

NEP courses for the batch admitted from AY 2024-25

Department of Civil Engineering

Details of Department Specific Courses (DSC)

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEC101	Building Materials and Building Construction	3-0-0	3	Theory
2	NCEC102	Material Testing Laboratory	0-0-2	1	Practical
3	NCEC103	Surveying	3-0-0	3	Theory
4	NCEC104	Surveying Laboratory	0-0-2	1	Practical

Details of Departmental Compulsory (DC) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEC201	Geotechnical Engineering	3-1-0	4	Theory
2	NCEC202	Transportation Engineering	3-1-0	4	Theory
3	NCEC203	Environmental Engineering	3-1-0	4	Theory
4	NCEC204	Geotechnical Engineering Laboratory	0-0-2	1	Practical
5	NCEC205	Transportation Engineering Laboratory	0-0-2	1	Practical

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
6	NCEC206	Foundation Engineering	3-1-0	4	Theory
7	NCEC207	Water Resources Engineering -I	3-1-0	4	Theory
8	NCEC208	Structural Analysis -I	3-1-0	4	Theory
9	NCEC209	Environmental Engineering Laboratory	0-0-2	1	Practical
10	NCEC210	Structural Engineering Laboratory	0-0-2	1	Practical
11	NCEC301	Design of Concrete Structures	3-1-0	4	Theory
12	NCEC302	Structural Analysis -II	3-1-0	4	Theory
13	NCEC303	Foundation Engineering Laboratory	0-0-2	1	Practical
14	NCEC304	Structural Detailing Laboratory	0-0-2	1	Practical
15	NCEC305	Design of Steel Structures	3-1-0	4	Theory
16	NCEC306	Water Resources Engineering -II	3-1-0	4	Theory
17	NCEC307	Water Resources Engineering Laboratory	0-0-2	1	Practical

Details of Department Electives (DE)

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCED301	Construction Planning and Management	3-0-0	3	Theory

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
2	NCED302	Reliability and Risk Assessment	3-0-0	3	Theory
3	NCED303	Traffic Engineering and Management	3-0-0	3	Theory
4	NCED304	Advanced Hydrology	3-0-0	3	Theory
5	NCED305	Bridge Engineering	3-0-0	3	Theory
6	NCED401	Ground Improvement	3-0-0	3	Theory
7	NCED402	Computational Solid Mechanics	3-0-0	3	Theory
8	NCED403	Transportation Data Analytics	3-0-0	3	Theory
9	NCED404	Advanced Hydraulics and Hydraulic Structures	3-0-0	3	Theory
10	NCED405	Fundamentals of Prestressed Concrete	3-0-0	3	Theory

Details of Engineering Science Courses (ESC)

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEE101	Basic Civil Engineering	3-0-0	3	Theory
3	NCEE201	Mechanics of Solids	3-0-0	3	Theory
4	NCEE202	Fluid Mechanics and Machines	3-0-0	3	Theory

Details of Ability Enhancement Courses (AEC)/ Skill Enhancement Courses (SEC)

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEA201	Computational Methods in Civil Engineering	3-0-0	Theory	3
2	NCES201	Introduction to Civil Engineering Systems and Design	3-0-0	Theory	3

Details of DC (Minor)/ SDC (Minor)

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEC201	Geotechnical Engineering	3-1-0	4	Theory
2	NCEM301	Basic Geotechnical Engineering Laboratory	0-0-3	1.5	Practical
3	NCEC208	Structural Analysis -I	3-1-0	4	Theory
4	NCEM302	Basic Structural Engineering Laboratory	0-0-3	1.5	Practical
5	NCEC202	Transportation Engineering	3-1-0	4	Theory
6	NCEM401	Basic Transportation Engineering Laboratory	0-0-3	1.5	Practical
7	NCEC305	Design of Steel Structures	3-1-0	4	Theory
8	NCEC207	Water Resources Engineering -I	3-1-0	4	Theory
9	NCEM402	Basic Water Resources Engineering Laboratory	0-0-3	1.5	Practical

Details of DC (Honors)

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEH301	Advanced Geotechnical Engineering	3-1-0	4	Theory
2	NCEH302	Advanced Geotechnical Engineering Laboratory	0-0-3	1.5	Practical
3	NCEH303	Advanced Transportation Engineering	3-1-0	4	Theory
4	NCEH304	Advanced Transportation Engineering Laboratory	0-0-3	1.5	Practical
5	NCEH401	Advanced Structural Analysis	3-1-0	4	Theory
6	NCEH402	Advanced Structural Analysis Laboratory	0-0-3	1.5	Practical
7	NCEH403	Advanced Design of Structures	3-1-0	4	Theory
8	NCEH404	Advanced Water Resources Engineering	3-1-0	4	Theory
9	NCEH405	Advanced Water Resources Engineering Laboratory	0-0-3	1.5	Practical

