## GALGOTIAS UNIVERSITY UTTAR PRADESH

## School of Civil Engineering B. Tech (Civil Engineering) 2020-24 Semester Wise Breakup of Courses

	Semester 1								
S. No.	Code	Title	L	Т	Р	С			
1		Energy Sources and Audit	1	0	0	1			
2		Data Analytics (Excel and Tableu)	1	0	0	1			
3		Al Fundamentals	2	0	0	2			
4		Differential / Vector calculus and Matrices	3	0	0	3			
5		Programming for Problem Solving (C)	1	0	4	3			
6		Communication Skill (BEC-1)	3	0	0	3			
7		Engineering Physics	2	0	0	2			
8		Engineering Physics Lab	0	0	2	1			
9	BCE01T3201	Bio Systems in Engineering	2	0	0	2			
10		AC DC Circuits	2	0	2	3			
			Tota	l Cr	edit	= 21			

	Semester 2								
S. No.	Code	Title	L	Т	Р	С			
1		Integral and Multiple Calculus	2	0	0	2			
2		Partial Differential Equations	1	0	0	1			
3		Embedded Technology and IoT	1	0	2	2			
4		Waste Management	0	0	2	1			
5		Environmental Science	0	0	1	0.5			
6		Liberal and Creative Arts	0	0	1	0.5			
7		Creativity, Innovation and Entrepreneurship	1	0	2	2			
8		Application of Python Programming	0	0	2	1			
9		Introduction to Digital System	2	0	2	3			
10		Data Structure Using C	2	0	2	3			
11		Digital Fabrication	0	0	2	1			
12	BCE01T3201	Engineering Mechanics	3	0	0	3			
	Total Credit = 20								

	Semester 3								
S. No.	Code	Title	L	Т	Р	С			
1		Mathematics-III (Functions of Complex Variables and Transforms)	3	0	0	3			
2		Aptitude building and Logical Reasoning - I	0	0	2	1			
3		Disruptive Technologies	0	0	4	2			
4		Al and its Applications	0	0	4	2			
5	BCE01T3301	Mechanics of Materials	3	0	0	3			
6	BCE01T3302	Fluid Mechanics	3	0	0	3			
7	BCE01T3303	Surveying	3	0	0	3			
8	BCE01P3302	Fluid Mechanics Lab	0	0	2	1			
9	BCE01P3303	Surveying Practices	0	0	2	1			
10	BCE01P3304	Engineering Drawing	0	0	4	2			
11	BCE01P3301	Mechanics of Materials Lab	0	0	2	1			
			Tota	l Cr	edit	= 22			

	Semester 4									
S. No.	Code	Title	L	Т	Р	С				
1		Mathematics-IV (Numerical and Computational Methods)	2	0	0	2				
2		Numerical and Computational Methods Lab	0	0	2	1				
3		Aptitude building and Logical Reasoning - II	0	0	2	1				
4		Engineering Clinic - I (IOT)	0	0	2	1				
5		Communication Skill (BEC-2) - 3 credit	3	0	0	3				
6	BCE01T3402	Construction Engineering	3	0	0	3				
7	BCE01T3401	Structural Analysis	3	0	0	3				
8	BCE01T3404	Hydrology & Hydraulic Systems	3	0	0	3				
9	BCE01T3403	Geotechnical Engineering	3	0	0	3				
10	BCE01P3401	Structural Analysis Lab	0	0	2	1				
11	BCE01P3403	Geotechnical Engineering Lab	0	0	2	1				
12	BCE01P3402	Construction Engineering Lab	0	0	2	1				
	Total Credit = 23									

Semester 5								
S. No.	Code	Title	L	Т	Р	С		
1		Engineering Economics and Management	3	0	0	3		
2		Engineering Clinic - II (Machine Learning)	0	0	2	1		
3		Aptitude building and Logical Reasoning - III	0	0	2	1		
4	BCE01T3501	Design of Reinforced Concrete Structures	3	0	0	3		
5	BCE01T3502	Transportation Engineering - I	3	0	0	3		
6	BCE01T3503	Water Supply & Treatment Systems	3	0	0	3		
7		Program Elective - I	2	0	0	2		
8	BCE01P3504	CAD Lab - I (AUTOCAD)	0	0	4	2		
9	BCE01P3502	Transportation Engineering Lab	0	0	2	1		
10	BCE01P3503	Water Quality Analysis Lab	0	0	2	1		
11		Social Internship	0	0	2	1		
12		Hobby Class	0	0	1	0.5		
13	BCE01P3505	Industrial Internship - I	0	0	0	1		
Total Credit = 22.5								

