



DEPARTMENT OF CIVIL ENGINEERING  
**NATIONAL INSTITUTE OF TECHNOLOGY**  
 TIRUCHIRAPPALLI - 620 015, TAMIL NADU, INDIA

**COURSE OUTLINE TEMPLATE**

<b>Course Title</b>	Basics of Civil Engineering		
<b>Course Code</b>	CEIR 11	<b>No. of Credits</b>	2
<b>Department</b>	EEE - A Section	<b>Faculty</b>	Dr. Jayachandran K.
<b>Pre-requisites Course Code</b>	---		
<b>Course Coordinator(s) (if, applicable)</b>	Dr. R. Gandhimathi		
<b>Other Course Teacher(s) / Tutor(s)</b>	---	<b>Telephone No. / E-mail</b>	99526 09907 jaicivil@gmail.com
<b>Course Type</b>	<input checked="" type="checkbox"/> GIR course <input type="checkbox"/> Core course <input type="checkbox"/> Elective course		

**COURSE OVERVIEW**

This course gives students the knowledge about the fundamentals of Civil Engineering such as properties and uses of construction materials, building construction, construction of roads, surveying methods and equipment, water resources and waste water related concepts

**COURSE OBJECTIVES**

- To give an overview of the fundamentals of the Civil Engineering field to the students of all branches of Engineering
- To realize the importance of the Civil Engineering Profession in fulfilling societal needs

**COURSE OUTCOMES (CO)**

<ol style="list-style-type: none"> <li>The students will gain knowledge on site selection.</li> <li>The students will gain knowledge on construction materials.</li> <li>The students will gain knowledge on components of buildings.</li> <li>The students will gain knowledge on roads and water resources.</li> <li>A basic appreciation of multidisciplinary approach when involved in Civil Related Projects.</li> </ol>	<b>Aligned Programme Outcomes (PO)</b>																																																																																	
	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> </tr> </thead> <tbody> <tr> <td>CO1</td> <td>H</td> <td>M</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>M</td> <td>L</td> <td>L</td> <td>M</td> </tr> <tr> <td>CO2</td> <td>H</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>M</td> <td>M</td> <td>M</td> <td>L</td> </tr> <tr> <td>CO3</td> <td>H</td> <td>M</td> <td>L</td> <td>L</td> <td>M</td> <td>L</td> <td>L</td> <td>M</td> <td>L</td> <td>L</td> <td>L</td> </tr> <tr> <td>CO4</td> <td>M</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>M</td> <td>L</td> <td>L</td> <td>L</td> </tr> <tr> <td>CO5</td> <td>M</td> <td>M</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>L</td> <td>M</td> <td>H</td> <td>M</td> <td>H</td> </tr> </tbody> </table>												1	2	3	4	5	6	7	8	9	10	11	CO1	H	M	L	L	L	L	L	M	L	L	M	CO2	H	L	L	L	L	L	L	M	M	M	L	CO3	H	M	L	L	M	L	L	M	L	L	L	CO4	M	L	L	L	L	L	L	M	L	L	L	CO5	M	M	L	L	L	L	L	M	H	M
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COURSE TEACHING AND LEARNING ACTIVITIES			
S. No.	Week	Topic	Mode of Delivery
1.	2 <sup>nd</sup> week of Aug 17 (7 to 11) (2 Contact Hours)	Properties and uses of construction materials – stones- (Quality, Quarrying, Dressing, Uses), bricks – (Manufacture)	PPT & BB
2.	3 <sup>rd</sup> week of Aug 17 (14 to 18) (2 Contact Hours)	Properties and uses of construction materials – bricks (Quality, Classification, Uses), cement – (Constituents, Manufacture, Properties, Uses, Types),	PPT & BB
3.	4 <sup>th</sup> week of Aug 17 (21 to 25) (2 Contact Hours)	Properties and uses of construction materials – concrete – (Advantages, Constituents, Properties, Proportioning, Manufacture and Types, Uses) and steel – (Varieties, Properties and Uses, Commercial forms)	PPT & BB
4.	5 <sup>th</sup> week of Aug 17 and 1 <sup>st</sup> week of Sep 17 (28 to 31, 1) (2 Contact Hours)	Site selection for buildings – (Classification and Planning of buildings), Components of building	PPT & BB
5.	2 <sup>nd</sup> week of Sep 17 (4 to 8) (2 Contact Hours)	Foundation- Shallow and deep foundations – (Function, Loads, Bearing Capacity of Soil, Types, Causes of failure of foundation)	PPT & BB
6.	3 <sup>rd</sup> week of Sep 17 (11 to 15) (2 Contact Hours)	Brick and stone masonry – (Definitions, Bonds, Comparison, Points to be observed in construction, Plastering <b>Assignment – I</b>	PPT & BB
7.	4 <sup>th</sup> week of Sep 17 (18 to 22) (2 Contact Hours)	Lintels, beams and columns – Roofs – (Requirement, Classification, Types, roof coverings) <b>Assessment - I</b>	PPT & BB
8.	5 <sup>th</sup> week of Sep 17 (25 to 29) (2 Contact Hours)	Roads-Classification of Rural and urban Roads	PPT & BB
9.	1 <sup>st</sup> week of Oct 17 (2 to 6) (2 Contact Hours)	Pavement Materials	PPT & BB
10.	2 <sup>nd</sup> week of Oct 17 (9 to 13) (2 Contact Hours)	Traffic signs and road marking-Traffic Signals. <b>Assignment – II</b>	PPT & BB
11.	3 <sup>rd</sup> week of Oct 17 (16 to 20) (2 Contact Hours)	Surveying - Classification	PPT & BB
12.	4 <sup>th</sup> week of Oct 17 (23 to 27) (2 Contact Hours)	Chain Survey – (Instruments used, Principle, Terms used), Operations(Ranging)	PPT & BB
13.	5 <sup>th</sup> week of Oct 17 and 1 <sup>st</sup> week of Nov 17 (30, 31 and 1 - 3) (2 Contact Hours)	Compass Survey (Methods of using, Bearing, Local attraction) exhibition of different survey equipment <b>Assignment – III</b>	PPT & BB Field observation
14.	2 <sup>nd</sup> week of Nov 17 (6 to 10) (2 Contact Hours)	Sources of Water – Dams (Purpose of dam, factors governing selection of dam site, Cross section details of gravity dam) <b>Assessment – II</b>	PPT & BB



