



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

DEPARTMENT OF CIVIL ENGINEERING

COURSE PLAN (PART I)			
Name of the programme and specialization	B.Tech. in Production Engineering		
Course Title	Basics of Civil Engineering		
Course Code	CEIR11	No. of Credits	2
Course Code of Pre-requisites	-		
Session	July / January 2023	Section (if applicable)	B
Name of the Faculty	Dr. Vanama Raghava Kumar	Department	Civil Engineering
E-Mail	vanama@nitt.edu	Telephone No.	9494771420
Name of Course Coordinator(s) (if applicable)	Dr. Vineet Kr. Yadav	-	-
E-Mail	vineet@nitt.edu	Telephone No.	0431-250-3523
Course Type	<input checked="" type="checkbox"/>	General Institute Requirement (GIR)	
		Programme Core (PC)	
		Programme Elective (PE)	
		Open Elective (OE)	
		Minor (MI)	
		Essential Laboratory Requirement (ELR)	

COURSE CONTENT (approved in BoS)

Properties and uses of **construction materials** - stones, bricks, cement, concrete and steel. Site selection for **buildings** - Component of building - Foundation- Shallow and deep foundations - Brick and stone masonry - Plastering - Lintels, beams and columns - Roofs. **Roads**-Classification of Rural and urban Roads- Pavement Materials-Traffic signs and road Marking-Traffic Signals. **Surveying** - Classification-Chain Survey-Ranging-Compass Survey-exhibition of different survey equipment. Sources of **Water** - Dams- Water Supply-Quality of Water-Wastewater Treatment - Sea Water Intrusion - Recharge of Ground Water.

COURSE LEARNING OBJECTIVES (CLO)

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

COURSE OUTCOMES (CO)

Course Outcomes	Course Articulation Matrix												
On completion of the course, the students will be able to:	Programme Outcomes (PO)												
	COs	1	2	3	4	5	6	7	8	9	10	11	12
CO1 acquire knowledge on construction materials in civil Engineering	2	-	-	-	-	-	-	1	1	2	-	-	-
CO2 familiarize with various building components and their functions.	2	-	-	-	-	2	-	2	2	1	-	-	-
CO3 identify different pavement materials, road markings, traffic signs and signals.	2	-	-	-	-	-	2	2	-	-	-	-	1
CO4 recognize various type of surveying and survey equipment.	2	2	-	-	1	-	-	-	1	-	-	-	-
CO5 Outline water, wastewater quality and their treatments	2	-	-	-	-	2	2	1	-	-	-	-	1
	1. Engineering Knowledge			2. Problem analysis			3. Design / development of solutions			4. Conduct investigations of complex problems			
	5. Modern tool usage			6. The engineer and society			7. Environment and Sustainability			8. Ethics			
	9. Individual and Team Work			10. Communication			11. Project Management and Finance			12. Life-long learning			

COURSE PLAN (PART II)

COURSE OVERVIEW

This course is offered considering that all engineering students should know basic civil engineering since they need interaction with civil engineers in their routine works. Hence all important aspects of civil engineering are taught in this course.

Course gives an overview of the fundamentals of the Civil engineering and its specialisations. students get the brief insights of properties and uses of construction materials, components of buildings and their functioning, transportation and traffic engineering, surveying, water resource and environmental engineering.

