

Academic Course Description

BHARATH UNIVERSITY Faculty of Engineering and Technology Department of CIVIL ENGINEERING BCE201 BASIC CIVIL ENGINEERING First Semester, 2016-17 (Odd Semester)

Course (catalogue) description

Understand the basic concepts of civil engineering.

Compulsory/Elective course : Compulsory for all branches
 Credit & Contact hours : 2 & 30
 Course Coordinator : Mr.Pradeep saravanan, Asst. Professor

Instructors :

Name of the instructor	Class handling	Office location	Office phone	Email (domain:@ bharathuniv.ac.in)	Consultation
MR.PRADEEP SARAVANAN	All First Year Students	FIRST YEAR MAIN BULIDING		asstprofpradeep2015@gmail.com	9.00-9.50 AM

Relationship to other courses:

Pre –requisites : The student will understand the components of buildings, Structural component design.
 Assumed knowledge : The students will have understand the components of buildings and learn the engineering aspects to dams , water supply and sewage disposal.
 Following courses : Nil

Syllabus

UNIT- I CIVIL ENGINEERING MATERIALS 8
 Introduction – Civil Engineering – Materials – Stones – Bricks – Sand – Cement – Plain Concrete – Reinforced Cement Concrete – Steel Sections – Timber – Plywood – Paints – Varnishes (simple examples only)

UNIT- II SURVEYING 5
 Surveying – objectives – classification – principles of survey-Measurement of distances – Chain survey – Determination of areas – Use of compass – Use of leveling Instrument – (simple examples only)

UNIT- III FOUNDATION FOR BUILDING 5
 Bearing Capacity of Soil – Foundation – Functions – Requirement of good foundations – Types of foundations – Merits & Demerits.

UNIT- IV SUPERSTRUCTURE 7
 Stone Masonry – Brick Masonry – Columns – Lintels – Beams – Roofing – Flooring – Plastering– White Washing (Simple examples only)

UNIT- V MISCELLANEOUS TOPICS 5

Types of Bridges –Dam- purpose – selection of site - Types of Dams – Water Treatment & Supply sources – standards of drinking- distribution system. – Sewage Treatment (simple examples only)

Computer usage: Nil

Professional component

General	-	0%
Basic Sciences	-	0%
Engineering sciences & Technical arts	-	100%
Professional subject	-	0%

Broad area : Structural component design | Dam construction | Sewage treatment | Surveying

Test Schedule

S. No.	Test	Tentative Date	Portions	Duration
1	Cycle Test-1	February 1 st week	Session 1 to 14	2 Periods
2	Cycle Test-2	March 2 nd week	Session 15 to 28	2 Periods
3	Model Test	April 2 nd week	Session 1 to 45	3 Hrs
4	University Examination	TBA	All sessions / Units	3 Hrs.

Mapping of Instructional Objectives with Program Outcome

To develop Understand the basic concepts of civil engineering This course emphasizes:	Correlates to program outcome		
	H	M	L
1. To help students develop the knowledge in civil engineering.	b,c,d,j	a,f,k	e,g
2. To help students Drawing and chart preparation	b,c,f	a,d,g,h	j
3. To help the student s loading calculation for construction buildings	a,d,e	b,g	j,k
4. To help students understand the components of buildings	a,d,e	b,g,h,k	f,j
5. To enable students selection of site, surveying the area, learning the dam , sewage treatment and water treatment .	k,e	a,b,c,g	j,k