15.	3 <sup>rd</sup> week of Nov 17 (13 to 17) (2 Contact Hours)	Water Supply- Quality of Water and Wastewater water and wastewater treatment	PPT & BB
16.	4 <sup>rd</sup> week of Nov 17 (20 to 24) (2 Contact Hours)	Sea Water Intrusion Recharge of Ground Water <b>Assignment - IV</b>	PPT & BB
17.	5 <sup>rd</sup> week of Nov 17 and (27 - 30) (2 Contact Hours)	Review of concepts related to Civil Engineering	PPT & BB

#### COURSE ASSESSMENT METHODS

S. No.	Mode of Assessment	Week / Date	Duration	% Weightage
1.	Assignment – I	4 <sup>th</sup> week of Sep 17	1 week	20%
2.	Assessment - I	6 <sup>th</sup> week of Sep 17	60 Minutes	5%
3.	Assignment -II	2 <sup>nd</sup> week of Oct 17	1 week	5%
4.	Assessment – II	2 <sup>nd</sup> week of Nov 17	60 Minutes	20%
5.	Assignment - 3	2 <sup>nd</sup> week of Nov 17	1 week	5%
6.	Assignment - 4	4 <sup>rd</sup> week of Nov 17	1 week	5%
7.	Final Assessment	2 <sup>nd</sup> week of Dec 17	120 Minutes	40%

#### ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc

1. Punmia, B.C, Ashok Kumar Jain, Arun Kumar Jain, 'Basic Civil Engineering', Lakshmi Publishers, 2012.
2. Satheesh Gopi, 'Basic Civil Engineering', Pearson Publishers, 2009.
3. Rangwala, S.C, 'Building materials', Charotar Publishing House, Pvt. Limited, Edition 27, 2009.
4. Palanichamy, M.S, 'Basic Civil Engineering', Tata Mc Graw Hill, 2000.
5. Lecture notes prepared by Department of Civil Engineering, NITT.

#### COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)

- Direct feedback from the students by face-to-face meeting individually and the class as a whole.
- Feedback from the students during class committee meetings
- Exit survey from the students at the end of the session through questionnaire


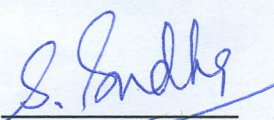
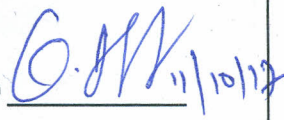
#### COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)

The attendance will be taken in all the contact hours. Students are encouraged to attend all the classes without absence. Also, the students are encouraged to participate in various co-curricular and extracurricular activities to enrich the academic / campus life. The percentage of attendance is calculated up to 3 days before the last working day in the respective session. The minimum attendance for appearing for the end semester examination is 75%. Students having attendance between 50-75% will have compensation classes. The students having less than 50% attendance and 50% weightage in assessment and assignment (excluding final assessment) may be suggested to redo the course.

#### ADDITIONAL COURSE INFORMATION

Queries / Clarifications / Discussions (if required) may be E-mailed to me / contact me during 4.00 PM to 5.00 PM on Monday and Friday with prior intimation.

#### FOR SENATE'S CONSIDERATION

Course Faculty  CC-Chairperson  HOD  11/10/17