

**PUNJAB TECHNICAL UNIVERSITY
KAPURTHALA**

**Scheme and Syllabus
of
B. Tech. Civil Engineering (CE)**

Batch 2011

**By
Board of Studies Civil Engineering**

Third Semester

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-301	Fluid Mechanics-I	3	1	-	40	60	100	4
BTAM-301	Mathematics-III*	4	1	-	40	60	100	5
BTCE-302	Rock Mechanics & Engineering	3	1	-	40	60	100	4
BTCE-303	Strength of Materials	3	2	-	40	60	100	5
BTCE-304	Surveying	3	1	-	40	60	100	4
BTCE-305	Building Materials &	4	0	-	40	60	100	4
BTCE-306	Fluid Mechanics-I Lab	-	-	2	30	20	50	1
BTCE-307	Strength of Materials Lab	-	-	2	30	20	50	1
BTCE-308	Surveying Lab	-	-	3	30	20	50	2
BTCE-309	Workshop Training of 4 weeks duration after 2 nd semester Carpentry, Electrical, Plumbing, Masonry, CAD				30	20	50	
Total		20	06	07	360	440	800	30

* This subject shall be taught by the faculty of Applied Science Department

Fourth Semester

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-401	Geomatics Engineering	3	1	-	40	60	100	4
BTCE-402	Construction Machinery & Works Management	3	1	-	40	60	100	4
BTCE-403	Design of Concrete Structures-I	4	2	-	40	60	100	6
BTCE-404	Fluid Mechanics-II	3	1	-	40	60	100	4
BTCE-405	Irrigation Engineering-I	3	1	-	40	60	100	4
BTCE-406	Structural Analysis-I	3	2	-	40	60	100	5
BTCE-407	Concrete Technology Lab	-	-	2	30	20	50	1
BTCE-408	Structural Analysis Lab	-	-	2	30	20	50	1
BTCE-409	General Fitness				100	-	100	
Total		19	08	04	400	400	800	29

Fifth Semester

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-501	Design of Steel Structures-I	3	2	-	40	60	100	5
BTCE-502	Geotechnical Engineering	3	2	-	40	60	100	5
BTCE-503	Structural Analysis-II	3	2	-	40	60	100	5
BTCE-504	Transportation Engineering-I	3	1	-	40	60	100	4
BTCE-505	Environmental Engineering –I	3	1	-	40	60	100	4
BTCE-506	Transportation Engineering Lab	-	-	2	30	20	50	1
BTCE-507	Geotechnical Engineering Lab	-	-	2	30	20	50	1
BTCE-508	Computer Aided Steel Structural Drawing	-	-	3	30	20	50	2
BTCE-509	Survey Camp of 04 weeks duration after 4 th Semester				100	50	150	
Total		15	08	07	390	410	800	27

Sixth Semester

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-601	Design of Concrete Structures-II	3	2	-	40	60	100	5
BTCE-602	Elements of Earthquake Engineering	3	2	-	40	60	100	5
BTCE-603	Foundation Engineering	3	2	-	40	60	100	5
BTCE-604	Numerical Methods in Civil Engineering	4	1	-	40	60	100	5
BTCE-605	Professional Practice	3	2	-	40	60	100	5
BTCE-606	Environment Engineering –II	3	1	-	40	60	100	4
BTCE-607	Environmental Engineering Lab	-	-	2	30	20	50	1
BTCE-608	Computer Aided Concrete Structures Drawing	-	-	3	30	20	50	2
BTCE-609	General Fitness				100	-	100	
Total		19	10	5	400	400	800	32

Seventh Semester

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-701	(a) Software Training*	-	-	-	150	100	250	
	(b) Industrial Training				300	200	500	
Total					450	300	750	

***List of Software for Training to be learnt during Training Period**

Any software that enhances professional capability in civil engineering practice a partial indicative list is mentioned below:

- | | |
|--------------------------------|-------------------------|
| 1. GT STRUDAL | 2. PRIMA VERA |
| 3. GEOTECH | 4. ARCVIEW GIS |
| 5. GEO 5 | 6. GEO STUDIO PROF 2004 |
| 7. AUTOCAD CIVIL 3D | 8. MX ROAD |
| 9. GEOMATIC | 10. STAAD PRO |
| 11. HDM-4 | 12. PLAXIS |
| 13 Any other relevant software | |

Eighth Semester

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-801	Design of Steel Structures-II	3	2	-	40	60	100	5
BTCE-802	Disaster Management	3	1	-	40	60	100	4
BTCE-803	Irrigation Engineering-II	3	1	-	40	60	100	4
BTCE-804	Transportation Engineering-II	3	1	-	40	60	100	4
BTCE-XXX	Elective –I	3	1	-	40	60	100	4
BTCE-YYY	Elective –II	3	1	-	40	60	100	4
BTCE-805	Project	-	-	6	60	90	150	3
General Fitness					100	-	100	
Total		18	07	06	400	450	850	28

List of Electives:

- **Structural Engineering**

- BTCE- 806 Dynamics of Structures
- BTCE- 807 Finite Elements Methods
- BTCE- 808 Composite Materials
- BTCE- 809 High Rise Buildings
- BTCE- 810 Infrastructure Development & Management
- BTCE- 811 Pre-stressed Concrete
- BTCE- 812 Constructional Management
- BTCE- 813 Optimization Techniques

- **Geotechnical Engineering**

- BTCE- 814 Advanced Soil Mechanics
- BTCE- 815 Ground Improvement Techniques
- BTCE- 816 Soil Dynamics and Machine Foundation
- BTCE- 817 Earth and earth Retaining Structures
- BTCE- 818 Reinforced Earth and Geotextiles.

- **Environmental/ Irrigation Engineering**

- BTCE- 819 Advanced Environmental Engineering
- BTCE- 820 Environmental Impact Analysis of Civil Engineering Projects
- BTCE- 821 Environmental Geotechnics
- BTCE- 822 Hydrology and Dams

- **Transportation Engineering**

- BTCE- 823 Pavement Design
- BTCE- 824 Traffic Engineering
- BTCE- 825 Bridge Engineering
- BTCE- 826 Highway Materials and Construction