	Semester 6								
S. No.	Code	Title	L	Т	Р	С			
1		Excel Training & PPT Training	0	0	1	0.5			
2	BCE01T3601	Design of Steel Structures	3	0	0	3			
3		Foreign Language (German / Japanese / French)	0	0	4	2			
4	BCE01P3605	Analysis and Design Lab (STAAD PRO)	0	0	2	1			
5		Aptitude building and Logical Reasoning - IV	0	0	2	1			
6	BCE01P3606	Design and Innovation	0	0	2	1			
7		Open Elective - I	3	0	0	3			
8		Program Elective - II	2	0	0	2			
9		Program Elective - III	2	0	0	2			
10	BCE01T3602	Transportation Engineering - II	3	0	0	3			
11	BCE01T3603	Waste Water Treatment & Disposal Systems	3	0	0	3			
12	BCE01T3604	Quantity Surveying and Estimating	2	0	0	2			
13	BCE01P3604	Quantity Surveying and Estimating Lab (PRIMAVERA)	0	0	2	1			
	Total Credit = 24.5								

	Semester 7								
S. No.	Code	Title	L	Т	Р	С			
1		Program Elective - IV	2	0	0	2			
2		Program Elective - V	2	0	0	2			
3	BCE01T3701	Remote Sensing & Geographical Information System	1	0	2	2			
4		Campus to Corporate	3	0	0	3			
5		Ethics and Professional Competency	0	0	2	1			
6 BCE01P3998 Capstone Phase-1 0 0 4 2									
7		Open Elective - II	3	0	0	3	Ī		
8	BCE01P3702	Project Planning and Management Lab (PRIMAVERA)	0	0	2	1			
9	BCE01P3703	Industrial Internship - II	0	0	0	1			
			Tota	l Cr	edit	= 17			

Semester 8									
S. No.	Code	Title	L T P C						
1	BCE01P3999	Capstone Phase-2	0	0	20	10			
			Tot	al C	redit	= 10			