H: high correlation, M: medium correlation, L: low correlation

Draft Lecture Schedule

Session	Topics	Problem solving (Yes/No)	Text / Chapter
UNIT I CIVIL ENGINEERING MATERIALS			
1.	Introduction	No	[T1]
2.	Civil Engineering	No	
3.	Materials	No	
4.	Stones , bricks, sand	No	
5.	Cement	No	
6.	Plain concrete	No	
7.	Reinforced Cement Concrete	No	
8.	Steel Sections	No	
9.	Timber	No	
10.	Plywood	No	
UNIT II SURVEYING			
11.	Surveying, objectives, classification	Yes	[T1]
12.	principles of survey	Yes	
13.	Measurement of distances	Yes	
14.	Chain survey	Yes	
15.	Determination of areas	Yes	
16.	Use of compass	Yes	
17.	Use of leveling Instrument (simple examples only)	Yes	
UNIT III FOUNDATION FOR BUILDING			
18.	Bearing Capacity of Soil	Yes	[T1]
19.	Foundation	Yes	
20.	Functions	Yes	
21.	Requirement of good foundations, Types of	Yes	

	foundations, Merits & Demerits.		
UNIT IV SUPERSTRUCTURE			
22.	Stone Masonry, Brick Masonry	Yes	[T1]
23.	Columns , Lintels, Beams	Yes	
24.	Roofing, Flooring	Yes	
25.	Plastering- White Washing (Simple examples only)	Yes	
UNIT V MISCELLANEOUS TOPICS			
26.	Types of Bridges	Yes	[T1]
27.	Dam- purpose , Types of Dams, Selection of site	Yes	
28.	Water Treatment & Supply sources, Standards of drinking	Yes	
29.	Distribution system.	Yes	
30.	Sewage Treatment (simple examples only)	Yes	

Teaching Strategies

The teaching in this course aims at establishing a good fundamental understanding of the areas covered using:

- Formal face-to-face lectures
- Tutorials, which allow for exercises based on grammar and allow time for students to come up with the answers after understanding the grammatical rules.
- Writing sessions, which support the formal lecture material and also provide the student with listening, speaking, reading and writing skills.
- Group discussions and seminar to enhance the speaking skills.

Evaluation Strategies

Cycle Test – I	-	5%
Cycle Test – II	-	5%
Model Test	-	10%
Assignments/Seminar/online test/quiz	-	5%
Attendance	-	5%
Final exam	-	70%

Prepared by: Mr.Pradeep saravanan, Assistant professor

Dated :

Addendum

ABET Outcomes expected of graduates of B.Tech / ECE / program by the time that they graduate:

- a. An ability to apply knowledge of mathematics, science, and engineering
- b. An ability to design and conduct experiments, as well as to analyze and interpret data
- c. An ability to design a hardware and software system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d. An ability to function on multidisciplinary teams
- e. An ability to identify, formulate, and solve engineering problems
- f. An understanding of professional and ethical responsibility
- g. An ability to communicate effectively
- h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i. A recognition of the need for, and an ability to engage in life-long learning
- j. A knowledge of contemporary issues
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Program Educational Objectives

PEO1: PREPARATION

Electronics Engineering graduates are provided with a strong foundation to passionately apply the fundamental principles of mathematics, science, and engineering knowledge to solve technical problems and also to combine fundamental knowledge of engineering principles with modern techniques to solve realistic, unstructured problems that arise in the field of Engineering and non-engineering efficiently and cost effectively.

PEO2: CORE COMPETENCE

Electronics engineering graduates have proficiency to enhance the skills and experience to apply their engineering knowledge, critical thinking and problem solving abilities in professional engineering practice for a wide variety of technical applications, including the design and usage of modern tools for improvement in the field of Electronics and Communication Engineering.

PEO3: PROFESSIONALISM

Electronics Engineering Graduates will be expected to pursue life-long learning by successfully participating in post graduate or any other professional program for continuous improvement which is a requisite for a successful engineer to become a leader in the work force or educational sector.

PEO4: SKILL

Electronics Engineering Graduates will become skilled in soft skills such as proficiency in many languages, technical communication, verbal, logical, analytical, comprehension, team building, interpersonal relationship, group discussion and leadership ability to become a better professional.

PEO5: ETHICS

Electronics Engineering Graduates are morally boosted to make decisions that are ethical, safe and environmentally-responsible and also to innovate continuously for societal improvement

Course Teacher	Signature
Mr.Pradeep saravanan	

Course Coordinator

HOD/EEE