GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

MASTER OF BUSINESS ADMINISTRATION

(FIRE AND INDUSTRIAL SAFETY) w.e.f. 2026-27

MASTER OF BUSINESS ADMINISTRATION

(FIRE AND INDUSTRIAL SAFETY)

SCHEME & SYLLABUS

W.E.F ACADEMIC SESSION 2026-27

GURU GOBIND SINGH
INDRAPRASTHA
UNIVERSITY
NEW DELHI

UNIVERSITY SCHOOL OF FIRE AND INDUSTRIAL SAFETY

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY

SECTOR-16 C DWARKA, NEW DELHI-110078 (INDIA)

Master of Business Administration
(Fire and Industrial Safety)

Programme Outcomes (POs)
By the end of the programme, students will demonstrate the ability to:

PO1: Apply management concepts, principles, and theories to address organizational challenges and improve work practices.

PO2: Analyze and evaluate fire and industrial safety policies, risk mitigation strategies, emergency planning frameworks, and safety auditing practices to support informed strategic decision-making.

PO3: Demonstrate and apply leadership, communication, and team management skills to effectively lead safety teams, manage projects, and implement safety protocols.

PO4: Assess and apply modern technologies and innovations in safety management, including advanced fire detection systems, safety equipment, and IoT-based safety monitoring solutions.

PO5: Identify, analyze, and solve managerial problems by collecting relevant data and applying creative, analytical, and evidence-based problem-solving approaches.

PO6: Evaluate emerging trends, technologies, and best practices in safety management and engage in continuous learning and research for professional development.

PO7: Evaluate and integrate principles of good governance, ethical conduct, corporate social responsibility, and long-term societal welfare into organizational and managerial practices.

PO8: Communicate effectively and collaborate professionally with diverse stakeholders while leading and working in teams to achieve organizational safety objectives.

PO9: Demonstrate a lifelong learning mindset by continuously learning, unlearning, and relearning to enhance professional competence and personal and social effectiveness.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI
MASTER OF BUSINESS ADMINISTRATION (MBA)

SCHEME OF EXAMINATIONS

Criteria for Internal Assessment

All theory courses have internal assessment of 40 marks and 60 marks for external examination. For the courses related to labs, summer training and projects, internal assessment is 40 marks and external examination is 60 marks.

The internal assessment of the students (out of 40 marks) shall be as per the criteria given below:

- Written Test Compulsory (to be conducted as per the Academic Calendar of the University.
- Individual Assignments / Presentation / Viva-Voice / Group Discussion / Class Participation.

Note: Records should be maintained by faculty and made available to the University,if required.

The student will be evaluated continuously during the semester as part of the internal assessment.

MAXIMUM & MINIMUM CREDITS OF THE PROGRAM

The total number of credits of the MBA (Fire and Industrial Safety) Programme is **104.**

Each student shall be required to appear for examination in all courses. However, to be awarded the degree, a student must secure at least **92** credits. The minimum required credits are 43 per year.

UNIVERSITY SCHOOL OF FIRE AND INDUSTRIAL SAFETY
GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY
NEW DELHI, INDIA

MBA (Fire and Industrial Safety)

SCHEME OF EXAMINATION *w.e.f.* 2026-27 Batch
in accordance with the NEP 2020 Guidelines
FIRST SEMESTER

Course Code	Course Title	Type	L	T/P	Credits
MFIS 101	Principles of Management	Core	2	-	2
MFIS 103	Information Technology Management	Core	2	-	2
MFIS 105	Managerial Economics	Core	2	-	2
MFIS 107	Basics of Fire and Industrial Safety	Core	2	-	2
MFIS 109	Fire Prevention	Core	2	-	2
MFIS 111	Life Safety	Core	2	-	2
MFIS 113	Fire Protection	Core	2	-	2
MFIS 115	Building Codes and Standards	Core	2	-	2
MFIS 117	MOOC/ Open Elective*	Ability Enhancement	2	-	2
MFIS 151	Field Visits / Presentation**	Ability Enhancement	-	-	4
MFIS 153	Project Work	Ability Enhancement	-	-	6
	Total				**28**

* The student is required to choose one MOOC course of 2 credits as per his or her preference/choice from the Swayam portal or any other online educational platform approved by the UGC / regulatory body from time to time. After completing the course, the student has to produce a successful course completion certificate to claim the credit. The course chosen by the student should be intimated to the MOOC Coordinator of the respective institution. Alternatively, the student can pursue any PG-level course offered on campus by any USS/College, with due intimation to the Program Coordinator/Dean/Director of the School/College.

** There may be one field visit for students in the 1st Semester, and the students will be required to submit a report and present it for evaluation.

SECOND SEMESTER

Course Code	Course Title	Type	L	T/P	Credits
MFIS 102	Marketing and Financial Management	Core	2		2
MFIS 104	Regulatory Framework for Industrial Safety	Core	2		2
MFIS 106	Communication in Organizations	Core	2		2
MFIS 108	Building Management System (BMS)	Core	2		2
MFIS 110	Performance Based Fire Design	Core	2		2
MFIS 112	Legal Framework for Disaster Management	Core	2		2
MFIS 114	Geoinformatics for Fire Risk Assessment	Core	2		2
MFIS 116	MOOC/Open Elective*	Ability Enhancement	2	-	2
MFIS 152	Field Visits / Presentation	Ability Enhancement	-	-	4
MFIS 154	Dissertation	Ability Enhancement	-	-	6
	Total				**26**

* The student is required to choose one MOOC course of 2 credits as per his or her preference/choice from the Swayam portal or any other online educational platform approved by the UGC / regulatory body from time to time. After completing the course, the student has to produce a successful course completion certificate to claim the credit. The course chosen by the student should be intimated to the MOOC Coordinator of the respective institution. Alternatively, the student can pursue any PG-level course offered on campus by any USS/College, with due intimation to the Program Coordinator/Dean/Director of the School/College.

THIRD SEMESTER

Course Code	Course Title	Type	L	T/P	Credits
MFIS 201	Summer Training Report	Ability Enhancement	-	-	6
MFIS 203	Supply Chain Management	Core	2	-	2
MFIS 205	Entrepreneurship Development	Core	2	-	2
MFIS 207	Operations Management	Core	2	-	2
MFIS 209	State Fire Service Acts, Rules & Byelaws	Core	2	-	2
MFIS 211	Behaviour – Based Safety	Core	2	-	2
MFIS 213	Fire Forensics	Core	2	-	2
MFIS 215	Organisational Safety Culture and Safety Leadership	Core	2	-	2
MFIS 217	Process Safety Management	Core	2	-	2
MFIS 219	Incident Response System	Core	2	-	2
	Total				**24**

FOURTH SEMESTER

Course Code	Course Title	Type	L	T/P	Credits
MFIS 202	Project Dissertation	Ability Enhancement	-	-	6
MFIS 204	Strategic Management	Core	2	-	2
MFIS 206	Corporate Social Responsibility and Indian Knowledge System	Ability Enhancement and Indian Knowledge System	2	-	2
MFIS 208	Fire Risk and Hazard Analysis of Built Environment	Core	2	-	2
MFIS 210	Hazard Identification and Risk Assessment of Industries	Core	2	-	2
MFIS 212	IOT based Fire and Industrial Safety	Core	2	-	2
MFIS 214	Occupational Safety and Health (OSH)	Core	2	-	2
MFIS 252	Research seminar	Skill Enhancement	-	-	8
	Total				**26**

MAXIMUM & MINIMUM CREDITS OF THE PROGRAM

The total number of credits of the MBA (Fire and Industrial Safety) Programme is 104. Each student shall be required to appear for examination in all courses. However, to be awarded the degree, a student must secure at least 92 credits. The minimum required credits are 43 per year.

In line with the NEP 2020 Guidelines, a student will be allowed to enter/re-enter the programme only in the odd semester and may exit only after the even semester. Re-entry at various levels as lateral entrants into academic programmes should be based on earned credits and proficiency tests, wherever applicable.

SEMESTER - I

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Principles of Management

Course Code: MFIS- 101 **L-2 Credits-2**

Course Outcomes (COs)

CO1: Apply fundamental management concepts, principles, and theories to analyze organizational structures and managerial functions in diverse organizational contexts.

CO2: Analyze managerial decision-making by integrating planning, organizing, directing, and controlling functions to enhance organbasicsizational effectiveness and efficiency.

CO3: Evaluate organizational behaviour factors such as motivation, leadership, group dynamics, and organizational culture to improve individual and team performance.

CO4: Demonstrate effective communication, leadership, and team management skills through case analysis, presentations, and collaborative problem-solving activities.

Course Content

Unit I
Introduction to Management: Meaning and Nature of Management, Evolution of Management, Tasks and Responsibilities of a Professional Manager, Management by Objectives, Case Studies.

Unit II
Process of Management: Planning- Concept, Process and Techniques, Directing - Definition, Principles and Process, Controlling - Definition, Process and Techniques, Decision Making - Concept, Importance and Models, Case Studies.

Unit III
Fundamentals of Organizational Behaviour: Meaning, nature and scope, OB Models merits and demerits, Personality concept and types, Perception and Attitude, Learning - concept and theories, Motivation - definition, importance and theories, Managing stress at Work concept and techniques, Organization Structure concept and types, Case Studies. Organizational Processes and Structure: Organizational Design and Structure, Organizational Culture and Climate, Cross-Cultural

Organizational Behavior.

