

Academic Course Description

BHARATH UNIVERSITY
 Faculty of Engineering and Technology
 Department of Mechanical Engineering
BCE101 BASIC CIVIL ENGINEERING
First Semester, 2015-16 (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.Meikandan

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 understood the components of buildings and learn the engineering aspects to dams, water supply and sewage disposal.

Following courses : Nil

Computer usage: Nil

Professional component

General	-	50%
Basic Sciences	-	0%
Engineering sciences & Technical arts	-	0%
Professional subject	-	50%

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

Test Schedule

S. No.	Test	Tentative Date	Portions	Duration
1	Cycle Test-1	August 1 st week	Session 1 to 14	2 Periods
2	Cycle Test-2	September 2 nd week	Session 15 to 28	2 Periods
3	Model Test	October 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,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 help 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

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	No	
5.	Bricks	No	
6.	Sand	No	
7.	Cement	No	
8.	Plain concrete	No	
9.	Reinforced Cement Concrete	No	
10.	Steel Sections	No	
11.	Timber	No	
12.	Plywood	No	
UNIT II SURVEYING			
13.	Surveying	Yes	[T1]
14.	objectives	Yes	
15.	classification	Yes	
16.	principles of survey	Yes	
17.	Measurement of distances	Yes	
18.	Chain survey	Yes	
19.	Determination of areas	Yes	
20.	Use of compass	Yes	
21.	Use of leveling Instrument (simple examples only)	Yes	
UNIT III FOUNDATION FOR BUILDING			

22.	Bearing Capacity of Soil	Yes	[T1]
23.	Foundation	Yes	
24.	Functions	Yes	
25.	Requirement of good foundations	Yes	
26.	Types of foundations	NO	
27.	Merits & Demerits.	NO	
UNIT IV SUPERSTRUCTURE			
28.	Stone Masonry	Yes	[T1]
29.	Brick Masonry	Yes	
30.	Columns	Yes	
31.	Lintels	Yes	
32.	Beams	Yes	
33.	Roofing	Yes	
34.	Flooring	Yes	
35.	Plastering- White Washing (Simple examples only)	Yes	
UNIT V MISCELLANEOUS TOPICS			
36.	Types of Bridges	Yes	[T1]
37.	Dam- purpose	Yes	
38.	Selection of site	Yes	
39.	Types of Dams	Yes	
40.	Water Treatment & Supply sources	Yes	
41.	Standards of drinking	Yes	
42.	Distribution system.	Yes	
43.	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.
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Cycle Test – I	-	5%
Cycle Test – II	-	5%
Model Test	-	10%
Attendance	-	5%
Seminar / Assignments / online tests / Quiz	-	5%
Final exam	-	70%

Prepared by: Mr.Pradeep saravanan, Assistant professor

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Addendum

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

- a) The ability to apply knowledge of mathematics, science, and engineering fundamentals.
- b) The ability to identify, formulate and solve engineering problems.
- c) The 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) The ability to design and conduct experiments, as well as to analyze and interpret data
- e) The ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- f) The ability to apply reasoning informed by the knowledge of contemporary issues.
- g) The ability to broaden the education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- h) The ability to understand professional and ethical responsibility and apply them in engineering practices.
- i) The ability to function on multidisciplinary teams.
- j) The ability to communicate effectively with the engineering community and with society at large.

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

Program Educational Objectives

PEO1: PREPARATION:

Mechanical Engineering graduates are enthusiastic to provide strong foundation in mathematical, scientific and engineering fundamentals necessary to analyze, formulate and solve engineering problems in the field of Mechanical Engineering.

PEO2: CORE COMPETENCE:

Mechanical Engineering graduates have competence to enhance the skills and experience in defining problems in the field of Mechanical Engineering and Technology design and implement, analyzing the experimental evaluations, and finally making appropriate decisions.

PEO3: PROFESSIONALISM:

Mechanical Engineering graduates made competence to enhance their skills and embrace new thrust areas through self-directed professional development and post-graduate training or education.

PEO4: PROFICIENCY:

Mechanical Engineering graduates became skilled to afford training for developing soft skills such as proficiency in many languages, technical communication, verbal, logical, analytical, comprehension, team building, inter personal relationship, group discussion and leadership skill to become a better professional.

PEO5: ETHICS:

Mechanical Engineering graduates are morally merged to apply the ethical and social aspects of modern Engineering and Technology innovations to the design, development, and usage of new products, machines, gadgets, devices, etc.

Course Teacher	Signature
Mr.Pradeep saravanan	

Course Coordinator

HOD/MECH

(Mr.Meikandan)