 2	2	0	2	3	3
4	CE-PC304	Hydraulics	3	0	2	5	4
5	CE-HS301	Face The World (FTW) Skills III	-	-	-	-	1
6	CE-HS302	English Communication III	0	0	2	2	1
7	CE-HS303	Indian Constitution	-	-	-	-	1
8	CE-HS304	Environmental Studies	-	-	-	-	1
9	CE-SI301	Summer Internship I	0	0	2	2	2
Total			11	0	14	24	22

SEMESTER IV							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PC401	Concrete Technology	3	0	2	5	4
2	CE-PC402	Advanced Surveying	2	0	4	6	4
3	CE-PC403	Geotechnical Engineering	3	0	2	5	4
4	CE-PC404	Estimating and Costing and Valuation	2	0	4	6	4
5	CE-PC405	Building Planning and Services	2	0	2	4	3
6	CE-HS401	Face The World (FTW) Skills IV	-	-	-	-	1
7	CE-HS402	English Communication IV	0	0	2	2	1
8	CE-HS403	Human Values	-	-	-	-	1
Total			12	0	16	28	22

NB: Students will undergo Summer Internship/Training II (CE-SI501) during summer break after IV Sem and will be evaluated during V sem. Refer framework of Sem V for details.

SEMESTER V							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PC501	Design of RCC structure	3	0	2	5	4
2	CE-PC502	Public Health Engineering	3	0	2	5	4
4	CE-PC503	Software Training in Civil Engineering	0	0	4	4	2
5	CE-PE501 CE-PE502 CE-PE503 CE-PE504	Elective 1	3	0	0	3	3
6	CE-PE505 CE-PE506 CE-PE507 CE-PE508	Elective 2	3	0	0	3	3
7	CE-SI501	Summer Internship II	0	0	8	8	4
8	CE-HS501	Face The World (FTW) Skills V	-	-	-	-	1
9	CE-HS502	English Communication V	0	0	2	2	1
Total			12	0	18	30	22

ELECTIVE 1							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PE501	Precast and Prestressed Concrete	3	0	0	3	3
2	CE-PE502	Theory of structure	3	0	0	3	3
3	CE-PE503	Rural Construction Technology	3	0	0	3	3
4	CE-PE504	Construction Management	3	0	0	3	3
5	MOOCS*						3

ELECTIVE 2							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PE505	Railway Bridges and Tunnel	3	0	0	3	3
2	CE-PE506	Advance Construction Technology	3	0	0	3	3
3	CE-PE507	Traffic Engineering	3	0	0	3	3
4	CE-PE508	Solid Waste Management	3	0	0	3	3
5	MOOCS*						3

SEMESTER VI							
S No.	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PC601	Design of Steel Structure	3	0	2	5	4
2	CE-PC602	Transportation Engineering	3	0	2	5	4
3	CE-PC603	Water Resources Engineering	3	0	0	3	3
4	CE-PE601 CE-PE602 CE-PE603 CE-PE604	Elective 3	3	0	0	3	3
5	CE-PE605 CE-PE606 CE-PE607 CE-PE608	Elective 4	3	0	0	3	3
6	CE-PR601	Major Project	0	0	10	10	5
7	CE-HS601	Face The World (FTW) Skills VI	-	-	-	-	1
8	CE-HS602	English Communication VI	0	0	2	2	1
Total			15	0	16	31	24

ELECTIVE 3							
S No	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PE601	Pavement Design and Maintenance	3	0	0	3	3
2	CE-PE602	Green Building and Energy Conservation	3	0	0	3	3
3	CE-PE603	Earthquake Resistant Building	3	0	0	3	3
4	CE-PE604	Building Services and Maintenance	3	0	0	3	3
5	MOOCS*						3

ELECTIVE 4							
S No.	Subject Code	Course Titles	L	T	P	Total Hours	Credits
1	CE-PE605	Tendering and Accounts	3	0	0	3	3
2	CE-PE606	Advance design of structures	3	0	0	3	3
3	CE-PE607	Repair and Maintenance of structure	3	0	0	3	3
4	CE-PE608	Remote Sensing and GIS	3	0	0	3	3
5	MOOCS*						3