NEP courses for the batch admitted from AY 2024-25

Department of Civil Engineering

Details of Departmental Compulsary (DC) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCEC501	Mechanics of Deformable Solids	3-1-0	4	Theory
2	NCEC502	Mechanics of Geomaterials	3-1-0	4	Theory
3	NCEC503	Numerical Methods in Civil Engg	3-1-0	4	Theory
4	NCEC504	Computational Laboratory-I	0-0-3	1.5	Practical
5	NCEC505	Civil Engineering Model Development Laboratory	0-0-3	1.5	Practical
6	NCEC507	Transportation System, Design, and Management	3-1-0	4	Theory
7	NCEC508	Engineering Hydrology and Hydraulics	3-1-0	4	Theory
8	NCEC509	Finite Element Method	3-1-0	4	Theory
9	NCEC510	Advanced Testing Laboratory	0-0-3	1.5	Practical
10	NCEC512	Computational Laboratory-II	0-0-3	1.5	Practical
11	NCEC513	Theory of Elasticity and Plasticity	3-1-0	4	Theory

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
12	NCEC514	Structural Dynamics	3-1-0	4	Theory
13	NCEC515	Structural Engineering Laboratory	0-0-3	1.5	Practical
14	NCEC516	Transportation Statistics and Microsimulation	3-1-0	4	Theory
15	NCEC517	Traffic Engineering and Design	3-1-0	4	Theory
16	NCEC518	Advanced Pavement Material Laboratory	0-0-3	1.5	Practical
17	NCEC519	Transportation Planning Laboratory	0-0-3	1.5	Practical
18	NCEC520	River Engineering	3-1-0	4	Theory
19	NCEC521	Water Resource Engineering Laboratory-I	0-0-3	1.5	Practical
20	NCEC522	Theory of Elastic Stability	3-1-0	4	Theory
21	NCEC523	Hydrogeology and Well Hydraulics	3-1-0	4	Theory
22	NCEC524	Experimental Geotechnics I: Laboratory Testing	0-0-3	1.5	Practical
23	NCEC525	Hydroclimatology for Water Resources Management	3-1-0	4	Theory
24	NCEC526	Finite Element Method in Structural Analysis	3-1-0	4	Theory
25	NCEC527	Earthquake Resistant Design of Structures	3-1-0	4	Theory

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
26	NCEC528	Advanced Structural Engineering Laboratory	0-0-3	1.5	Practical
27	NCEC529	Travel Behaviour Modelling	3-1-0	4	Theory
28	NCEC530	Road Safety and Risk Analysis	3-1-0	4	Theory
29	NCEC531	Advanced Highway Design and Analysis	3-1-0	4	Theory
30	NCEC532	Pavement Design Laboratory	0-0-3	1.5	Practical
31	NCEC533	Traffic Engineering Laboratory	0-0-3	1.5	Practical
32	NCEC534	Geoinformatics in Civil Engineering	3-1-0	4	Theory
33	NCEC535	Water Resource Engineering Laboratory-II	0-0-3	1.5	Practical
34	NCEC536	Ground Improvement and Geosynthetics	3-1-0	4	Theory
35	NCEC537	Geoenvironmental Engineering	3-1-0	4	Theory
36	NCEC538	Advanced Foundation Engineering	3-1-0	4	Theory
37	NCEC539	Experimental Geotechnics-II: In-situ Testing & Physical Modelling	0-0-3	1.5	Practical
38	NCEC540	Computational Geomechanics	3-1-0	4	Theory
39	NCEC541	Numerical Geotechnics-I	0-0-3	1.5	Practical
40	NCEC542	Numerical Geotechnics-II	0-0-3	1.5	Practical

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
41	NCEC543	Computational Laboratory in Structural Engineering - I	0-0-3	1.5	Practical
42	NCEC544	Computational Laboratory in Structural Engineering - II	0-0-3	1.5	Practical
43	NCEC545	Computational Laboratory In Hydraulics	0-0-3	1.5	Practical
44	NCEC546	Computational Laboratory In Hydrology	0-0-3	1.5	Practical
45	NCEC547	Term Project-I	0-0-3	1.5	Practical
46	NCEC548	Term Project-II	0-0-3	1.5	Practical
47	NCEC595	Research Methodology	3-0-0	3	Theory
48	NCEC596	Research Methodology	3-0-0	3	Audit
49	NCEC597	Thesis	0-0-0	20	Non-contact
50	NCEC598	Thesis	0-0-0	20	Non-contact
51	NCEC599	Thesis	0-0-0	20	Audit