COURSE TEACHING AND LEARNING ACTIVITIES

Sl. No.	Week / Contact Hours	Topic	Mode of Delivery
1.	Week-19 (2 Contact Hour)	Introduction to CEIR11- CLO, Syllabus, CO, Attendance policy etc. Introduction to Civil Engineering and its specializations	Power Point Presentation, Chalkboard
2.	Week-20 (2 Contact Hours)	Construction materials -Introduction; Stones: Classification, properties, tesing, applications/uses	Power Point Presentation, Chalkboard
3.	Week-21 (2 Contact Hours)	Construction materials - Bricks: Manufacturing process, types, properties, tests, classification and applications/uses	Power Point Presentation, Chalkboard
4.	Week-22 (2 Contact Hours)	Construction materials - Cement: Manufacturing process, types, properties, tests, and applications/uses	Power Point Presentation, Chalkboard
5.	Week-23 (2 Contact Hours)	Construction materials - Concrete: Constituents and their role, grades, properties and applications/uses; Construction materials - Steel: Manufacturing process, types, properties, tests, applications/uses	Power Point Presentation, Chalkboard
6.	Week-24 (2 Contact Hours)	First Assessment; & Buildings & Types, Site selection for buildings - importance and factors to consider	Power Point Presentation, Chalkboard
7.	Week-25 (2 Contact Hours)	Component of building; Foundation- Shallow and deep foundations	Power Point Presentation, Chalkboard
8.	Week-26 (2 Contact Hours)	Brick and stone masonry - Plastering - Lintels, beams and columns - Roofs.	Power Point Presentation, Chalkboard
9.	Week-27 (2 Contact Hours)	Introduction to Transportation Engineering, Roads- Classification of Rural and urban Roads-	Power Point Presentation, Chalkboard
10.	Week-28 (2 Contact Hours)	Second Assessment; & Pavement Materials;Traffic engineering, Traffic signs and road Marking-Traffic Signals.	Power Point Presentation, Chalkboard
11.	Week-29 (2 Contact Hours)	Introduction to water resourse and environmental engineering, Sources of Water, Dams, Water Supply, Quality of Water	Power Point Presentation, Chalkboard
12.	Week-30 (2 Contact Hours)	Wastewater Treatment, Sea Water Intrusion, Recharge of Ground Water.	Power Point Presentation, Chalkboard
13.	Week-31 (2 Contact Hours)	Surveying - Classification-Chain Survey-Ranging- Compass Survey	Power Point Presentation, Chalkboard
14.	Week-32 (2 Contact Hours)	Exhibition of different survey equipment.	Power Point Presentation, Chalkboard

 22nd June 2023

Closure of all class work

COURSE ASSESSMENT METHODS

Sl. No.	Mode of Assessment	Week / Date	Duration	% Weightage
1	Cycle Test -1/Assessment-1	Week 24 (24-26 Apr 2023)	1 hour	20
2	Cycle Test -2/Assessment-1	Week 28 (22-24 May 2023)	1 hour	20
3	Assignment -1	Week 23 (17-Apr-2023)	-	10
4	Assignment -2	Week 30 (8-Jun-2023)	-	10
CPA	Compensation Assessment*	Week 33 (26-June-2023)	1 hour	20*
5	Final Assessment	Week 34,35 (3-10 July 2023)	3 hours	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 McGraw Hill, 2000.
5. Regular class - Lecture Slides (circulated)
6. NPTEL materials <https://nptel.ac.in/courses/>

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

The purpose of this survey is to find out from students, about their learning experiences and their thoughts about the course. Students' replies are very important to assist us in better serving our graduate students. Students are assured that their comments will remain absolutely confidential and I/we will not be able to identify any individuals from other participants.

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

COURSE POLICY (including Compensation assessment)

1. Attending all the assessments (Assessment 1 to 5) is MANDATORY for every student.
2. If any student is not able to attend Assessment-1 / Assessment-2 due to genuine reason, student is permitted to attend the respective assessment as compensation assessment (CPA) with the same weightage.
3. At any case, CPA will not be considered as an improvement test.
4. The passing minimum for the course shall be 35% or Class Average/2, whichever is maximum. Also, A minimum of 20% in final Assessment.
5. The award of "S" grade in the course restricted to a maximum of 10% of the total number of students appeared for the theory courses.

ATTENDANCE POLICY

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.

- a) At least 75% attendance in the course is mandatory.
- b) A maximum of 10% shall be allowed under On Duty (OD) category
- c) Students with less than 65% of attendance shall be prevented from writing the end assessment and shall be awarded 'V' grade.

The percentage of attendance shall be computed as:

For calculation of attendance in normal cases:

$$\text{Percentage of Attendance} = \frac{\text{Actual no. of classes attended}}{\text{Total no. of classes held}} \times 100$$

This should be 75% for the student to appear for end assessment.

Academic Dishonesty and Plagiarism**Academic Dishonesty**

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes.

Plagiarism

It means knowingly presenting another person's ideas, findings or work as one's own by copying or reproducing them without due acknowledgement of the source, with intent to deceive the examiner into believing that the content is original to the student. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work.

All of the following are considered plagiarism:

- copying words or ideas from someone else without giving credit
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work
- Failing to give credit for ideas and concepts, date and information, statements and phrases, and/or interpretations and conclusions derived by another.

ADDITIONAL INFORMATION

1. All the students are advised to check their NIT-T webmail regularly to know the updates.
2. All the correspondence (schedule of classes / schedule of assessment / course material / any other information regarding this course) will be communicated through **Class Representatives**
3. Queries / Clarifications / Discussions (if required) may be e-mailed to me / contact me (Room C-19 Dept. of Civil Engg., NITT) during the working hours with **prior intimation**.

FOR APPROVAL

V. Raghava Kumar
30/03/23

Dr. Vanama Raghava Kumar
Course Faculty

Direct

Chairperson (Class Committee)

C. S. Thi. N. S.

HoD