

# Scheme of Study

## BS Civil Engineering

### Semester 1

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-1101	Construction Materials	2	2
2	CIEN-1201	Construction Materials Lab	3	1
3	COSC-1101	Programming Fundamentals	3	3
4	COSC-1201	Programming Fundamentals Lab	3	1
5	CIEN-1102	Civil Engineering Drawing	1	1
6	CIEN-1202	Civil Engineering Drawing Lab	6	2
7	ELEC-1108	Basic Electrical Engineering	1	1
8	ELEC-1208	Basic Electrical Engineering Lab	3	1
9	MATH-1131	Applied Calculus	3	3
10	ISLS-1112/ ETIC-1112 MTSC-3209	Islamic Studies/ Ethics	2	2
<b>Credit Hours</b>			<b>17</b>	<b>27</b>

### Semester 2

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-1103	Surveying-I	2	2
2	CIEN-1203	Surveying-I Lab	3	1
3	CIEN-1104	Engineering Geology	2	2
4	PHYS-1124	Engineering Mechanics	2	2
5	PHYS-1224	Engineering Mechanics Lab	3	1
6	HLTH-1113	Basic Health Awareness	2	2
7	ENGL-1119	Communication Skills	3	3
8	PAKS-1113	Pakistan Studies	2	2
<b>Credit Hours</b>			<b>19</b>	<b>15</b>

### Semester 3

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-2101	Mechanics of Materials	2	2
2	CIEN-2201	Mechanics of Materials Lab	3	1
3	CIEN-2102	Fluid Mechanics-I	3	3
4	CIEN-2202	Fluid Mechanics-I Lab	3	1
5	CIEN-2103	Geotechnical Engineering-I	3	3
6	CIEN-2203	Geotechnical Engineering-I Lab	3	1
7	CIEN-2104	Civil Eng. Construction & Graphics	1	1
8	CIEN-2204	Civil Eng. Construction & Graphics Lab	6	2
9	SSCI-3120	Constitution and Legal System of Pakistan	2	2
10	MATH-2122	Differential Equations	3	3
<b>Credit Hours</b>			<b>29</b>	<b>19</b>

### Semester 4

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-2105	Surveying-II	2	2
2	CIEN-2205	Surveying-II Lab	3	1
3	CIEN-2106	Elementary Structural Analysis	2	2
4	CIEN-2107	Plain & Reinforced Concrete-I	3	3
5	CIEN-2207	Plain & Reinforced Concrete-I Lab	3	1
6	MSCI-2112	Eng Economics	2	2
7	MSCI-3109	Construction Project Management	2	2
8	MSCI-3109	Construction Project Management lab	3	1
9	STAT-2131	Probability and Statistics	3	3
<b>Credit Hours</b>			<b>24</b>	<b>18</b>

### Semester 5

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-3101	Fluid Mechanics-II	3	3
2	CIEN-3201	Fluid Mechanics-II Lab	3	1
3	CIEN-3102	Structural Analysis	2	2
4	CIEN-3103	Geotechnical Engineering-II	3	3
5	CIEN-3203	Geotechnical Engineering-II Lab	3	1
6	CIEN-3104	Environmental Engineering-I	2	2
7	CIEN-3204	Environmental Engineering-I Lab	3	1
8	CIEN-3105	Transportation Engineering-I	2	2
9	CIEN-3205	Transportation Engineering-I Lab	3	1
10	MATH-2124	Numerical Analysis	3	3
<b>Credit Hours</b>			<b>27</b>	<b>19</b>

### Semester 6

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-3106	Steel Structures	2	2
2	CIEN-3107	Hydraulic Engineering	2	2
3	CIEN-3207	Hydraulic Engineering Lab	3	1
4	CIEN-3108	Structural Mechanics	2	2
5	CIEN-3208	Structural Mechanics Lab	3	1
6	CIEN-3109	Engineering Hydrology	2	2
7	CIEN-3209	Engineering Hydrology Lab	3	1
8	CIEN-3110	Quantity & Cost estimation	2	2
9	CIEN-3210	Quantity & Cost estimation lab	3	1
10	ENGL-2111	Technical Writing & Presentation Skills	3	3
<b>Credit Hours</b>			<b>25</b>	<b>17</b>

*“When all else is lost, the future still remains”*

*- Christian Nestel Bovee*

### Semester 7

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-4101	Plain & Reinforced Concrete-II	3	3
2	CIEN-4201	Plain & Reinforced Concrete-II Lab	3	1
3	CIEN-4102	Transportation Engineering-II	2	2
4	CIEN-4202	Transportation Engineering-II Lab	3	1
5	CIEN-4103	Environmental Engineering-II	2	2
6	CIEN-4104	Structural Engineering	2	2
7	CIEN-4204	Structural Engineering-Lab	3	1
8	CIEN-4106	Civil Engineering Project I	3	3
9	CIEN-4105	Geo-Informatics	2	2
10	CIEN-4205	Geo-Informatics Lab	3	1
<b>Credit Hours</b>			<b>26</b>	<b>18</b>

### Semester 8

S. No.	Course Code	Course Title	Contact Hours	Credit Hours
1	CIEN-4107	Irrigation Engineering	3	3
2	CIEN-4207	Irrigation Engineering Lab	3	1
3	CIEN-4108	Design of Structures	2	2
4	CIEN-4208	Design of Structures Lab	3	1
5	CIEN-4109	Architecture & Town Planning	2	2
6	CIEN-4110	Civil Engineering Project II	3	3
7	MSCI-3107	Hazards & Disaster Management	3	3
<b>Credit Hours</b>			<b>19</b>	<b>15</b>

<b>Total Credit Hours</b>	<b>138</b>
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## MS Civil Engineering

Civil Engineering Department's target is to launch the master programs of Civil Engineering in the following areas of specializations.