Details of Departmental Elective (DE) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	NCED502	Theory of Plates and Shells	3-0-0	3	Theory
2	NCED504	Computational Fluid Dynamics in Civil Engineering	3-0-0	3	Theory

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
3	NCED505	Soil Dynamics	3-0-0	3	Theory
4	NCED506	Slope and Retaining Structures	3-0-0	3	Theory
5	NCED507	Structural Dynamics	3-0-0	3	Theory
6	NCED508	Sustainable Engineering	3-0-0	3	Theory
7	NCED509	Blast Protection of Structures	3-0-0	3	Theory
8	NCED510	Railway Geotechnics	3-0-0	3	Theory
9	NCED511	Hydroclimatology	3-0-0	3	Theory
10	NCED512	Earthquake Engineering	3-0-0	3	Theory
11	NCED513	Heritage Structures: Preservation, Restoration and Rehabilitation	3-0-0	3	Theory
12	NCED514	Design of Tall Buildings	3-0-0	3	Theory
13	NCED515	Hydrological Measurements and Stochastic Analysis	3-0-0	3	Theory
14	NCED516	Advanced Fluid Mechanics	3-0-0	3	Theory
15	NCED517	Optimization Methods	3-0-0	3	Theory
16	NCED518	Pavement Design and Analysis	3-0-0	3	Theory
17	NCED519	Urban Transportation Planning and Policy	3-0-0	3	Theory
18	NCED520	Water Resources System Planning and Management	3-0-0	3	Theory

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
19	NCED521	Unsaturated Soil Mechanics	3-0-0	3	Theory
20	NCED522	Pavement Geotechnics	3-0-0	3	Theory
21	NCED523	Prestressed Concrete Structures	3-0-0	3	Theory
22	NCED524	Mechanics of Composite Materials	3-0-0	3	Theory
23	NCED525	Soil-Structure Interaction	3-0-0	3	Theory

CBCS Courses UG

Department of Civil Engineering

Details of Departmental Compulsory (DC) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	CEC201	Surveying	3-0-0	9	Theory
2	CEC202	Environmental Engineering	3-0-0	9	Theory
3	CEC203	Building Materials, Construction and Management	3-1-0	11	Theory
4	CEC204	Material Testing Laboratory	0-0-2	2	Practical
5	CEC205	Environmental Engineering Laboratory	0-0-2	2	Practical
6	CEC206	Structural Analysis I	3-1-0	11	Theory
7	CEC207	Design of Concrete Structures	3-0-0	9	Theory
8	CEC208	Geotechnical Engineering	3-0-0	9	Theory
9	CEC209	Transportation Engineering	3-1-0	11	Theory
10	CEC210	Surveying Laboratory	0-0-2	2	Practical
11	CEC211	Transportation Engineering Laboratory	0-0-2	2	Practical
12	CEC301	Structural Analysis II	3-0-0	9	Theory

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
13	CEC302	Foundation Engineering	3-0-0	9	Theory
14	CEC303	Structural Engineering Laboratory	0-0-2	2	Practical
15	CEC304	Geotechnical Engineering Laboratory	0-0-2	2	Practical
16	CEC305	Design of Steel Structures	3-0-0	9	Theory
17	CEC306	Water Resources Engineering	3-0-0	9	Theory
18	CEC307	Structural Detailing Laboratory	0-0-2	2	Theory
19	CEC308	Water Resources Engineering Laboratory	0-0-2	2	Practical
20	CEC401	Project - I	0-0-0	6	Non-Contact
21	CEC402	Project - II	0-0-0	6	Non-Contact
22	CES401	Internship	0-0-0	S/X	Audit

Details of Engineering Science Option (ESO) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	CEE201	Mechanics of Solid	3-0-0	9	Theory
2	CEE202	Fluid Mechanics and Machines	3-0-0	9	Theory

Details of Departmental Elective (DE) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	CED401	Traffic Engineering and Management	3-0-0	9	Theory
2	CED403	Advanced Hydrology	3-0-0	9	Theory
3	CED404	Environmental Engineering - II	3-0-0	9	Theory
4			3-0-0	9	Theory

Details of Open Elective (OE) Courses

S. No.	Course Code	Course Name	L-T-P	Credits	Course Type
1	CEO301	Reliability and Risk Assessment	3-0-0	9	Theory
2	CEO303	Construction Management	3-0-0	9	Theory
3	CEO401	Flow and Transport Through Porous Media	3-0-0	9	Theory

