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

COURSE OUTLINE TEMPLATE			
Course Title	Basics of Civil Engineering		
Course Code	CEIR 11	**No. of Credits**	2
Department	EEE - A Section	**Faculty**	Dr. Jayachandran K.
Pre-requisites Course Code	---		
Course Coordinator(s) (if, applicable)	Dr. R. Gandhimathi		
Other Course Teacher(s) / Tutor(s)	---	**Telephone No. / E-mail**	99526 09907 jaicivil@gmail.com
Course Type	☑ GIR course ☐ Core course ☐ 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

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

COURSE OUTCOMES (CO)

1. The students will gain knowledge on site selection.
2. The students will gain knowledge on construction materials.
3. The students will gain knowledge on components of buildings.
4. The students will gain knowledge on roads and water resources.
5. A basic appreciation of multidisciplinary approach when involved in Civil Related Projects.

Aligned Programme Outcomes (PO)

	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	H

1. Scholarship of Knowledge	2. Critical Thinking
3. Problem Solving	4. Research Skill
5. Usage of modern tools	6. Collaborative and Multidisciplinary work
7. Project Management and Finance	8. Communication
9. Life-long Learning	10. Ethical Practices and Social Responsibility
11. Independent and Reflective Learning	

COURSE TEACHING AND LEARNING ACTIVITIES			
S. No.	**Week**	**Topic**	**Mode of Delivery**
1.	2nd 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.	3rd 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.	4th 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.	5th week of Aug 17 and 1st 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.	2nd 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.	3rd week of Sep 17 (11 to 15) (2 Contact Hours)	Brick and stone masonry – (Definitions, Bonds, Comparison, Points to be observed in construction, Plastering **Assignment – I**	PPT & BB
7.	4th week of Sep 17 (18 to 22) (2 Contact Hours)	Lintels, beams and columns – Roofs – (Requirement, Classification, Types, roof coverings) **Assessment - I**	PPT & BB
8.	5th week of Sep 17 (25 to 29) (2 Contact Hours)	Roads-Classification of Rural and urban Roads	PPT & BB
9.	1st week of Oct 17 (2 to 6) (2 Contact Hours)	Pavement Materials	PPT & BB
10.	2nd week of Oct 17 (9 to 13) (2 Contact Hours)	Traffic signs and road marking-Traffic Signals. **Assignment – II**	PPT & BB
11.	3rd week of Oct 17 (16 to 20) (2 Contact Hours)	Surveying - Classification	PPT & BB
12.	4rd week of Oct 17 (23 to 27) (2 Contact Hours)	Chain Survey – (Instruments used, Principle, Terms used), Operations(Ranging)	PPT & BB
13.	5rd week of Oct 17 and 1st 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 **Assignment – III**	PPT & BB Field observation
14.	2nd 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) **Assessment – II**	PPT & BB

15.	3rd week of Nov 17 (13 to 17) (2 Contact Hours)	Water Supply- Quality of Water and Wastewater water and wastewater treatment	PPT & BB
16.	4rd week of Nov 17 (20 to 24) (2 Contact Hours)	Sea Water Intrusion Recharge of Ground Water **Assignment - IV**	PPT & BB
17.	5rd 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	4th week of Sep 17	1 week	20%
2.	Assessment - I	6th week of Sep 17	60 Minutes	5%
3.	Assignment -II	2nd week of Oct 17	1 week	5%
4.	Assessment – II	2nd week of Nov 17	60 Minutes	20%
5.	Assignment - 3	2nd week of Nov 17	1 week	5%
6.	Assignment - 4	4rd week of Nov 17	1 week	5%
7.	Final Assessment	2nd 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