Unit IV

Groups Dynamics: Concept and Types, Work Teams: definition and importance, Stages of team Building and its behavioral dynamics, Leadership Concept, Importance and Styles, Organizational Justice - Concept, Importance and Types. Change Management and Organizational Resilience.

Reading List:

1. Robbins. Judge, S.P., T.A., Vohra, N. Organizational Behaviour. Pearson Education Nahavandi, A. et al., Organizational Behavior. Sage Publication
2. Greenberg, J. and Baron, R.A. Behaviour in Organization. Pearson Education
3. Stoner, J.A.F., Freeman, R.E., Kodwani, A.D., et.al. Management. Pearson Education.
4. Newstorm, J.W. & Davis, K. Organizational Behaviour Human Behaviour at Work, McGraw Hill Education
5. Koontz, H, Weihrich, H, Mark V, Cannice, M.V. Essentials of Management - An International Innovation and Leadership Perspective, McGraw Hill.

Mapping of Course Outcomes with Program Outcomes and Program-Specific Outcomes

The Table depicts the degree of relationship between course outcomes and the programme outcomes, where "3" indicates a high degree of relationship, "2" indicates a moderate degree of relationship, and "1" indicates a low degree of relationship between CO and PO.

Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	2	1	2	1	1	2	1
CO2	3	3	2	1	3	2	1	2	1
CO3	2	2	3	1	2	2	2	3	1
CO4	2	1	3	1	2	2	2	3	2
AVG	**2.5**	**2**	**2.5**	**1**	**2.25**	**1.75**	**1.5**	**2.5**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Information Technology Management

Course Code: MFIS-103 **L - 2, Credits -2**

Course Outcomes (COs)

CO1: Apply fundamental concepts of information technology, computer systems, and software to support business and managerial processes.

CO2: Analyze data storage, database management, and networking systems to ensure efficient information processing, retrieval, and security.

CO3: Apply appropriate IT tools, including spreadsheets, databases, and web technologies, for data analysis, reporting, and decision support.

CO4: Evaluate emerging information technologies such as cloud computing, artificial intelligence, machine learning, and the Internet of Things for their managerial and organizational applications.

Course Content

Unit I

Information Technology: Components of IT systems, Characteristics and Classification of Computers; Computer Architecture; Computer Memory: Types of Memory, Storage devices, Mass Storage Systems; Concept of Cloud Computing, Data Centres, and their challenges.

Unit II

Computer Software: Types of Software; System Software: Introduction to Operating Systems, Need, Functions, and Types of Operating Systems; Introduction to GUI; Compiler, Interpreter, and Assembler; Types of Computer Programming Languages.
Application Software and their uses; Features of Good Software and emerging trends in software development; Spreadsheet and Presentation Software; Data Analysis using Excel; DBMS: Traditional File concepts and Database Environment, Database Management Systems Concepts, Types of Data Models, ER Modeling, Integrity Constraints, SQL queries.

Unit III

Data Communication and Networks: Concepts of Data Communication, Types of Data Communication Networks, Communications Media, Concepts of Computer Networks, Primary

Network Topologies, Network Architectures: The OSI Model, Inter Networking devices; The Internet, Intranet, and Extranets: Internet Services, World Wide Web, Creating Web Pages using HTML.

Unit IV

Functional and Enterprise Systems: Data, Information, and Knowledge Concepts, Decision Making Process, Concept, and Classification of Information Systems; Security Issues in Information Technology; Emerging Trends in Information Technology: Blockchain, Artificial Intelligence, Machine Learning, and the Internet of Things, and their applications.

Reading List:

1. ITL Education Solutions. Introduction to Information Technology, 2/e, Pearson Education.
2. Turban, Rainer and Potter. Introduction to Information Technology, John Wiley and Sons.
3. Behl R. Information Technology for Management, McGraw Hill Education.
4. Joseph A. Brady and Ellen F Monk. Problem Solving Cases in Microsoft and Excel, homson Learning.
5. Mukta Sharma and Surabhi Shankar. Computer Applications, Galgotia Publishing Company
6. Saini A.K. and Mukta Sharma, Web Technologies, Galgotia Publishng Company

Mapping of Course Outcomes with Program Outcomes and Program-Specific Outcomes

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CO1	3	2	1	2	2	1	1	1	1
CO2	2	3	1	2	3	2	1	1	1
CO3	2	2	1	3	3	2	1	1	1
CO4	2	2	1	3	2	3	1	1	2
AVG	**2.25**	**2.25**	**1**	**2.5**	**2.5**	**2**	**1**	**1**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Managerial Economics

Course Code: MFIS-105 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply microeconomic and macroeconomic concepts and tools to analyze business environments and managerial decision-making.

CO2: Analyze consumer behavior, demand, production, and cost structures to support effective pricing and output decisions.

CO3: Evaluate different market structures and competitive strategies to assess their implications for firm performance and resource allocation.

CO4: Assess macroeconomic conditions, business cycles, and economic policies to formulate informed and sustainable business strategies.

Course Content

Unit I
Introduction: Nature, Scope, and Significance of Managerial Economics, its Relationship with other Disciplines, Role of Managerial Economics in Decision Making; Opportunity Cost Principle, Incremental Concept, Cardinal and Ordinal Approaches to Consumer Behaviour: Equimarginal Principle, Law of Diminishing Marginal Utility, Indifference Curve Analysis.

Unit II
Demand Analysis and Theory of Production: Demand Function, Elasticity of Demand, Demand Forecasting, Applications of Demand Analysis in Managerial Decision Making; Theory of Production: Production Function, Short Run and Long Run Production Analysis, Isoquants, Optimal Combination of Inputs.

Unit III
Theory of Cost and Market Structures: Theory of Cost in Short and Long Runs; Market Structures: Price Output decisions under Perfect Competition, Monopoly, Monopolistic Competition, and Oligopoly.

Unit IV
Introduction to Macro Economics: Nature and Importance of Macro Economics; Market,

Command, and Mixed Economies; The Invisible Hand; The economic role of government; Economic Growth and Development; policy framework of money supply, inflation, and interest rates.

Reading List:

1. Hircshey, M. Managerial Economics. Thomson South-Western.Salvatore, D. ManagerialEconomics in a Global Economy. McGraw-Hill.
2. Samuelson, W. F., && Marks, S. G. Managerial economics. John Wiley & Sons.
3. Truett, Dale B. and Truett J. Lila. Managerial Economics: Analysis, Problems, Cases,John Wiley & Sons.
4. Petersen, H. C., Cris, L W and Jain, S.K. Managerial Economics, Pearson Education
5. Satya P Das. Microeconomics for Business, Sage Publishing

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CO2	3	3	1	1	3	2	1	1	1
CO3	2	3	1	1	3	2	1	1	1
CO4	2	3	1	1	2	3	2	1	2
AVG	**2.5**	**3**	**1**	**1**	**2.75**	**2.25**	**1.25**	**1**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Basics of Fire and Industrial Safety

Course Code: MFIS -107 **L - 2, Credits - 2**

Course Outcomes (Cos)

CO1: Understand fundamental concepts of fire science, industrial safety principles, and common fire and accident hazards in industrial environments.

CO2: Identify fire, electrical, chemical, and mechanical hazards in industrial and workplace settings through basic safety inspection techniques.

CO3: Apply relevant fire and industrial safety laws, codes, and standards to ensure compliance and risk reduction in organizations.

CO4: Develop basic safety awareness, preventive measures, and emergency preparedness practices to minimize fire and industrial accidents.

Course Content

Unit I
Introduction to Fire and Industrial Safety: Concept and importance of fire and industrial safety; basic principles of fire science; fire triangle and fire tetrahedron; classification of fire; sources of ignition; products of combustion; and fire load.

Unit II
Industrial Fire and Accident Hazards: Electrical hazards; chemical and flammable material hazards; mechanical hazards; housekeeping and storage practices; human factors and unsafe acts; and introduction to hazard identification and risk assessment.

Unit III
Industrial Safety Systems and Legislation: Overview of safety management systems; statutory provisions related to fire and industrial safety; Factory Act and rules; National Building Code provisions related to fire safety; and the role of the safety officer.

Unit IV
Fire Prevention and Emergency Preparedness: Fire prevention measures in industries; fire

detection and alarm systems (introductory); firefighting equipment (portable and fixed); emergency planning; evacuation procedures; fire drills; and safety training.

Reading List:

1. SP 7:2016- National Building Code of India, Volume 1 & 2 (Bureau of Indian Standards, India)
2. IS Codes on Fire and Industrial Safety (Bureau of Indian Standards, India)
3. NFPA 101 - Life Safety Code (National Fire Protection Association, USA)
4. Fire Protection Handbook, Volume I & II (National Fire Protection Association, USA)
5. International Fire Code (International Code Council, Inc.)
6. Introduction to Fire and Industrial Safety by Raghavan & Krishnamurthy (CBS Publishers, India)

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CO1	2	3	1	1	2	1	1	1	1
CO2	1	3	1	1	2	1	1	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	2	2	1	2	2	2	2	2
AVG	**1.75**	**2.75**	**1.25**	**1**	**2**	**1.5**	**1.5**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Fire Prevention

Course Code: MFIS 109 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental principles of fire science, fire dynamics, and ignition sources to identify and assess fire risks in different occupancy and industrial settings.

CO2: Analyze building occupancies, material characteristics, and fire load to evaluate fire hazards and fire resistance requirements.

