Academic Course Description

BHARATH UNIVERSITY
Faculty of Engineering and Technology
Department of CIVIL ENGINEERING
BCE201 BASIC CIVIL ENGINEERING
Second Semester (Even Semester)

Course (catalogue) description

Understand the basic concepts of civil engineering.

Compulsory/Elective course : Compulsory for all branches
Credit & Contact hours : 2 and 30 hours
Course Coordinator : Mr.Pradeep Kumar
Instructors : Mr.Pradeep Kumar

Name of the instructor	Class handling	Office location	Office phone	Email (domain:@ bharathuniv.ac.in	Consultation
Mr.Pradeep Kumar	All First Year Students	FIRST YEAR MAIN BULIDING	**04422290125**	asstprofpradeep2015@gmail.com	9.00-9.50 AM

Relationship to other courses:

Pre –requisites **:** +2 Level Math's & Physical Science

Assumed knowledge : The students will have understand the components of buildings and learn the engineering aspects to dams , water supply and sewage disposal.

Syllabus Content:

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 1st week	Session 1 to 13	2 Periods
2	Cycle Test-2	March 1st week	Session 14 to 25	2 Periods
3	Model Test	April 2nd week	Session 1 to 30	3 Hrs
4	University Examination	TBA	All sessions / Units	3 Hrs.

Session	Topics	Problem solving (Yes/No)	Text / Chapter	Mapping

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,m,d,j	a,f,k	e,g
2. To help students Drawing and chart preparation	b,c,f	a,d,g,h	j,m
3. To helb the student s loading calculation for construction buildings	a,d,e	b,g,n	j,k
4. To help students understand the components of buildings	a,d,e,n	b,g,h,k	f,j
5. To enable students selection of site,surveying the area, learning the dam , sewage treatment and water treatment .	n,k,e	a,b,c,m,g	j,k

of Instructional Objectives with Program Outcome

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

Draft Lecture Schedule

UNIT I	**CIVIL ENGINEERING MATERIALS**		
1.	Introduction, Civil Engineering	No	[T1]
2.	Materials , Stones	No	
3.	Bricks , Sand	No	
4.	Cement	No	
5.	Plain concrete	No	
6.	Reinforced Cement Concrete Steel Sections	No	
7.	Timber	No	
8.	Plywood	No	
UNIT II	**SURVEYING**		
9.	Surveying , classification	No	[T1]
10.	principles of survey, Measurement of distances	No	
11.	Chain survey	No	
12.	Determination of areas, Use of compass	No	
13.	Use of leveling Instrument (simple examples only)	No	
UNIT III	**FOUNDATION FOR BUILDING**		
14.	Bearing Capacity of Soil	No	[T1]
15.	Foundation	No	
16.	Functions	No	
17.	Requirement of good foundations	No	
18.	Types of foundations , Merits & Demerits.	No	
UNIT IV	**SUPERSTRUCTURE**		
19.	Stone Masonry	No	[T1]
20.	Brick Masonry	No	
21.	Columns	No	
22.	Lintels	No	
23.	Beams	No	
24.	Roofing , Flooring	No	
25.	Plastering- White Washing (Simple examples only)	No	

	UNIT V MISCELLANEOUS TOPICS		
26.	Types of Bridges , Dam- purpose	No	[T1]
27.	Selection of site, Types of Dams Water Treatment & Supply sources	No	
28.	Standards of drinking	No	
29.	Distribution system.	No	
30.	Sewage Treatment (simple examples only)	No	

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%
Assignment	-	5%
Attendance	-	5%
Final exam	-	70%

Prepared by: Mr.Pradeep Kumar **Dated :**

Addendum

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

a) An ability to apply knowledge of mathematics, science, and engineering fundamentals.

b) An ability to identify, formulate, and solve engineering problems.

c) An ability to design a system, component, or process to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

d) An ability to design and conduct experiments, as well as to analyze and interpret data.

e) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

f) An ability to apply reasoning informed by the knowledge of contemporary issues.

g) An ability to broaden the education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

h) An ability to understand professional and ethical responsibility and apply them in engineering practices.

i) An ability to function on multidisciplinary teams.

j) An ability to communicate effectively with the engineering community and with society at large.

k) An ability in understanding of the engineering and management principles and apply them in project and finance management as a leader and a member in a team.

l) An ability to recognize the need for,and an ability to engage in life-long learning.

Program Educational Objectives

PEO1: PREPARATION
Electrical Engineering Graduates are in position with the knowledge of Basic Sciences in general and Electrical Engineering in particular so as to impart the necessary skill to analyze and synthesize electrical circuits, algorithms and complex apparatus.

PEO2: CORE COMPETENCE
Electrical Engineering Graduates have competence to provide technical knowledge, skill and also to identify, comprehend and solve problems in industry, research and academics related to power, information and electronics hardware.

PEO3: PROFESSIONALISM
Electrical Engineering Graduates are successfully work in various Industrial and Government organizations, both at the National and International level, with professional competence and ethical administrative acumen so as to be able to handle critical situations and meet deadlines.

PEO4: SKILL

Electrical Engineering Graduates have better opportunity to become a future researchers/ scientists with good communication skills so that they may be both good team-members and leaders with innovative ideas for a sustainable development.

PEO5: ETHICS

Electrical Engineering Graduates are framed to improve their technical and intellectual capabilities through life-long learning process with ethical feeling so as to become good teachers, either in a class or to juniors in industry.

Course Teacher	Signature
Mr.Pradeep Kumar	

Course Coordinator **HOD/EEE**

(Mr.Pradeep Kumar) ( )