



FACULTY OF ENGINEERING & TECHNOLOGY

Second Year Master of Engineering

Semester III

Course Code: 102320301

Course Title: Industrial Safety & Planning

Type of Course: Professional Elective Course

Course Objectives: This subject is designed to develop the knowledge and skills towards Industrial Safety & Planning for same. Industrial safety study refers to the management of all operations and events within an industry in order to protect its employees and assets by minimizing hazards, risks, accidents, and near misses.

Teaching & Examination Scheme:

| Contact hours per week | | | Course Credits | Examination Marks (Maximum / Passing) | | | | |
|------------------------|----------|-----------|----------------|---------------------------------------|--------|----------|--------|--------|
| Lecture | Tutorial | Practical | | Internal | | External | | Total |
| | | | | Theory | J/V/P* | Theory | J/V/P* | |
| 3 | 0 | 2 | 4 | 40/16 | 20/8 | 60/24 | 30/12 | 150/60 |

* J: Jury; V: Viva; P: Practical

Detailed Syllabus:

| Sr. | Contents | Hours |
|-----|---|-------|
| 1 | THE CONCEPT OF SAFETY: Introduction to Industrial Safety, Losses due to Accident in Industries, Causes of Accident in Industries, Measures for Preventing Accident in Industries. | 5 |
| 2 | SAFETY EDUCATION & TRAINING General Safety Awareness, Use of Personal Protective Equipment (PPE), Specific Worksite Hazards, Industrial Safety Trainings-Refresher Training & Specific Training, Safety Efforts by Government & Role of Management in Industrial Safety, Safety Program, Safety Analysis | 10 |
| 3 | FACTORS AFFECTING INDUSTRIAL SAFETY Equipment Related Factors, Work Area Related Factors, Environmental Factors | 4 |
| 4 | SAFETY IN ENGINEERING INDUSTRIES General Safety Rules, Principles, Maintenance, Inspections of Machinery, Machine Guarding, Welding & Gas Cutting, Cold Forming & Hot Working of Metal. Safety in Finishing, Inspection and Testing | 5 |
| 5 | PLANNING OF INDUSTRIAL SAFETY Organizational Structure, Site Safety Plan, Safety Management & Inspection, Strategic Safety Goals, Identify/Control Safety Hazards, Safety Programs | 5 |



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|----------|---|-----------|
| 6 | CURRENT TREND IN LEGISLATIVE MEASURES IN INDUSTRY Factories Act, 1948, Workman's Compensation Act, 1948, Employees State Insurance Act, 1948. Mines Act, Air (Prevention and control) Pollution Act, 1981, Water (Prevention and Control) Pollution Act, 1974, Boiler Vessels Act. Child Labour and Women Employee Act. | 10 |
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Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

| Distribution of Theory Marks | | | | | | R: Remembering; U: Understanding; A: Application, N: Analyze; E: Evaluate; C: Create |
|------------------------------|----|----|----|----|----|---|
| R | U | A | N | E | C | |
| 25 | 25 | 20 | 10 | 10 | 10 | |

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

| | |
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| 1 | Accident Prevention Manual for Industrial Operations, N.S.C.Chicago |
| 2 | Industrial Accident Prevention, Heinrich H.W., McGraw-Hill Company |
| 3 | Safety in the use of wood working machines, HMSO |
| 4 | Health and Safety in welding and Allied processes, welding Institute, High Tech. Publishing |
| 5 | Safety Management in Industry, Krishnan N.V., Jaico Publishing House |
| 6 | Safety at Work, John Ridley, Butterworth & Co. |
| 7 | Industrial Safety, Roland P. Blake , Prentice Hall, Inc |
| 8 | Industrial safety management, L M Deshmukh, TATA McGraw Hill |

Course Outcomes (CO):

| Sr. | Course Outcome Statements | %weightage |
|-------------|---|------------|
| CO-1 | Understand Importance of Industrial Safety and Causes & losses of Accidents. | 30 |
| CO-2 | Apply Safety Measures to workplace through Industrial Safety Education and Training | 25 |
| CO-3 | Gaining knowledge of Safety in Engineering Industries | 25 |
| CO-4 | Learning current scenario of Industrial Safety Acts in Industries. | 20 |

List of Practicals / Tutorials:

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| | |
|----------|---|
| 1 | Introduction to Safety and Study of Accidents |
| 2 | Acquaintance with Safety Education and Training |
| 3 | Factors affecting Industrial Safety |
| 4 | Requirement of Safety in Engineering Industries |



CVM
UNIVERSITY

(Established under Gujarat Private Universities
(Second Amendment) Act : 2019 Gujarat Act No. 20 of 2019)

| | |
|----------|-------------------------------|
| 5 | Industrial Safety Planning |
| 6 | Industrial Safety Legislation |

| | |
|--------------------------------|----------|
| Curriculum Revision: | |
| Version: | 1 |
| Drafted on (Month-Year): | Feb-21 |
| Last Reviewed on (Month-Year): | Mar-21 |
| Next Review on (Month-Year): | |