CO3: Develop fire prevention strategies and programmes, including fire drills and emergency plans, to minimize fire risks and enhance organizational preparedness.

CO4: Evaluate the effectiveness of fire prevention and protection measures through training, awareness initiatives, and compliance with applicable codes and standards.

Course Contents

Unit I
Principles of Fire Science; Classification of Fire; Spread of Fire; Sources of Ignition; Products of Combustion; Electricity and Fire Risks; and Fire Load.

Unit II
Classification of Occupancy; Hazards of Contents; Fire Resistance Rating of Various Building Materials; Classification of buildings, based on occupancy; Mixed Occupancy; Fire Zones; Temporary buildings; Surface interior finish; Vertical and Horizontal openings; Compartmentation; Locating Sub Stations and transformers; AHUs; Air conditioning, Ventilation, and Smoke Control; Fire and smoke Dampers; and Glass facades.

Unit III
Building Rehabilitation; Historic Buildings; Repairs; Renovations; Modification; Reconstruction; and Change of Occupancy.

Unit IV

Fire Drills; Emergency Plans; Fire Command Centre; Fire Prevention, and Fire Protection Programme.

Reading List:

1. SP7:2016 National Building Code of India Volume 1 & 2 (Published by Bureau of Indian Standards)
2. NFPA 101 Life Safety Code (Published by National Fire Protection Association, USA).
3. Fire Protection Handbook Volume – I & II (Published by National Fire Protection Association, USA)
4. International Fire Code (Published by International Code Council, INC.)
5. Fire Fighting The Essential Handbook by Barendra Mohan Sen (Published by UBS Publishers' Distributors Pvt. Ltd, New Delhi)
6. IS codes on 'Fire and Life Safety' published by Bureau of Indian Standards, India

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CO2	2	3	1	1	2	1	1	1	1
CO3	2	3	2	1	2	2	2	2	2
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.5**	**1**	**2**	**1.5**	**1.5**	**1.5**	**1.5**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Life Safety

Course Code: MFIS 111 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental life safety principles to identify hazards and assess risks to human life in various building and occupancy environments.

CO2: Analyze life safety codes, standards, and regulatory requirements to ensure compliance in the design and operation of buildings and facilities.

CO3: Evaluate emergency response, evacuation strategies, and egress systems to enhance preparedness and occupant safety.

CO4: Develop comprehensive life safety solutions by integrating building design, materials, and safety systems to protect life in public and private spaces.

Course Content

Unit I

Challenges to safety in built environment; types of hazards likely to cause harm (fire, burns, electric shock, falls); natural disasters; fatalities involving hazardous environments; important case studies involving major incidents and their subsequent effect on safety outlook; approach to addressing fire and safety challenges.

Unit II

The concept of industrial life safety: need, nature, and importance; focus on human resource, and concept of importance of ‘man’ as central theme in safety; concept of accident prevention, occupational health, and environmental protection; problems of industrial safety and occupational health; modern concept of fire and safety.

Unit III

History and role of building codes and safety legislation; concept of safety versus risk; enforcement of codes and standards; role of government agencies and emergency services in enforcing legislation; government framework and infrastructure involved in safety legislation enforcement; role of code enforcement, plan review and approval, record keeping, and public education.

Unit IV

Industrial Fire and Safety management concepts: hazard identification and risk assessment, risk reduction and control methods; design aspects such as segregation and separation, fire resisting construction, emergency exit arrangements, access for emergency agencies, fire protection systems, safe operational practices, maintenance and upkeep of systems, and planning for emergency response; design approaches for fire and safety; NFPA fire safety concepts tree; importance of inspection, testing, and maintenance practices for fire protection systems, types of records, code requirements, and current practices.

Reading List:

1. SP7:2016 National Building Code of India Volume 1 & 2 (Published by Bureau of Indian Standards)
2. NFPA 101 Life Safety Code (Published by National Fire Protection Association, USA).
3. Fire Protection Handbook Volume – I & II (Published by National Fire Protection Association, USA)
4. International Fire Code (Published by International Code Council, INC.)
5. Fire Fighting Operations in High-Rise and Standpipe-Equipped Buildings by David M. McGrail (Published by PennWell Corporation, USA)
6. IS codes on 'Fire and Life Safety' published by Bureau of Indian Standards, India

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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CO2	2	3	1	1	2	2	2	1	1
CO3	2	3	2	1	2	2	2	2	2
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.5**	**1**	**2**	**1.75**	**1.75**	**1.5**	**1.5**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Fire Protection

Course Code: MFIS 113 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply principles of fire protection engineering to identify fire risks and determine appropriate fire protection requirements for different occupancies.

CO2: Analyze fire detection, alarm, suppression, and smoke management systems to assess their suitability and performance in diverse building environments.

CO3: Evaluate fire protection codes, standards, and regulatory requirements to ensure compliance and effective protection of life and property.

CO4: Develop integrated fire protection plans by selecting and coordinating active and passive fire protection systems tailored to organizational and regulatory needs.

Course Contents

Unit I
Objectives; Fundamental Requirements; Minimum Requirements Based on Building Occupancy Classification.

Unit II
Fire Detection and Alarm Systems; Voice Evacuation and Public Address System; Electrical Installations; Emergency Power Supply; Lightning Protection; Escape Lighting and Exit Signage; Portable firefighting extinguishers and the relevant BIS specifications.

Unit III
Firefighting System; Wet Riser; Downcomer; Dry Riser; Static Water Storage Tanks; Fire Pumps and Appurtenances; Sprinkler System, clean agents; Automatic High Velocity and Medium Velocity Water Spray Systems; Fixed Foam Installations; Gas Based Suppression Systems; Automatic Water Mist Systems; Special Provision for High Rise Buildings.

Unit IV

Heating, Ventilation, Air Conditioning, and Refrigeration Systems; Mechanical Smoke Exhaust systems; Pressurization of staircase and protection of escape routes; arrangements for Smoke Exhaust and Pressurization of Areas Below Ground; Smoke management in Atrium and High Rise Buildings.

Reading List:

1. SP7:2016 National Building Code of India Volume 1 & 2 (Published by Bureau of Indian Standards)
2. NFPA 101 Life Safety Code (Published by National Fire Protection Association, USA).
3. Fire Protection Handbook Volume – I & II (Published by National Fire Protection Association, USA)
4. International Fire Code (Published by International Code Council, INC.)
5. IS codes on 'Fire and Life Safety' published by Bureau of Indian Standards, India
6. NFPA 13 Automatic Sprinkler Systems Handbook (Published by National Fire Protection Association, USA)
7. NFPA70 'National Fire Alarm and Signaling Code (Published by National Fire Protection Association, USA)
8. NFPA92 'Standard for Smoke Control System (Published by National Fire Protection Association, USA)
9. CPWD General Specifications for Electrical Works Part V-(Wet Riser & Sprinkler System) (Published by Central Public Works Department, Govt. of India)

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CO3	2	3	1	1	2	2	2	1	1
CO4	2	3	2	2	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1.75**	**2**	**1.5**	**1.5**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Building Codes and Standards

Course Code: MFIS 115 **L - 2, Credits - 2**

Course Outcome (Cos)

CO1: Apply fundamental principles of building codes and standards to ensure safety, health, and regulatory compliance in building design and construction.

CO2: Analyze national and local building codes, fire safety regulations, and standards to identify compliance requirements and potential risks.

CO3: Evaluate real-world building scenarios to assess adherence to applicable codes, standards, and authority requirements.

CO4: Develop practical recommendations for the effective implementation of building codes and standards to enhance safety, performance, and sustainability in built environments.

Course Contents

Unit I
Introduction to Codes, Standards, Good Practice, Handbooks and Special Publications; Aspect of Applicability at Local Jurisdiction; Requirements and Regulations of the Authority Having Jurisdiction.

Unit II
National Building Code of India: Changes and revision from Inception to 2016; Aspect of IS Codes: Revision and Referencing in NBC; Interrelation of Parts and Sections of NBC.

Unit III
Local Building Code, Regulations, Act and Bye Laws; Changes and Amendments of the above by the Authority Having Jurisdiction; Gazette Notifications and Adoption of Local Code; Issue of NOC; Occupancy Certificate and Renewals; Adoption of NBC by the Authority Having Jurisdiction.

Unit IV

Cinematography Act: State wise aspect of applicable Act, Rules, and Bye Laws; Reference and alignment to NBC under Special Occupancy.

Reading List:

1. Model Fire Service Bill & Rules of 1958 and as amended from time to time, Published by DG FS CD & HG, MHA, GOI
2. Fire and Life Safety Acts, Rules, Local Building Bye Laws published by Government of Delhi, Maharashtra, Gujarat, Karnataka, Odisha and West Bengal.
3. NBC 1997, 2005 and 2016.
4. IS Codes and Standards – Various.
5. Development Control Regulation – Greater Mumbai
6. The Cinematography Act, 1952 and Rules (with further Amendments)

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

The Table depicts the degree of relation between course outcomes and the programme outcomes where "3" indicates high degree of relationship, "2" indicates moderate degree of relationship and "1" indicates low degree of relationship of CO with PO.

Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	1	2	1	2	1	1
CO2	2	3	1	1	2	2	2	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1**	**2**	**1.75**	**2**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

MOOC/ Open Elective

Course Code: MFIS 117 **L - 2, Credits - 2**

To remove rigid boundaries and facilitate new possibilities for learners in the education system, study webs of active learning for young aspiring minds is India's National Massive Open Online Course (MOOC) platform. Massive Open Online Courses (MOOCs) are online courses which are designed to achieve the three cardinal principles of India's education policy: Access, Equity, and Quality. MOOCs provide an affordable and flexible way to learn new skills, support career development, change careers, pursue supplemental learning, engage in lifelong learning, deliver quality educational experiences at scale, and more.

A student is required to earn 3 credits by completing a quality-assured MOOC programme offered on the SWAYAM portal or on any other online educational platform approved by the UGC/regulatory body from time to time at the PG level. A successful Completion Certificate should be submitted to the respective institute to earn the course credit.

Alternatively, students can pursue any PG-level course offered on campus by any USS/College, with due intimation to the Program Coordinator/Dean/Director of the School/College.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Field Visits / Presentation

Course Code: MFIS 151 **L - 0, Credits - 4**

The field visit and presentation should focus on the practical application of management concepts, theories, or techniques learned throughout the MBA program. Students will visit organizations or institutions relevant to their area of study to observe real-world management practices and gather insights on specific organizational or social issues. During the presentation, students will summarize their field visit experiences, highlight key observations, and connect them to theoretical frameworks. Students are expected to demonstrate critical thinking and practical understanding by articulating their findings and reflections. Upon completion, a detailed report summarizing the visit, methodology, observations, and conclusions will be submitted.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Project Work

Course Code: MFIS 153 **L - 0, Credits - 6**

The project work should focus on applying management concepts, theories, or techniques acquired throughout the program to analyze and address a specific organizational or social issue or challenge. Students will be evaluated on the clarity, depth, and originality of their work, as well as their ability to connect theory to practice and communicate their findings effectively.

SEMESTER- II

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Marketing and Financial Management

Course Code: MFIS 102 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental concepts of marketing and financial management to support organizational planning and decision-making.

CO2: Analyze market conditions, consumer behaviour, and competitive environments to develop effective marketing strategies aligned with financial objectives.

CO3: Evaluate financial tools and techniques, including time value of money, capital structure, and capital budgeting, to assess investment and resource allocation decisions.

CO4: Develop integrated marketing and financial plans that promote organizational growth, profitability, and long-term sustainability.

Course Contents

Unit I

Introduction to Marketing: Meaning and Scope of Marketing; Marketing Philosophies; Marketing Management Process; Concept of Marketing Mix; Understanding Marketing Environment; Consumer Buyer Behavior; Market Segmentation, Targeting, and Positioning; Overview of Competitive Marketing Strategies; Basics of Rural Marketing, Social Marketing, Sustainable Marketing, Digital Marketing; Ethical Issues in Marketing.

Unit II

Product and Pricing Decisions: Product Concept; Product Classifications; Product Levels; Product Differentiation; Product Mix; Product Line Decisions; Product Life Cycle: Concept.
Promotion and Distribution Decisions: Concept of Integrated Marketing Communication; Promotion Mix: Advertising, Personal Selling, and Publicity; Direct Marketing; and Sales Promotion.

Unit III

Financial Objectives; Impact of Financial and Economic Environment on Financial Management; Time Value of Money; Computation of EMI; and Annuity.

Unit IV

Capital Structure: Approaches to Capital Structure; Cost of Capital; Leverage Analysis: Operating Leverage, Financial Leverage, and Combined Leverage; EBIT EPS Analysis; Capital Gearing; Capital Budgeting.

Reading List:

1. Kotler, P., Keller, K.L., Marketing Management, Pearson Education.
2. Lamb, C.W, Hair, J.F, Sharma, D. & Mc Daniel C., Marketing- A South Asian Perspective Edition, Cengage India Pvt. Ltd, Delhi
3. Baines, P.. Fill, C., Page, K., Sinha, P.K., Marketing: Asian Edition, Oxford University Press, New Delhi.
4. Brigham, E. F., & Houston, J. F. Fundamentals of Financial Management. Cengage Learning India Pvt Ltd.
5. Tata McGraw Hill. Van Horne, James, C. Principles of Financial Management, Pearson
6. Pandey, I.M. Financial Management, Pearson Education.

Ravi Kishore. Financial Management, Taxmann's Publications

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	1	1	2	1	1	1	1
CO2	3	2	2	1	3	2	1	2	1
CO3	3	2	1	1	3	2	2	1	1
CO4	3	2	2	1	3	2	2	2	2
AVG	**3**	**2**	**1.5**	**1**	**2.75**	**1.75**	**1.5**	**1.5**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Regulatory Framework for Industrial Safety

Course Code: MFIS 104 **L - 2, Credits - 2**

Course Outcomes (Cos)

CO1: Apply fundamental concepts of industrial safety regulations and standards to identify legal and compliance requirements in industrial settings.

CO2: Analyze national and international industrial safety laws, regulatory frameworks, and the roles of enforcement agencies in managing workplace safety.

CO3: Evaluate the impact of regulatory compliance on organizational safety practices, risk management, and safety culture.

CO4: Develop effective strategies for implementing and monitoring industrial safety regulations, incorporating best practices and continuous improvement approaches.

Course Contents

Unit I: Introduction to Industrial Safety Regulations

Concept and importance of industrial safety; common industrial hazards; need for risk management; evolution of industrial safety legislation in India and at the global level; overview of international safety standards such as ISO 45001 and OHSAS 18001; and role of national and international regulatory bodies.

Unit II: Indian Legal Framework for Industrial Safety

Indian industrial safety legislation, including the Factories Act, Environment Protection Act, Mines Act, Explosives Act, Gas Cylinders Rules, Public Liability Insurance Act, and Petroleum Act, with reference to safety, health, and statutory compliance.

Unit III: Safety Management Systems and Compliance

Safety Management Systems and their components; regulatory compliance; types of safety audits; workplace safety programmes; roles and responsibilities of safety officers and managers; and

incident reporting and investigation.

Unit IV: Global Best Practices and Emerging Trends in Industrial Safety

Global best practices in industrial safety; emerging safety challenges; technological advancements in safety management; major industrial accident case studies; corporate social responsibility and safety; and future trends in industrial safety regulations.

Reading List:

1. "Safety and Health in Industry" by T. R. Ramanujam
2. "Industrial Safety and Health Management" by C. Ray Asfahl and David W. Rieske
3. "Industrial Safety and Environment" by K. U. Mistry
4. The Factories Act, 1948 - Bare Act
5. ISO 45001:2018 - Occupational Health and Safety Management Systems

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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CO2	2	3	1	1	2	2	2	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1**	**2**	**1.75**	**2**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Communication in Organizations

Course Code: MFIS 106 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental principles of Communication in Organisation to enhance clarity, effectiveness, and professionalism in organizational interactions.

CO2: Analyze written, oral, and non-verbal communication practices to address diverse organizational and stakeholder communication needs.

CO3: Demonstrate effective interpersonal communication, presentation, and negotiation skills in professional and cross-cultural contexts.

CO4: Develop appropriate communication strategies and protocols using traditional and digital platforms to support organizational objectives and relationship management.

Course Contents

Unit I
Communication in an Organisation: Need, Forms, and Types; Formal and informal communication networks; Process of communication; Barriers and Gateways to communication.

Unit II
Written Communication and Application of Communication: Principles of Written Communication: 7C's Concept; Business and Commercial Letters; Job application and Resume Writing.

Unit III
Oral Communication: Principles of Oral Presentations; Factors Affecting Presentation; Video conferencing channels; Non Verbal Communication; Relating through Informative and Persuasive speeches; Listening.

Unit IV

Recent Trends in Business Communication: Online Communication and Personal Relationships; Handling Online Meetings; Business Communication via Social Networks; Writing Social Blogs; Inter cultural communication; Ethical and Legal Issues.

Reading List:

1. Courtland L. Bovée et. al., Business Communication Today, Pearson
2. Steve Duck and David T. McMahan, The Basics of Communication, Sage, South Asia
3. Lesikar R et.al., Business Communication: Connecting in a Digital World, McGraw Hill.
4. Murphy H et.al., Effective Business Communication, McGraw Hill.
5. Reddy C.R. Business Communication, Wiley Publications.
6. Chaturvedi M.Art and Science of Business Communication, Pearson.

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	1	3	1	2	1	1	3	1
CO2	2	1	3	1	2	1	1	3	1
CO3	1	1	3	1	2	1	2	3	2
CO4	2	1	3	2	2	2	2	3	2
AVG	**1.75**	**1**	**3**	**1.25**	**2**	**1.25**	**1.5**	**3**	**1.5**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Building Management System (BMS)

Course Code: MFIS 108 **L - 2, Credits - 2**

Course Outcomes (Cos)

CO1: Understand the concept, architecture, and components of Building Management Systems used in commercial, institutional, and industrial buildings.

CO2: Identify the integration of fire safety, HVAC, electrical, and security systems within a centralized BMS framework.

CO3: Analyze the role of BMS in enhancing safety, energy efficiency, operational reliability, and emergency response.

CO4: Apply basic monitoring, control, and maintenance principles of BMS for effective building operations and safety management.

Course Content

Unit I
Introduction to Building Management System: Concept, objectives, and scope of BMS; evolution of building automation; BMS architecture and hierarchy; sensors, actuators, and controllers; communication protocols and interfaces.

Unit II
BMS Subsystems and Integration: HVAC control systems; electrical and lighting control; fire detection and alarm system integration; access control and CCTV systems; lifts and escalators monitoring; and water and plumbing systems.