- Water Resources and Irrigation Engineering
- Structure Engineering
- Geotechnical Engineering
- Transportation Engineering
- Environmental Engineering

### MS Civil Engineering (Water Resources & Irrigation Engineering)

The department launched Graduate degree program in Civil Engineering with major in Water Resources and Irrigation Engineering from Spring 2019. The objective of initiating this degree was to lay emphasis on water crisis and power related issues being faced globally. Furthermore, it was also aimed to address the deteriorating groundwater quality by conducting advance level research in the field of groundwater resource management and remediation.



### Water Resources & Irrigation Engineering

S. No.	Course Code	Course Title	Examination Marks			Contact Hours	Contact Hours
			Sessional	Part-II (Lab)			
				Viva Voce			
<b>CORE SUBJECTS</b>							
1	CIEN-5101	Water Resource System	100			2	2
	CIEN-5201	Water Resource System Lab		75	25	1	3
2	CIEN-5102	Applied Engineering Hydrology	100			2	2
	CIEN-5202	Applied Engineering Hydrology Lab		75	25	1	3
3	CIEN-5103	Water Resources Management & Planning	100			2	2
	CIEN-5203	Water Resources Management & Planning Lab		75	25	1	3
4	CIEN-6101	Sediment Transport Engineering	100			2	2
	CIEN-6201	Sediment Transport Engineering Lab		75	25	1	3
5	CIEN-6102	Design of Hydraulic Structures	100			2	2
	CIEN-6202	Design of Hydraulic Structures Lab		75	25	1	3
6	CIEN-6103	Irrigation Engineering & Practices	100			2	2
	CIEN-6203	Irrigation Engineering & Practices Lab		75	25	1	3
<b>Total (Core Subjects)</b>			<b>600</b>	<b>450</b>	<b>150</b>	<b>12</b>	<b>06</b>

### ELECTIVE SUBJECTS (ANY TWO OF THE FOLLOWINGS)

S. No.	Course Code	Course Title	Examination Marks			Contact Hours	Contact Hours
			Sessional	Part-II (Lab)			
				Viva Voce			
<b>CORE SUBJECTS</b>							
1	CIEN-5104	Advance Fluid Mechanics	100			2	2
	CIEN-5204	Advance Fluid Mechanics Lab		75	25	1	3
2	CIEN-5105	Advanced Fluvial Hydraulics	100			2	2
	CIEN-5205	Advanced Fluvial Hydraulics Lab		75	25	1	3
3	CIEN-5106	Drainage Engineering	100			2	2
	CIEN-5206	Drainage Engineering Lab		75	25	1	3
4	CIEN-5107	Resources Conservation Engineering	100			2	2
	CIEN-5207	Resources Conservation Engineering Lab		75	25	1	3
5	CIEN-6104	Computer aided Design of Hydraulic Structures	100			2	2
	CIEN-6204	Computer aided Design of Hydraulic Structures Lab		75	25	1	3
6	CIEN-6105	Application of RS & GIS in Civil Engineering	100			2	2
	CIEN-6205	Application of RS & GIS in Civil Engineering Lab		75	25	1	3
7	CIEN-6106	Ground Water Engineering	100			2	2
	CIEN-6206	Ground Water Engineering Lab		75	25	1	3
8	CIEN-6107	Hydro Power Engineering	100			2	2
	CIEN-6207	Hydro Power Engineering Lab		75	25	1	3
9	CIEN-7101	Hydrological Modeling	100			2	2
	CIEN-7102	Hydrological Modeling Lab		75	25	1	3
10	CIEN-7102	River Engineering & Flood Management	100			2	2
	CIEN-7202	River Engineering & Flood Management Lab		75	25	1	3
11	CIEN-7103	Climate Change and Water Resources	100			2	2
	CIEN-7203	Climate Change and Water Resources Lab		75	25	1	3
12	CIEN-7104	Coastal sediments and beach processes	100			2	2
	CIEN-7204	Coastal sediments and beach processes Lab		75	25	1	3
13	CIEN-7105	Environmental Fluid Mechanics	100			2	2
	CIEN-7205	Environmental Fluid Mechanics Lab		75	25	1	3
14	CIEN-7106	Watershed Management & Soil Erosion	100			2	2
	CIEN-7206	Watershed Management & Soil Erosion Lab		75	25	1	3
<b>Total (Elective Subjects)</b>			<b>200</b>	<b>150</b>	<b>50</b>	<b>04</b>	<b>02</b>

### MS Theses

S. No.	Course Code	Course Title	Examination Marks			Contact Hours	Contact Hours
			Sessional	Part-II (Lab)			
				Viva Voce			
<b>CORE SUBJECTS</b>							
1	CIEN-8101	Pre-Final Defence Examination	-	30	30	3	
2	CIEN-8102	Final Defence Examination	-	60	70	9	
3		Research Papers	10	-	-		
<b>Total (Elective Subjects)</b>			<b>10</b>	<b>90</b>	<b>100</b>	<b>12</b>	
			<b>810</b>	<b>690</b>	<b>300</b>		
<b>1700</b>							