



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 Instrumentation and Control Engineering																																																																																												
Course Title	Basics of Civil Engineering																																																																																												
Course Code	CEIR11	No. of Credits	2																																																																																										
Course Code of Pre-requisites	-																																																																																												
Session	July / January 2022	Section (if applicable)	B																																																																																										
Name of the Faculty	Dr. Raghavan R	Department	Civil Engineering																																																																																										
E-Mail	raghavanr@nitt.edu	Telephone No.	9940449658																																																																																										
Name of Course Coordinator(s) (if applicable)	-	-	-																																																																																										
E-Mail	-	Telephone No.	-																																																																																										
Course Type	√	General Institute Requirement (GIR)																																																																																											
		Programme Core (PC)																																																																																											
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		Open Elective (OE)																																																																																											
		Minor (MI)																																																																																											
		Essential Laboratory Requirement (ELR)																																																																																											
COURSE CONTENT (approved in BoS)																																																																																													
<p>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.</p>																																																																																													
COURSE LEARNING OBJECTIVES (CLO)																																																																																													
<ul style="list-style-type: none"> • 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:		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">COs</th> <th colspan="12">Programme Outcomes (PO)</th> </tr> <tr> <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> <th>12</th> </tr> </thead> <tbody> <tr> <td>C01</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>1</td> <td>1</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>C02</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>2</td> <td>-</td> <td>2</td> <td>2</td> <td>1</td> <td>-</td> <td>-</td> </tr> <tr> <td>C03</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>2</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> <td>1</td> </tr> <tr> <td>C04</td> <td>2</td> <td>2</td> <td>-</td> <td>-</td> <td>1</td> <td>-</td> <td>-</td> <td>-</td> <td>1</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>C05</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>2</td> <td>2</td> <td>1</td> <td>-</td> <td>-</td> <td>-</td> <td>1</td> </tr> </tbody> </table>		COs	Programme Outcomes (PO)												1	2	3	4	5	6	7	8	9	10	11	12	C01	2	-	-	-	-	-	1	1	2	-	-	-	C02	2	-	-	-	-	2	-	2	2	1	-	-	C03	2	-	-	-	-	-	2	2	-	-	-	1	C04	2	2	-	-	1	-	-	-	1	-	-	-	C05	2	-	-	-	-	2	2	1	-	-	-	1
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C01	acquire knowledge on construction materials in civil Engineering	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>1. Engineering Knowledge</td> <td>2. Problem analysis</td> </tr> <tr> <td>3. Design / development of solutions</td> <td>4. Conduct investigations of complex problems</td> </tr> <tr> <td>5. Modern tool usage</td> <td>6. The engineer and society</td> </tr> <tr> <td>7. Environment and Sustainability</td> <td>8. Ethics</td> </tr> <tr> <td>9. Individual and Team Work</td> <td>10. Communication</td> </tr> <tr> <td>11. Project Management and Finance</td> <td>12. Life-long learning</td> </tr> </tbody> </table>		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																																																																														
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C02	get familiarize with various building components and their functions.																																																																																												
C03	identify different pavement materials, road markings, traffic signs and signals.																																																																																												
C04	recognize various type of surveying and survey equipment.																																																																																												
C05	Outline water, waste water quality and their treatments																																																																																												
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COURSE OVERVIEW																																																																																													
<p>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.</p> <p>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.</p>																																																																																													

COURSE TEACHING AND LEARNING ACTIVITIES

Sl. No.	Week / Contact Hours	Topic	Mode of Delivery
1.	Week-1 (2 Contact Hours)	Introduction to CEIR11- CLO, Syllabus, CO, Attendance policy etc. Introduction to Civil Engineering and its specializations	Power Point Presentation, Chalkboard
2.	Week-2 (2 Contact Hours)	Buildings & Types, Site selection for buildings - importance and factors to consider	Power Point Presentation, Chalkboard
3.	Week-3 (2 Contact Hours)	Component of building; Foundation- Shallow and deep foundations, Plastering - Lintels, beams and columns – Roofs	Power Point Presentation, Chalkboard
4.	Week-4 (2 Contact Hours)	Quiz 1 Construction materials -Introduction; Stones: Classification, properties, testing, applications/uses, Brick and stone masonry	Power Point Presentation, Chalkboard
5.	Week-5 (2 Contact Hours)	Construction materials - Bricks: Manufacturing process, types, properties, tests, classification and applications/uses	Power Point Presentation, Chalkboard
6.	Week-6 (2 Contact Hours)	Construction materials - Cement: Manufacturing process, types, properties, tests, and applications/uses	Power Point Presentation, Chalkboard
7.	Week-7 (2 Contact Hours)	Construction materials - Concrete: Constituents and their role, grades, properties and applications/uses;	Power Point Presentation, Chalkboard
8.	Week-8 (2 Contact Hours)	Construction materials - Steel: Manufacturing process, types, properties, tests, applications/uses	Power Point Presentation, Chalkboard
9.	Week-9 (2 Contact Hours)	Quiz 2 Introduction to Transportation Engineering Roads-Classification of Rural and urban Roads- Pavement Materials	Power Point Presentation, Chalkboard
10.	Week-10 (2 Contact Hours)	Traffic engineering, Traffic signs and road Marking- Traffic Signals.	Power Point Presentation, Chalkboard
11.	Week-11 (1 Contact Hour)	Quiz 3 Introduction to water resource and environmental engineering, Sources of Water, Dams, Water Supply, Quality of Water	Power Point Presentation, Chalkboard
12.	Week-12 (2 Contact Hours)	Wastewater Treatment, Sea Water Intrusion, Recharge of Ground Water.	Power Point Presentation, Chalkboard
13.	Week-13 (2 Contact Hours)	Quiz 4 Surveying - Classification-Chain Survey-Ranging- Compass Survey, Exhibition of different survey equipment.	Power Point Presentation, Chalkboard
15 th February 2023		Closure of all class work	

COURSE ASSESSMENT METHODS

Sl. No.	Mode of Assessment	Week / Date	Duration	% Weightage
1	Quiz 1 (Objective Type)	Week 4	30 mins	15
2	Quiz 2 (Objective Type)	Week 8	30 mins	15
3	Quiz 3(Objective Type)	Week 11	30 mins	15
4	Quiz 4(Objective Type)	Week 13	30 mins	15
CPA	Compensation Assessment*	Week 14	60 mins	15
5	Assignment	-	-	10
6	Final Assessment (Descriptive)	Week 14 or 15	3 hrs	30

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)

- Kbort
- Exit survey from the students at the end of the session through questionnaire - MIS

COURSE POLICY (including Compensation assessment)

1. Attending all the assessments (Quiz 1 to 4 and final assessment) is MANDATORY for every student.
2. If any student is not able to attend any one quiz due to genuine reason, student is permitted to attend the compensation assessment (CPA) with the same weightage, but on entire syllabus.
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.

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.

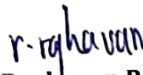
All of the following are considered plagiarism:

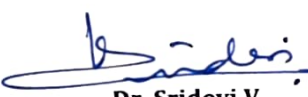
- copying words or ideas from someone else without giving credit
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work
- Failing to give credit for ideas and concepts, date and information, 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-17 Dept. of Civil Engg., NITT) during 9:30 AM to 6.00 PM on all working days with **prior intimation**.

FOR APPROVAL


Raghavan R
Course Faculty


Dr. Sridevi V
Chairperson (Class Committee)


HoD, ICE