Unit III
BMS for Fire, Life Safety, and Energy Management: Role of BMS in fire detection, smoke management, and emergency evacuation; integration with fire command centre; energy management and optimization; and sustainability and green building concepts.

Unit IV
Operation, Maintenance, and Applications of BMS: BMS operation and control room functions;

alarms and event management; preventive maintenance; fault diagnostics; and case studies of BMS implementation in commercial and industrial buildings.

Reading List

1. SP 7:2016 – National Building Code of India, Volume 1 & 2 (Bureau of Indian Standards, India)
2. IS Codes related to Building Automation and Fire Safety (Bureau of Indian Standards, India)
3. ASHRAE Handbook – HVAC Applications (American Society of Heating, Refrigerating and Air-Conditioning Engineers)
4. Building Automation: Communication Systems with EIB/KNX, LON and BACnet by H. Boyer (Springer)
5. NFPA 72 – National Fire Alarm and Signaling Code (National Fire Protection Association, USA)
6. Smart Buildings: Technology and Data-Driven Design by James Sinopoli (Artech House)

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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CO1	2	2	1	3	2	1	1	1	1
CO2	2	3	1	3	2	1	1	1	1
CO3	2	3	1	3	2	2	1	1	1
CO4	2	2	2	3	2	2	2	2	2
AVG	**2**	**2.5**	**1.25**	**3**	**2**	**1.5**	**1.25**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Performance Based Fire Design

Course Code: MFIS 110 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Understand the principles and objectives of performance-based fire design, including its advantages over traditional prescriptive approaches.

CO2: Analyze building designs and materials to assess fire performance and determine compliance with safety standards and regulations.

CO3: Apply fire modeling techniques and tools to simulate fire scenarios and evaluate the effectiveness of design solutions in mitigating fire risks.

CO4: Develop performance-based fire safety strategies and recommendations for various types of buildings, ensuring both safety and functional performance

Course Contents

Unit I: An Introduction to Prescriptive and Performance Based Design Approach

Criteria for prescriptive and performance-based design for fire and life safety systems in buildings. Specific aspects of performance-based design of fire and life safety services for large and mixed-use projects. Assessing prescriptive design and the results obtained, and comparing them with performance-based design. Special considerations in performance-based design for evacuation simulation, smoke mitigation and control, building structural fire rating, passive fire rating system on L and T rating, façade design, building separation and setbacks, elevator evacuation, public address system, and campus fire strategy.

Unit II: Fire Evacuation Modeling

Principles and Practice of Evacuation Modeling (PPEM): introduction; scope; building evacuation models; theory of occupant behavior during building fires; RSET, and models commonly used in guidelines and regulations; different theories of human behavior in fire; representation of evacuation movement; basic assumptions behind evacuation models, including space representation, modeling methods, uncertainties, verification, and validation; main strengths and limitations of evacuation models; application of evacuation models to simulate evacuation

scenarios.

Unit III: Fire Dynamic Simulation Fundamental Processes

Physical concepts; fuel and combustion processes and fundamentals; limits of flammability; heat transfer: conduction and convection, and radiation; ignition and flame spread: radiation from fires, ignition in general, gaseous fuels, liquid fuels, and solids, and spread of flame; fire behavior and modern buildings.

Pool fires, jet fires, and cloud fires: steady burning diffusion fires; pool fires in the open; jet fires; radiation from flames; example calculations, including radiation flux from a flare on an escape route; pool and jet fires; large scale tests; cloud fires; pool and jet fires in a compartment.

Compartment fires: the growth period; flashover; the post flashover period; and back draughts; fire performance of structures; smoke movement; fire combustion products and toxicity as a function of ventilation conditions.

Compartment fire modelling: overview of fire models; a zone model in detail, CFAST; using CFD models; hands on experience with a zone model.

Reading List:

1. Performance – based fire safety design by Morgan J Hurley and Eric R. Rosenbaum (Published by CRC Press)
2. SFPE Engineering guide to Performance – based fire protection, 2nd Edition
3. CFAST of NIST USA
4. FDS of NIST USA

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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CO2	2	3	1	1	2	1	2	1	1
CO3	2	3	2	1	2	2	2	2	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.5**	**1**	**2**	**1.5**	**2**	**1.5**	**1.25**

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Legal Framework for Disaster Management

Course Code: MFIS 112 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Understand the key components of the institutional framework for disaster management, including the roles and responsibilities of various government agencies and organizations.

CO2: Analyze the legal frameworks governing disaster management at national, state, and local levels, including relevant laws, policies, and regulations.

CO3: Evaluate the effectiveness of current disaster management practices and identify areas for improvement within the institutional and legal context.

CO4: Develop strategies for enhancing collaboration among stakeholders in disaster management, emphasizing the importance of legal compliance and institutional coordination.

Course Content

Unit I: Disaster Management Framework in India
Constitution of India; Prime Minister Agenda of 10 Points; NPDRR; Disaster Management Act, 2005; Environment Protection Act, 1986; Section 135 of the Company Act, 2013; India, Corporate Social Responsibility; National Disaster Management Policy, 2009; National Disaster Management Plan, 2016; Judicial case studies related to disaster management.

Unit II: International Framework for Disaster Management
International initiatives by UN: UNDRR, ARISE, Yokohama Strategy, Hyogo Framework for Disaster Risk Reduction (2005 to 2013), Sendai Framework (2013 to 2030), Sustainable Development Goals, and COP21, Paris Agreement (2015); its scope, utility, and initiatives taken for DRR; Human rights and humanitarian laws.

Unit III: Role of National and International Agencies
National Disaster Management Authority (NDMA); disaster management framework at national, state, district, and local level; constitution of DDMAs, and roles and responsibilities; Armed Forces, CAPF, and State Police; Medical Services; Civil Defence; Home Guards; NCC; NYK; NSS; volunteers; and Fire Services; role of each stakeholder; UN agencies; IFRC and National

Red Cross Society; role of NIDM, and a visit to NDMA, Delhi.

Unit IV: Disaster Management Framework in Select Countries

Institutional and legal framework in certain developed and developing countries, such as USA, Japan, Singapore, South Africa, and Bangladesh.

Reading List:

1. Arnold, M. and Kreimer, A. (2000) Managing Disaster Risk in Emerging Economies", Disaster Risk Management Series No. 2, World Bank, Washington, D.C.
2. Collins, L. R. and Schneid, T. D. (2000) Disaster Management and Preparedness, Taylor and Francis.
3. Disaster Management Act (2005).
4. Goel, S. L. and K. Ram (2001) Disaster Management, Deep and Deep Publications.
5. Hyogo Framework for Action (2005-2015).
6. National Disaster Management Plan (2016).
7. National Disaster Management Policy (2009).
8. Parasuraman, S. (2004) India Disaster Report: Towards a Policy Initiatives, Oxford University Press.
9. Sendai Framework for DRR (2015-2030).
10. UNISDR – ARISE (2015).
11. Vision, United Nations (2004).

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CO2	2	3	1	1	2	2	2	2	1
CO3	2	3	1	1	2	2	2	2	1
CO4	2	3	2	1	2	2	2	3	2
AVG	**2**	**3**	**1.25**	**1**	**2**	**1.75**	**2**	**2.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Geoinformatics for Fire Risk Assessment

Course Code: MFIS 114 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Apply fundamental concepts of geoinformatics, remote sensing, and GIS to collect, process, and visualize spatial data related to fire risk.

CO2: Analyze geospatial data on land use, topography, climate, and infrastructure to identify fire-prone areas and assess fire risk patterns.

CO3: Apply geospatial tools and technologies to develop fire risk maps, models, and decision-support outputs for planning and mitigation.

CO4: Evaluate the effectiveness of geoinformatics-based approaches in supporting fire risk management, emergency response, and resilience planning.

Course Content

Unit I: Introduction to Remote Sensing (RS)
Basics and principles of remote sensing; electromagnetic spectrum; resolution types; EMR interaction; spectral signatures of different objects; platforms and sensors; digital image processing (DIP) techniques; visual image interpretation tools and techniques.

Unit II: Geographic Information System (GIS)
Basics, principles, and components of GIS; spatial information and spatial data types; raster and vector based GIS data processing using regular and irregular tessellations; vector based GIS data processing and topology; spatial relations; spatial analysis; map projections and coordinate systems; types of Survey of India (SOI) topographical maps; numbering systems and interpretation of SOI topographical maps.

Unit III: Global Positioning Systems (GPS)
Basic principles of GPS; functions and positioning services; basic concepts of robots; robots available in the market; how they help control fire; basic concepts of drones; drones available in the market; how they help control fire.

Unit IV: Spatial Information Technologies and Disaster Management

Concepts of spatial information and spatial data; spatial data platforms for disaster information: government, private, and community sourced; spatial digital data collection and processing during pre disaster, during disaster, and post disaster phases; spatial information accessibility and authorization issues in disaster management; real time spatial data availability; requirements for emergencies.

Unit V: Applications

Geospatial urban planning and fire risk resilience: GIS based fire response planning; remote sensing for fire risk potential mapping; unmanned aerial vehicle (UAV) for 3 D based fire detection and monitoring; spatial decision support system (SDSS) for fire risk assessment and management: fire risk modeling; GIS based on site and off site plans; map creation for action plan, identification of risk, and planning needs.