Total Credit = 160

## **List of Program Elective (Engineering Courses)**

Basket 1 (Geotechnical)   1	SI. No.	Course Code	Course Title	L	Т	Р	С
Secont   S			Basket 1 (Geotechnical)				
Scil Dynamics and Machine Foundation   2	1	BCE01T5501	Advanced Geotechnical Engineering	2	0	0	2
Structures on Expansive Soils   2	2	BCE01T5502	Ground Improvement Techniques	2	0	0	2
Second	3	BCE01T5503	Soil Dynamics and Machine Foundation	2	0	0	2
BCE01P5506   Mini Project   Description	4	BCE01T5504	Structures on Expansive Soils	2	0	0	2
Basket 2 (Transportation)	5	BCE01T5505	Foundation Engineering	2	0	0	2
1   BCE01T5601   Mass Transport Management   2   0   0   0	6	BCE01P5506	Mini Project	0	0	4	2
2   BCE01T5602   Traffic Engineering   2   0   0   0   0   0   0   0   0   0			Basket 2 (Transportation	)			
3   BCE01T5603   Highway Pavement Design   2   0   0	1	BCE01T5601	Mass Transport Management	2	0	0	2
A   BCE01T5604   Pavement Constructions   2   0   0	2	BCE01T5602	Traffic Engineering	2	0	0	2
5         BCE01T5605         Transportation Safety and Environment         2         0         0           6         BCE01P5606         Mini Project         0         0         4           Basket 3 (Environment)           1         BCE01T5621         Pollution Control and Monitoring         2         0         0           2         BCE01T5622         Air and Noise Pollution         2         0         0           3         BCE01T5623         Solid Waste Management         2         0         0           4         BCE01T5624         Bioenergy Technologies         2         0         0           5         BCE01T5625         Environmental Ecology         2         0         0           6         BCE01P5626         Mini Project         0         0         4           Basket 4 (Structures)           1         BCE01T5701         Advanced Structural Analysis         2         0         0           2         BCE01T5702         Rehabilitation of structures & Vaastu         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5705         Advanced Concrete De	3	BCE01T5603	Highway Pavement Design	2	0	0	2
Basket 3 (Environment)   Basket 3 (Environment)	4	BCE01T5604	Pavement Constructions	2	0	0	2
Basket 3 (Environment)   1   BCE01T5621   Pollution Control and Monitoring   2   0   0   0   0   0   0   0   0   0	5	BCE01T5605	Transportation Safety and Environment	2	0	0	2
1         BCE01T5621         Pollution Control and Monitoring         2         0         0           2         BCE01T5622         Air and Noise Pollution         2         0         0           3         BCE01T5623         Solid Waste Management         2         0         0           4         BCE01T5624         Bioenergy Technologies         2         0         0           5         BCE01T5625         Environmental Ecology         2         0         0           6         BCE01P5626         Mini Project         0         0         4           Basket 4 (Structures)           1         BCE01T5701         Advanced Structural Analysis         2         0         0           2         BCE01T5702         Rehabilitation of structures & Vaastu Principles         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4 <td>6</td> <td>BCE01P5606</td> <td>Mini Project</td> <td>0</td> <td>0</td> <td>4</td> <td>2</td>	6	BCE01P5606	Mini Project	0	0	4	2
2         BCE01T5622         Air and Noise Pollution         2         0         0           3         BCE01T5623         Solid Waste Management         2         0         0           4         BCE01T5624         Bioenergy Technologies         2         0         0           5         BCE01T5625         Environmental Ecology         2         0         0           6         BCE01P5626         Mini Project         0         0         4           Basket 4 (Structures)           1         BCE01T5701         Advanced Structural Analysis         2         0         0           2         BCE01T5702         Rehabilitation of structures & Vaastu Principles         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4    Basket 5 (Construction Management)  The property of the Chill			Basket 3 (Environment)	•		•	•
3   BCE01T5623   Solid Waste Management   2   0   0	1	BCE01T5621	Pollution Control and Monitoring	2	0	0	2
4         BCE01T5624         Bioenergy Technologies         2         0         0           5         BCE01T5625         Environmental Ecology         2         0         0           6         BCE01P5626         Mini Project         0         0         4           Basket 4 (Structures)           1         BCE01T5701         Advanced Structural Analysis         2         0         0           2         BCE01T5702         Rehabilitation of structures & Vaastu Principles         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4           Basket 5 (Construction Management)           1         BCE01T5721         Construction Planning and Management         2         0         0	2	BCE01T5622	Air and Noise Pollution	2	0	0	2
5         BCE01T5625         Environmental Ecology         2         0         0           6         BCE01P5626         Mini Project         0         0         4           Basket 4 (Structures)           1         BCE01T5701         Advanced Structural Analysis         2         0         0           2         BCE01T5702         Rehabilitation of structures & Vaastu Principles         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4           Basket 5 (Construction Management)           1         BCE01T5721         Construction Planning and Management         2         0         0	3	BCE01T5623	Solid Waste Management	2	0	0	2
BCE01P5626   Mini Project   0   0   4	4	BCE01T5624	Bioenergy Technologies	2	0	0	2
Basket 4 (Structures)   1	5	BCE01T5625	Environmental Ecology	2	0	0	2
1         BCE01T5701         Advanced Structural Analysis         2         0         0           2         BCE01T5702         Rehabilitation of structures & Vaastu         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4           Basket 5 (Construction Management)           1         BCE01T5721         Construction Planning and Management         2         0         0	6	BCE01P5626	Mini Project	0	0	4	2
2         BCE01T5702         Rehabilitation of structures & Vaastu Principles         2         0         0           3         BCE01T5703         Bridge Engineering         2         0         0           4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4    Basket 5 (Construction Management)  1 BCE01T5721 Construction Planning and Management  2 0 0 0			Basket 4 (Structures)				
2   BCE0115702   Principles   2   0   0	1	BCE01T5701		2	0	0	2
4         BCE01T5704         Earthquake Engineering         2         0         0           5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4           Basket 5 (Construction Management)           1         BCE01T5721         Construction Planning and Management         2         0         0	2	BCE01T5702		2	0	0	2
5         BCE01T5705         Advanced Concrete Design         2         0         0           6         BCE01P5706         Mini Project         0         0         4           Basket 5 (Construction Management)           1         BCE01T5721         Construction Planning and Management         2         0         0           5         Economics and Project Finance for Civil         2         0         0	3	BCE01T5703	Bridge Engineering	2	0	0	2
6 BCE01P5706 Mini Project 0 0 4  Basket 5 (Construction Management)  1 BCE01T5721 Construction Planning and Management 2 0 0  Economics and Project Finance for Civil	4	BCE01T5704	Earthquake Engineering	2	0	0	2
Basket 5 (Construction Management)  1 BCE01T5721 Construction Planning and Management 2 0 0  Economics and Project Finance for Civil	5	BCE01T5705	Advanced Concrete Design	2	0	0	2
1 BCE01T5721 Construction Planning and Management 2 0 0	6	BCE01P5706	Mini Project	0	0	4	2
Economics and Project Finance for Civil			Basket 5 (Construction Manag	ement)			
2 ROEDITE 722 Economics and Project Finance for Civil 2 2 2	1	BCE01T5721		2	0	0	2
2   BCE0113722   Engineers   2   0   0	2	BCE01T5722		2	0	0	2
3 BCE01T5723 Construction Contracts Administration and Management 2 0 0	3	BCE01T5723		2	0	0	2
3 BCE01T5724 Value Engineering and Valuation 2 0 0	3	BCE01T5724	Value Engineering and Valuation	2	0	0	2
3 BCE01T5725 Infrastructure Development 2 0 0	3	BCE01T5725	Infrastructure Development	2	0	0	2
6 BCE01P5726 Mini Project 0 0 4	6	BCE01P5726	Mini Project	0	0	4	2

Total Credits to be earned from elective courses of SOCE = 10

## **Major Courses**

SI. No.	Course Code	Course Title	L	Т	Р	С
1	BCE01T3711	Pre Stressed Concrete Structures	3	0	0	3
2	BCE01T3712	Applications of Matrix Methods in Structural Analysis	3	0	0	3
3	BCE01T3713	Open Channel Hydraulics	3	0	0	3
4	BCE01T3714	Water Resources Systems Engineering	3	0	0	3
5	BCE01T3715	Transport Planning and Management	3	0	0	3
6	BCE01T3716	Industrial Waste Treatment and Disposal	3	0	0	3
		Total Credit				18