DEPARTMENT OF CIVIL ENGINEERING

SCHEME OF COURSE WORK

Course Details:

Course Title	**HUMAN VALUES & PROFESSIONAL ETHICS**
Course Code	**20HM11Z1**
L T P C	**2 0 0 0**
Program	**B.Tech.**
Specialization	**CIVIL ENGINEERING**
Semester	**III**
Prerequisites	**None**
Courses to which it is a prerequisite	**None**

COURSE OUTCOMES (COs):

After completion of this course the student would be able to

CO	Course Outcomes	Learning Outcomes
1	Explain various concepts of ethics and ethical issues	1. Define morals, values & work ethics. (L1) 2. Demonstrate respecting others and developing civic virtue. (L3) □ 3. Describe commitment (L1) □ 4. Describe how to live peacefully (L1)
2	Describe various theories relating to professional ethics at work place	1. Summarise ethical responsibilities of the engineers. (L2) 2. Describe various theories of professional ethics. (L2) □ 3. Explain about time management (L3) □ 4. Recite different professional roles and theories. (L1)
3	Determine the fundamental concepts of social experimentation and problem solving	1. Describe issues relating to social experimentation. (L3) □ 2. Determine the process of framing the problem and the facts. (L2) □ 3. Summarise the concept of code of ethics. (L2) 4. Demonstrate the concept of utilitarian thinking (L3)
4	Understand an engineer responsibility for social safety and concepts of risk benefits	1. Define safety, risk & risk benefit analysis. (L1)□ 2. Describe engineers responsibility for providing safety. (L1) □ 3. Summarise Intellectual Property Rights. (L2)
5	Describe human values and environment in the era of digitisation and globalisation of workplace.	1. Interpret changes in human value system in the era of globalisation. (L2) □ 2. Understand the computer ethics and environmental ethics (L2) □ 3. Outline ethical issues relating to weapons development. (L4) □ 4. Describe ethical problems in research. (L2)

PROGRAMME OUTCOMES

1. Graduates will be able to apply the knowledge of mathematics, science, engineering fundamentals to solve complex civil engineering problems.
2. Graduates will attain the capability to identify, formulate and analyse problems related to civil engineering and substantiate the conclusions
3. Graduates will be in a position to design solutions for civil engineering problems and design system components and processes that meet the specified needs with appropriate consideration to public health and safety.
4. Graduates will be able to perform analysis and interpretation of data by using research methods such as design of experiments to synthesize the information and to provide valid conclusions.
5. Graduates will be able to select and apply appropriate techniques from the available resources and modern civil engineering and software tools, and will be able to predict and model complex engineering activities with an understanding of the practical limitations.
6. Graduates will be able to carry out their professional practice in civil engineering by appropriately considering and weighing the issues related to society and culture and the consequent responsibilities.
7. Graduates will be able to understand the impact of the professional engineering solutions on environmental safety and legal issues.
8. Graduates will transform into responsible citizens by resorting to professional ethics and norms of the engineering practice.
9. Graduates will be able to function effectively in individual capacity as well as a member in diverse teams and in multidisciplinary streams.
10. Graduates will be able to communicate fluently on complex engineering activities with the engineering community and society, and will be able to prepare reports and make presentations effectively.
11. Graduates will be able to demonstrate knowledge and understanding of the engineering and management principles and apply the same while managing projects in multidisciplinary environments.
12. Graduates will engage themselves in independent and life-long learning in the broadest context of technological change while continuing professional practice in their specialized areas of civil engineering.

PROGRAMME SPECIFIC OUTCOMES(PSOs):

1. Collect, process and analyse the data from topographic surveys, remote sensing, hydrogeological investigations, geotechnical explorations, and integrate the data for planning of civil engineering infrastructure.
2. Analyse and design of substructures and superstructure for buildings, bridges, irrigation structures and pavements.
3. Estimate, cost evaluation, execution and management of civil engineering projects.