Reading List:

1. Jenssen, Lucas L.F. and Grrit C. H. (2001) Principle of Remote Sensing. ITC Educational Text Book series 2. International Institute of Geo information Science and Earth Observation (ITC). Enschede.
2. Jensen, J. R. (2004) Introductory Digital Image Processing: A Remote Sensing Perspective Prentice Hall.
3. Jensen, J. R. (2009) Remote Sensing of the Environment: An Earth Resource Perspective, 2nd Edition, Dorling Kindersley.
4. Joseph and George. (2005) Fundamentals of Remote Sensing, 2nd Edition. University press India.

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CO3	2	3	1	3	2	2	1	1	1
CO4	2	3	2	3	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**3**	**2**	**1.75**	**1.25**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

MOOC/Open Elective

Course Code: MFIS 116 **L - 2, Credits - 2**

To remove rigid boundaries and facilitate new possibilities for learners in the education system, study webs of active learning for young aspiring minds is India's National Massive Open Online Course (MOOC) platform. Massive Open Online Courses (MOOCs) are online courses designed to uphold the three cardinal principles of India's education policy: Access, Equity, and Quality. MOOCs provide an affordable and flexible way to learn new skills, career development, changing careers, supplemental learning, lifelong learning, corporate eLearning & and deliver quality educational experiences at scale and more.

A student is required to earn 3 credits by completing a quality–assured MOOC programme offered on the SWAYAM portal or on any other online educational platform approved by the UGC/Regulatory body from time to time at the PG level. A successful Completion Certificate should be submitted to the respective institute to earn the course credit.

Alternatively, students can pursue any course offered on campus by any USS/College at PG level, with due intimation to the Program Coordinator/Dean /Director of the School/College

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Field Visits / Presentation

Course Code: MFIS 152 **L -0, Credits - 4**

The field visit and presentation should focus on the practical application of management concepts, theories, or techniques learned throughout the MBA program. Students will visit organizations or institutions relevant to their area of study to observe real-world management practices and gather insights on specific organizational or social issues. During the presentation, students will summarize their field visit experiences, highlight key observations, and connect them to theoretical frameworks. Students are expected to demonstrate critical thinking and practical understanding by articulating their findings and reflections. Upon completion, a detailed report summarizing the visit, methodology, observations, and conclusions will be submitted.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Dissertation

Course Code: MFIS 154 **L - 0, Credits - 6**

The dissertation should focus on applying management concepts, theories, or techniques acquired throughout the program to explore and address a specific organizational or social issue or challenge. Students may utilize either primary or secondary data sources for their research. Upon completion of the dissertation, students must submit a comprehensive report detailing their methodology, findings, and conclusions.

SEMESTER III

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Summer Training Report

Course Code: MFIS 201 **L - 0, Credits - 6**

All the students will submit their Summer Training Project (in duplicate) within a period of one month from the date of completion of their Summer Training to the concerned Institute/School. The supervisor in the organization under whose guidance the summer training is carried out will be required to grade the student's performance in the format prescribed by the university. Each student will be assigned to one internal faculty guide, with whom he/she shall remain in continuous touch during the training period. The internal faculty guide will be required to evaluate the report (out of 40 marks) based on the assessment report provided by the organization where the Summer Training was completed and on his/her own assessment of the work done by the student. The evaluation for the remaining 60 marks shall be made by an external examiner appointed by the University who shall evaluate the report based on a presentation and the assessment report received from the organization where the student has undergone Summer Training.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Supply Chain Management

Course Code: MFIS 203 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Apply fundamental concepts of supply chain and materials management to coordinate procurement, production, and distribution activities.

CO2: Analyze inventory, warehousing, and logistics systems to improve efficiency, cost effectiveness, and service levels within the supply chain.

CO3: Evaluate supply chain structures, integration strategies, and information flows to address uncertainty and enhance overall supply chain performance.

CO4: Develop supply chain strategies incorporating transportation decisions, technology adoption, and performance measurement for sustainable and competitive operations.

Course Contents

Unit I

Materials Management: Objectives and importance; materials planning and control; Material Classification: need and usage of classification, single dimensional classification, and multidimensional classifications; Materials Codification: usage of codification, codification types; Purchase Management: objectives, functions, policies; outsourcing: make or buy decisions, vendor development, and rating.

Unit II

Storage and warehousing concepts; receipt; warehouse types; layout; issuance of materials and updation of records; Manpower and Equipment; Inventory Management: various costs in inventory management and need; deterministic models and discounts; probabilistic inventory management; role of inventory management in SCM.

Unit III

Introduction to supply chain: definition, structure, complexity, key issues, centralized vs.

decentralized systems, and strategic decisions; value of information and supply chain integration: bullwhip effect, push based and pull based systems.

Unit IV

Transportation decision: drivers of the decision, network design decisions, cross docking, and transshipment; distribution and logistics in supply chains: direct shipment and intermediate storage policies, vehicle routing models, third party logistics; information technology in supply chain: enabling supply chain through IT, ERP vendor platforms, service oriented architecture (SOA), RFID, and global perspectives; supply chain performance management.

Reading List:

1. Bedi, K., (2016) Production and Operations Management, 3rd Edition, Oxford University Press.
2. Krajewski, L.J., Ritzman, L.P., Srivastava, S.K., Malhotra, M.K., Operations Management; Process and Supply Chains, 13 edition, Pearson Education
3. Reference Books: Chopra, S. Meindl, P., Supply Chain Management, 7th edition, Pearson Education; Chandrasekaran, N. (2010), Supply Chain Management: Process, System and Practice, 1st edition, Oxford University Press.

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

The Table depicts the degree of relation between course outcomes and the programme outcomes where "3" indicates high degree of relationship, "2" indicates moderate degree of relationship and "1" indicates low degree of relationship of CO with PO.

Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	1	1	2	1	1	2	1
CO2	3	2	1	1	3	2	1	2	1
CO3	2	2	1	1	3	2	1	2	1
CO4	2	2	2	2	3	2	2	2	2
AVG	**2.5**	**2**	**1.25**	**1.25**	**2.75**	**1.75**	**1.25**	**2**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Entrepreneurship Development

Course Code: MFIS 205 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental concepts of entrepreneurship to identify opportunities and understand the role of entrepreneurs in economic and organizational development**.**

CO2: Analyze industry, market, and competitor dynamics to evaluate the feasibility and viability of entrepreneurial ideas.

CO3: Develop comprehensive business plans by integrating innovation, financial planning, and resource mobilization strategies**.**

CO4: Evaluate growth strategies, managerial challenges, and policy support mechanisms for sustaining and scaling entrepreneurial ventures.

Course Content

Unit I
Introduction to Entrepreneurship: Evolution; Types of Entrepreneurs; Entrepreneurial Competencies; Factors Affecting Entrepreneurial Growth: Economic and Non Economic Factors; Entrepreneurship and Economic Development; Women Entrepreneurship; Rural Entrepreneurship; and EDP Programmes.

Unit II
Developing Successful Business Ideas: Recognizing Opportunities and Generating Ideas; Feasibility Analysis; Developing an Effective Business Model; Industry and Competitor Analysis; and Writing a Business Plan.

Unit III
Moving from an Idea to an Entrepreneurial Firm: Assessing a New Venture's Financial Strength and Viability; Building a New Venture Team; Getting Financing or Funding; and Role of Support Institutions in India.

Unit IV

Managing and Growing an Entrepreneurial Firm: Unique Marketing Issues; preparing for and evaluating the Challenges of Growth; Strategies for Firm Growth; and Export Marketing.

Reading List:

1. Bruce R. Barringer & R. Duane Ireland. Entrepreneurship: Successfully launching new ventures. Pearson
2. Kuratko, D.F. & Hodgetts, R.M. Entrepreneurship: Theory, Process and Practice. Thomson Press
3. Charantimath, P. Entrepreneurship Development: Small Business Enterprises. Pearson
4. Ali J. Ahmed, Punita Bhatt & Iain Acton. Entrepreneurship in Developing and Emerging Economies. Sage
5. Robert D Hisrich& Michael P. Peters. Entrepreneurship. McGraw Hill

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CO2	3	2	1	1	3	2	1	1	1
CO3	3	2	2	1	3	2	2	2	1
CO4	2	2	2	1	2	2	2	2	2
AVG	**2.75**	**2**	**1.75**	**1**	**2.5**	**1.75**	**1.5**	**1.5**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Operations Management

Course Code: MFIS 207 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental concepts and principles of operations management to design and manage efficient production and service systems.

CO2: Analyze product design, process selection, capacity planning, and layout decisions to improve operational effectiveness and productivity.

CO3: Evaluate planning, scheduling, quality management, and inventory control techniques to support operational performance and continuous improvement.

CO4: Develop operations strategies integrating sustainability, supply chain coordination, and analytical tools to achieve competitive advantage.

Course Content

Unit I

Introduction to Operations Management: Nature and Scope of Operations Management; Historical Evolution of Operations Management; System Perspectives of Operations Management; Relation of Operations Management with other functional areas; Operations Strategy; Recent Trends in the field of Operations Management; Sustainability in operations; Ecological Considerations by manufacturing and services firms.

Unit II

Product Development and Process Selection: Product Development Process; Concurrent Engineering; Tools and Approaches in Product Development; Quality Function Deployment; Design for Manufacturability; Design for Assembly; Design for Quality; Mass Customization; Process Selection; Facilities Layout; Determinants of Process Selection; Process Product Matrix; Types of Layout; Line Balancing; Facilities Location; Work Measurement and Job Design; Impact of IT on Productivity.

