

**Program Courses for M. Sc. in Civil Engineering with Coursework & Thesis option (Total Credit Hours = 34)**

Level	Course Code	Course Title	Required	Pre-Requisite Courses	Credit Hours
Level 1	CE701-3	Advanced Engineering Mathematics	R	-	3
	CE702-3	Experimental Methods in Civil Engineering	R	-	3
	CE703-3	Applied Statistics and Probability for Engineering	R	-	3
Level 2	CE704-3	Finite Element Methods in Civil Engineering	R	-	3
	CE705-3	Construction Materials for Civil Engineering	R	-	3
	CE790-1	Research Preparation Plan	R	-	1
	CE7x0-3	Elective 1	E	-	3
Level 3	CE7xx-3	Elective 2	E	As mentioned in List of Electives (CE7x0-3)	3
	CE7xx-3	Elective 3	E	As mentioned in List of Electives (CE7x0-3)	3
	EXIT POINT (Credit = 25)				
	CE798-3	Thesis 1	R	CE790-1	3
Level 4	CE7xx-3	Elective 4	E	As mentioned in List of Electives (CE7x0-3)	3
	CE799-3	Thesis 2	R	CE798-3	3
<b>TOTAL CREDIT</b>					<b>34</b>

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**Program Courses for M. Sc. in Civil Engineering with Coursework option  
(Total Credit Hours=33)**

Level	Course Code	Course Title	Required	Pre-Requisite Courses	Credit Hours
Level 1	CE701-3	Advanced Engineering Mathematics	R	-	3
	CE702-3	Experimental Methods in Civil Engineering	R	-	3
	CE703-3	Applied Statistics and Probability for Engineering	R	-	3
Level 2	CE704-3	Finite Element Methods in Civil Engineering	R	-	3
	CE705-3	Construction Materials for Civil Engineering	R	-	3
	CE7x0-3	Elective 1	E	-	3
Level 3	CE7xx-3	Elective 2	E	As mentioned in List of Electives (CE7x0-3)	3
	CE7xx-3	Elective 3	E	As mentioned in List of Electives (CE7x0-3)	3
	EXIT POINT (Credit = 24)				
	CE796-3	Project 1	R		3
Level 4	CE7xx-3	Elective 4	E	As mentioned in List of Electives (CE7x0-3)	3
	CE797-3	Project 2	R	CE796-3	3
<b>TOTAL CREDIT</b>					<b>33</b>

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## List of Track Electives

Course Code	Course Title	Pre-Requisite Courses	Credit Hours
<b>Structural Engineering</b>			
CE710-3	Advanced Mechanics of Materials		3
CE711-3	Advanced Structural Analysis	CE710-3	3
CE712-3	Structural Dynamics	CE710-3	3
CE713-3	Fracture Mechanics	CE710-3	3
CE714-3	Advanced Design of Reinforced Concrete Structures	CE710-3	3
CE715-3	Advanced Design of Steel Structures	CE710-3	3
CE716-3	Earthquake Engineering	CE710-3	3
CE717-3	Advanced Concrete Technology	CE710-3	3
CE718-3	Pre-stressed Concrete Design	CE710-3	3
CE719-3	Bridge Engineering	CE710-3	3
CE791-3	Special Topics in Structural Engineering	CE710-3	3
<b>Geotechnical Engineering</b>			
CE720-3	Site Exploration and Laboratory Testing		3
CE721-3	Advanced Soil Mechanics	CE720-3	3
CE722-3	Advanced Foundation Engineering	CE720-3	3
CE723-3	Slope and Earth Retaining Structure	CE720-3	3
CE724-3	Numerical Methods in Geotechnical Engineering	CE720-3	3
CE725-3	Ground Improvement Techniques	CE720-3	3
CE726-3	Environmental Geotechnics	CE720-3	3
CE727-3	Geotechnical Earthquake Engineering	CE720-3	3
CE728-3	Rock Mechanics and Tunneling	CE720-3	3
CE729-3	Reliability Based Design in Geotechnical Engineering	CE720-3	3
CE792-3	Special Topics in Geotechnical Engineering	CE720-3	3
<b>Transportation Engineering</b>			
CE730-3	Advanced Geometric Design of Highway		3
CE731-3	Advanced Pavement Design	CE730-3	3
CE732-3	Traffic Flow Theory	CE730-3	3
CE733-3	Advanced Transportation Planning	CE730-3	3
CE734-3	Asphalt Materials and Mixture Design	CE730-3	3
CE735-3	Pavement Asset and Management	CE730-3	3
CE736-3	Airport Planning and Design	CE730-3	3
CE737-3	Advanced Pavement Materials	CE730-3	3
CE738-3	Advanced Traffic Safety Analysis	CE730-3	3
CE739-3	Pavement Evaluation and Rehabilitation	CE730-3	3
CE793-3	Special Topics in Transportation Engineering	CE730-3	3

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Course Code	Course Title	Pre-Requisite Courses	Credit Hours
<b>Water Resource Engineering</b>			
CE740-3	Water Resources Planning		3
CE741-3	Groundwater Hydrology	CE740-3	3
CE742-3	Surface Water Hydrology	CE740-3	3
CE743-3	Coastal Wave Hydrodynamics	CE740-3	3
CE744-3	Water Resources Systems Analysis	CE740-3	3
CE745-3	Transfer in porous medium	CE740-3	3
CE746-3	Sediment Transport	CE740-3	3
CE747-3	Design of Hydraulic and Coastal Structures	CE740-3	3
CE748-3	Coastal Management	CE740-3	3
CE749-3	Coastal Hazards and Adaptation	CE740-3	3
CE794-3	Special topics in hydrology and coastal issues	CE740-3	3
<b>Environmental Engineering</b>			
CE750-3	Environmental Chemistry		3
CE751-3	Microbiology in Environmental Engineering	CE750-3	3
CE752-3	Planning and Design of Water and Wastewater Networks	CE750-3	3
CE753-3	Physicochemical Treatment Processes	CE750-3	3
CE754-3	Biological Treatment Processes	CE750-3	3
CE755-3	Air Pollution Control Engineering	CE750-3	3
CE756-3	Solid Waste Management	CE750-3	3
CE757-3	Industrial and Hazardous Waste Management	CE750-3	3
CE758-3	Design and Operations of Water and Wastewater Treatment Plants	CE750-3	3
CE759-3	Advanced Membrane Treatment and Desalination Technology	CE750-3	3
CE795-3	Special Topics in Environmental Engineering	CE750-3	3

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