Course Outcome Vs Program Outcomes:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	--	3	--	--	2	--	--	3	--	--	--	--
CO2	--	3	--	--	--	3	--	3	--	--	--	--
CO3	--	--	--	--	--	--	--	--	--	3	--	--
CO4	--	--	--	--	--	--	--	--	--	3	3	--
CO5	--	--	--	--	3	3	--	2	3	--	--	--

Course Outcome Vs Programme Specific Outcomes:

CO	PSO1	PSO2	PSO3
CO1	2	1	2
CO2	--	--	--
CO3	--	--	--
CO4	3	3	3
CO5	--	--	--

Mapping Levels:
1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), put --: No Correlation

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam

Teaching-Learning and Evaluation:

Week	TOPIC / CONTENTS	CO	Sample questions	Teaching-learning strategy	Assessment Method & Schedule
1	**UNIT I: HUMAN VALUES:** Morals, Values and Ethics – Integrity-Work Ethics -Service learning.	1	Differentiate between Morals and values. Explain Work ethics	Lecture Power point presentation	**END EXAM**
2	Civic Virtue – Respect for others –Living Peacefully – Caring– Sharing –Honesty	1	Explain Civic Virtue Define caring and sharing	Lecture Power point presentation	

3	Courage–Cooperation– Commitment – Empathy –Self Confidence, Character and Spirituality	1	Explain Self Confidence Discuss about Courage.	Lecture Power point presentation	
4	**UNIT II: ENGINEERING ETHICS:** Senses of Engineering Ethics-Variety of moral issued – Types of inquiry –Moral dilemmas –Moral autonomy	1	Explain Senses of Engineering Ethics in detail,	Lecture Power point presentation	**END EXAM**
5	Kohlberg's theory-Gilligan's theory- Consensus and controversy –Models of professional Roles	2	What are the differences between Kohlberg's theory and Gilligan's theory	Lecture Power point presentation	
6	Theories about right action-Self interest -Customs	2	Explain about theories about right action Explain about Customs	Lecture Power point presentation	
7	Uses of Ethical theories –Valuing time, Cooperation – Commitment.	2	What are the Uses of Ethical theories Discuss about Valuing time	Lecture Power point presentation	
8	**UNIT III:ENGINEERING AS SOCIAL EXPERIMENTATION:** Engineering As Social Experimentation – Framing the problem	3	Explain about Engineering As Social Experimentation	Lecture Power point presentation	**END EXAM**
9	Determining the facts –Codes of Ethics-Clarifying Concepts – Application issues		Explain about Codes of Ethics	Lecture Power point presentation	
10	Common Ground General Principles –Utilitarian thinking - respect for persons	3	Explain about Common Ground. Discuss about Utilitarian theory	Lecture Power point presentation	
11	**UNIT IV: ENGINEERS RESPONSIBILITY FOR SAFETY AND RISK** Safety and Risk –Assessment of safety and risk	4	Define Safety and Risk Explain about Assessment of safety and risk	Lecture Power point presentation	
12	Risk benefit analysis and reducing risk - Safety and the Engineer	4	Explain about Risk benefit analysis Discuss about Safety and the Engineer	Lecture Power point presentation	

13	Designing for the safety- Intellectual Property Rights (IPR)	4	Discuss about designing for the safety Explain Intellectual Property Rights	Lecture Power point presentation	
14	**UINIT V: GLOBAL ISSUES** Globalization –Cross culture issues- Environmental Ethics – Computer Ethics	5	Explain Cross culture issues What is meant by Environmental Ethics	Lecture Power point presentation	
15	Computers as the Instrument of Unethical behaviour –Computers as the object of Unethical acts.	5	Explain Computers as the instrument of Unethical behaviour	Lecture Power point presentation	**END EXAM**
16	Autonomous Computers- Computer codes of Ethics – Weapons Development -	5	Explain about Computer codes of Ethics	Lecture Power point presentation	
17	Ethics and Research –Analyzing Ethical Problems in research	5	Explain about Analyzing Ethical Problems	Lecture Power point presentation	
18	**END EXAM**				