Unit III

Operation Planning and Control: Capacity and Resource Planning; Aggregate Production Planning; Material Requirement Planning; Scheduling; Theory of Constraints and Synchronous Manufacturing; Lean Management; just in time production; Sustainable Supply Chain Management; and Inventory Planning and Control.

Unit IV

Quality Management: Quality: Definition, Dimension, and Costs of quality; Continuous Improvement (Kaizen); ISO (9000 and 14000 Series); Quality Awards; Statistical Quality Control; Process Control; Control Chart (X, R, p, np, and C Chart); Acceptance Sampling; Operating Characteristics Curve (AQL, LTPD, α and β risk); Total Quality Management; Japanese 5S Concept; Business Process Reengineering; Introduction to Operations Analytics.

Reading List:

1. Jay Heizer& Barry Rende. Operations Management, Pearson Education.
2. Mahadevan B. Operations Management: Theory and Practice, Pearson Education.
3. Bedi, K.Production and Operations Management. Oxford University Press, New Delhi.
4. Stevenson W. J. Operations Management, McGraw Hill Education
5. Gaither Norman and Frazier G, Operations Management, Cengage Learning India Pvt Ltd.

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CO2	3	2	1	1	3	2	1	1	1
CO3	3	2	1	1	3	2	1	1	1
CO4	2	2	2	2	3	2	2	2	2
AVG	**2.75**	**2**	**1.25**	**1.25**	**2.75**	**1.75**	**1.25**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

State Fire Service Acts, Rules & Byelaws

Course Code: MFIS 209 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply provisions of State Fire Service Acts, rules, and bye-laws to interpret fire safety requirements in various organizational and occupancy contexts.

CO2: Analyze the legal framework governing fire services, including the roles and responsibilities of fire authorities and safety officers.

CO3: Evaluate compliance of buildings and facilities with applicable fire service laws and local bye-laws to identify gaps and risks.

CO4: Develop effective fire safety communication, training, and compliance strategies aligned with statutory fire service regulations.

Course Content

Unit I
Importance of Fire Service Act; Model Fire Force Bill and Rules; Indian Constitution Provisions on the subject "Fire".

Unit II
Fire and Life Safety Act and Rules of Delhi, Maharashtra, Gujarat, Karnataka, Odisha, and West Bengal.

Unit III
Local Bye Laws of Delhi, Maharashtra, Gujarat, Karnataka, Odisha, and West Bengal.

Reading List:

1. Model Fire Service Bill & Rules of 1958 and as amended from time to time, Published by DG FS CD & HG, MHA, GOI
2. Fire and Life Safety Acts, Rules, Local Building Bye Laws published by Government of Delhi, Maharashtra, Gujarat, Karnataka, Odisha and West Bengal.
3. Provision of Indian Constitution on Subject Fire, Indian Constitution

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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CO2	2	3	1	1	2	2	2	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1**	**2**	**1.75**	**2**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
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Behaviour-Based Safety

Course Code: MFIS 211 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Understand the concept, principles, and origins of behaviour-based safety (BBS) as a proactive approach to preventing workplace accidents and injuries.

CO2: Identify behavioural and organisational factors that influence safety performance and contribute to unsafe acts and conditions.

CO3: Apply behaviour-based safety techniques and tools such as observation, feedback, and positive reinforcement to enhance safety behaviour in industrial settings.

CO4: Evaluate the effectiveness of behaviour-based safety programmes within a broader safety management context including measurement, communication, and continuous improvement.

Course Content

Unit I
Introduction to Behaviour based Safety: origin and evolution of BBS; fundamental theories of human behaviour and safety; how behaviour influences safety outcomes; difference between behaviour based and traditional safety approaches.

Unit II
Core Principles and Concepts of Behaviour based Safety: understanding safe and at risk behaviours; behavioural observation and measurement; role of individual attitudes, perception, motivation, and organisational culture in shaping safety behaviour.

Unit III
Design and Implementation of BBS Programmes: development of observation checklists; techniques for observing, recording, and analysing safety behaviours; feedback strategies and methods of positive reinforcement; engaging employees and leadership in BBS processes.

Unit IV
Evaluation and Improvement of Behaviour based Safety Initiatives: monitoring safety behaviour trends and performance indicators; integration of BBS within overall safety management system; case studies of BBS interventions; addressing challenges and sustaining behavioural change.

Reading List:

1. What Is Behaviour-based Safety? Vector Solutions resource (industry reference)
2. Behaviour-Based Safety: A Guide to Practitioners by Todd Conklin (Wiley)
3. Working Safe: How to Help People Actively Care for Health and Safety by John V. Reason (IIRSM/CRC Press)
4. Industrial Safety and Risk Management by L.M. Deshmukh (Tata McGraw-Hill)
5. Safety Management Systems in Industry (selected chapters on behavioural safety) in J. Ridley & J. Channing, *Safety Management Systems: Principles and Practice* (Butterworth-Heinemann)
6. Behavioural Safety: A Framework for Effective Safety Programme Implementation – Professional Safety Journal (American Society of Safety Professionals)
   Concepts of Disasters, Hazard, Vulnerability, Risk Capacity, Resilience, Natural and Human Induced Disasters; Disaster Profile of India; Types of Disasters; Incidents of Mega Disasters in India.

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CO2	2	3	1	1	2	2	2	1	1
CO3	2	3	2	1	2	2	2	2	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.5**	**1**	**2**	**1.75**	**2**	**1.5**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Fire Forensics

Course Code: MFIS 213 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental principles of fire dynamics and combustion to identify fire origin, cause, and development patterns.

CO2: Analyze fire scenes using systematic investigation methods, evidence collection techniques, and documentation practices.

CO3: Evaluate fire incident data, burn patterns, and material behavior to support scientifically sound fire investigation conclusions.

CO4: Develop comprehensive fire investigation reports incorporating technical findings, legal considerations, and professional ethics.

Course Content

Unit I
Introduction to Fire Forensic Science; Terminologies; Fire and Arson Investigation; etc.

Unit II
Understanding physics and chemistry of fire; fire ignition and fire dynamics; types of fires; methods of heat transfer; premixed and diffusion flames; and properties of building construction materials.

Unit III
Fire Development; Factors Affecting Fire Growth; Compartment Fires; fire spread; and Human Behaviour in fire.

Unit IV
Fire Analysis and Investigation; Evidence Collection and Preservation; Fundamentals of Fire Investigation; Examining and Securing the Fire Scene; Safety at the Fire Scene.

Unit V
Electrical Fire Investigation; Motor Vehicle Fire Investigation; Modern Laboratory Techniques Involved in the Analysis of Fire Debris Samples; Reporting; and Reconstructions.

Unit VI
Fire Investigation methodology; Role of Fire Investigator; Arson Motives and Pathology;

Fire Problems and Precautions; Determining Origin and Cause; Eliminating Accidental Causes; Documenting the Fire Scene; Surveillance.

Reading List:

1. NFPA 921 Guide for Fire and Explosion Investigation 2014, Published by National Fire Protection Association, USA.
2. Fire Investigation published by HMSO publication UK
3. Kirks Fire Investigation
4. Forensic Fire Science Reconstruction, By David J Icove, John D DeHaan, Gerald a Haynes Published by Pearson/ Prentice Hall
5. Principal of Fire Behavior by James G Quintiere, Published by Delmer

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CO3	2	3	1	1	3	2	1	1	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1**	**2.5**	**1.75**	**1.25**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Organisational Safety Culture & Safety Leadership

Course Code: MFIS 215 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Understand the concept of organisational safety culture and the role of leadership in shaping health and safety performance within industrial and organisational settings.

CO2: Examine the relationship between leadership behaviour, management commitment, and safety outcomes including accidents, incidents, and near misses.

CO3: Analyse the factors influencing safety culture, including communication, employee participation, organisational values, and management systems.

CO4: Evaluate methods for assessing, improving, and sustaining a positive safety culture through effective safety leadership and continuous improvement practices.

Course Content

Unit I

Concept of organisational safety culture and its evolution; definition and characteristics of safety culture; role of leadership in health and safety management; influence of management philosophy and leadership behaviour on organisational safety performance.

Unit II

Safety leadership in practice; leadership styles and attributes relevant to safety management; principles of effective safety leadership behaviour; communication, visibility, commitment, and employee involvement as drivers of a positive safety culture.

Unit III

Safety culture within organisations; relationship between safety culture and adverse events; impact of organisational, managerial, and human factors on major accidents; existence of sub cultures within organisations and their influence on safety performance.

Unit IV

Assessment and improvement of safety culture; techniques for assessing safety culture, including surveys, observations, and qualitative methods; barriers to cultural change; strategies for improving safety culture through leadership commitment, communication, training, and continuous monitoring.

Reading List:

1. Safety Matters! A Guide to Health & Safety at Work, Chapter 3: *Leadership and Organisational Safety Culture* (Health and Safety Authority)
2. Safety Culture and Safety Management Systems by Dominic Cooper (Applied Behavioural Sciences)
3. Introduction to Health and Safety at Work by Hughes & Ferrett (Routledge)
4. Managing for Health and Safety (HSG65) (Health and Safety Executive, UK)
5. Safety Leadership: A Human-Centred Approach by Todd Conklin (CRC Press)
6. Industrial Safety and Risk Management by L.M. Deshmukh (Tata McGraw-Hill)

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CO3	2	2	3	1	2	2	2	3	1
CO4	2	2	3	1	2	2	2	3	2
AVG	**2**	**2.5**	**2.75**	**1**	**2**	**1.75**	**2**	**2.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Process Safety Management

Course Code: MFIS 217 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Understand the fundamental principles of Process Safety Management (PSM) as a systematic approach to preventing catastrophic releases of hazardous materials in industrial facilities.

CO2: Identify key process hazards, potential failure points, and risk factors across industrial processes, and explain how systematic PSM frameworks mitigate these risks.

CO3: Apply the core elements of Process Safety Management including process hazard analysis, operational controls, and emergency planning to industrial systems involving hazardous substances.

CO4: Evaluate the effectiveness of PSM systems through performance measurement, incident investigation, auditing, and continuous improvement within the context of organizational safety and regulatory compliance.

Course Content

Unit I
Introduction to Process Safety Management and its importance in industrial environments; evolution and objective of PSM; distinction between occupational safety and process safety; history of major industrial process accidents and lessons learned; overview of PSM drivers, including legal and regulatory frameworks for hazardous processes.

Unit II
Process Hazard Identification and Risk Assessment: identification of hazardous processes, materials, and equipment; risk assessment and estimation techniques, including hazard and operability studies (HAZOP), fault tree analysis, and what-if analysis; identification of critical control points and safeguards.

Unit III
Core Elements of PSM Systems: development and implementation of process safety information; process safety hazard analysis; operating procedures and safe work practices; management of change (MOC); mechanical integrity and maintenance; and training and competency requirements.

Unit IV
Performance Evaluation and Improvement: incident investigation and reporting; emergency

preparedness and response; process safety auditing; performance measurement and indicators; organizational learning and continuous improvement mechanisms; integration of PSM with broader safety management and fire safety systems.

Reading List:

1. Process Safety Management Concepts – SafetyCulture resource on process safety management
2. Guidelines for Process Safety Fundamentals in General Chemical Operations (American Institute of Chemical Engineers).
3. Process Safety Management: Leveraging Networks and Communities of Practice to Enhance Process Safety Performance by G. Booth (Elsevier).
4. CCPS Risk-Based Process Safety (Center for Chemical Process Safety, AIChE).
5. Process Safety: Guidelines for Hazard Evaluation Procedures (Center for Chemical Process Safety, AIChE).
6. Fire and Explosion Hazards Handbook of Industrial Chemicals by D. Sittig (William Andrew Publishing).

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CO3	2	3	2	1	2	2	2	2	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.5**	**1**	**2**	**1.75**	**2**	**1.5**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Incident Response System

Course Code: MFIS 219 **L - 2, Credits - 2**

Course Outcome (COs)

CO1: Apply the principles and structure of the Incident Response System to manage emergencies and incidents in an organized and coordinated manner.

CO2: Analyze roles, responsibilities, and communication protocols within incident management frameworks to ensure effective command, control, and coordination.

CO3: Evaluate incident response plans and operational strategies to improve preparedness, response efficiency, and resource utilization.

CO4: Develop incident response strategies and action plans integrating inter-agency coordination, safety considerations, and post-incident review mechanisms.

Course Content

Unit I
Model A: Principles and features of Incident Response System
Model B: IRS Organization and Staffing

Unit II
Model C – Incident Facilities
Model D – Response Management

Unit III
Model E – Organizing for Incident or Event
Model F – Incident and Event Planning

Unit IV
NDMA Guidelines on Incident Response System: July 2010.

Reading List:

1. NDMA Guidelines on Incident Response System: July 2010.

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CO2	2	3	3	1	2	2	2	3	1
CO3	2	3	2	1	2	2	2	2	1
CO4	2	3	3	1	2	2	2	3	2
AVG	**2**	**3**	**2.5**	**1**	**2**	**1.75**	**2**	**2.5**	**1.25**

SEMESTER IV

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GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Project Dissertation

Course Code: MFIS 202 **L - 0, Credits - 6**

The student shall be required to submit progress reports as per the schedule to be announced by the School/Institutions for assessment by the internal project guide. The total marks will be 100, out of which 60 marks will be given by the external examiner and 40 marks will be given by the internal Project Guide. The internal assessment shall be conducted on the basis of a student presentation, as per the assessment schedule to be decided and announced by the School/Institution. The external assessment shall be conducted on the basis of a Viva-Voce and the report of an examiner appointed by the University.

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GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Strategic Management

Course Code: MFIS 204 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply strategic management concepts and frameworks to analyze the internal and external environments of organizations.

CO2: Analyze competitive strategies and strategic choices to address organizational challenges and opportunities.

CO3: Evaluate strategic alternatives and implementation approaches to achieve organizational objectives and sustainable competitive advantage.

CO4: Develop strategic plans and policies integrating ethical considerations, governance principles, and long-term sustainability goals.

Course Content

Unit I

Introduction to Strategic Management: Definition of Strategic Management; Nature of Strategic Management; Dimensions of Strategic Management; Need for Strategic Management; Strategic Management Process; Vision, Mission, and Business Definition; Models of Strategic Management: Mintzberg, Ansoff, Porter, Prahalad, and Gary Hammel; McKinsey 7S Framework: A Tool to Evaluate and Control an Organization.

Unit II

Strategic Management in Global Environment: Need for Globalization; Different Types of International Companies; Development of a Global Corporation; Complexity of Global Environment; International Culture; and Implementing Global Strategies.

Competitive Analysis: Competitor Analysis Framework; Rivalry Analysis; Competitive Dynamics; Competitive Rivalry; Industry Analysis: Formulation of Strategy, Five Competitive Forces that Shape Strategy, PESTLE Analysis, Competition and Value, Technology Lifecycle, and Industry Analysis in Practice; Strategic Management Process: Purposes of Strategic Management Process, Steps involved in the Strategic Management Process, Strategic Management Process, Strategy Formulation, Constraints and Strategic Choice, Strategy Implementation, and Strategic Control and Assessment.

Unit III

Formulating Corporate Level Strategy: Balanced Score Card: A Balanced Approach; Grand Strategies: Strategic Alternatives, Growth or Expansion Strategy, Diversification Strategy,

Stability Strategy, Retrenchment Strategy, Turnaround Strategies, and Combination Strategies; Formulating Business Level Strategy: Porter's Competitive Strategies, Competitive Advantage, Competitive Advantage Factors, How to Build or Acquire Competitive Advantage, Acquiring Core Competence, Low Cost Strategies, Differentiation Strategies, and Focus Strategies.

Unit IV

Analyzing Resources and Capabilities: Factors affecting the Internal Environment; Resources and Capabilities as Sources of Profit; Resources of the Firm; Organizational Capabilities; Appraising Resources and Capabilities; Putting Resource and Capability Analysis to Work; Developing Resources and Capabilities; Formulating Functional Level Strategy: Putting Strategy into Action, Structural Design, Information and Control System, Human Resources; Corporate Goals and Strategic Gap: Corporate Goals, Strategic Gap, Porter's Generic Strategies; Managing Internal Organization for Strategy Implementation: Issues in Strategy Implementation, Strategy Structure Relationship, Divisionalisation: Product and Geographic Forms, Diversification, Strategic Business Units (SBUs), Project Organisation, Matrix Organisation Structure, New Design Options, Factors Influencing Organisation Structure, and Structure and Strategy Implementation.

Reading List:

1. Strategic Management Concepts: A Competitive Advantage Approach, Fred R. David, Pearson Education
2. Strategic Management: An Integrated approach, Hill W.L. Charles & Jones R. Gareth Business Policy and Strategic Management, Azhar Kazmi, Tata McGraw
3. Strategic Management and Business Policy: Globalization, Innovation and Sustainability, Thomas L. Wheelen, J. David Hunger and Krish Rangarajan,Pearson Education,
4. Hill Strategic Management -The Indian Context, R.Srinivasan, Prentice Hall of India Business Strategy: Managing Uncertainty, Opportunity, and Entreprise, J.C.Splender, Oxford University Press

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

The Table depicts the degree of relation between course outcomes and the programme outcomes where "3" indicates high degree of relationship, "2" indicates moderate degree of relationship and "1" indicates low degree of relationship of CO with PO.

Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	2	1	1	3	2	1	1	1
CO2	3	2	2	1	3	2	1	2	1
CO3	3	2	2	1	3	2	2	2	1
CO4	3	2	2	1	2	2	3	2	2
AVG	**3**	**2**	**1.75**	**1**	**2.75**	**2**	**1.75**	**1.75**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Corporate Social Responsibility and Indian Knowledge System

Course Code: MFIS 206 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Apply fundamental concepts of corporate social responsibility and Indian knowledge systems to understand their relevance in contemporary organizational contexts.

CO2: Analyze ethical principles, governance frameworks, and social responsibilities influencing organizational decision-making and societal well-being.

CO3: Evaluate corporate social responsibility initiatives, sustainability practices, and indigenous knowledge perspectives to assess their impact on organizational performance and society.

CO4: Develop socially responsible strategies and policies by integrating ethical values, sustainability goals, and insights from Indian knowledge systems.

Course Contents

Unit I
Moral Values and Ethics: Values: Concepts, Types, and Formation of Values; Values of Indian Managers; Business Ethics; Schools of Ethics; Ethical Decision Making; Business Ethics: Values and ethics as drivers of Corporate Social Responsibility (CSR); Ethical Dilemma; Implications of failed corporate responsibilities: Worker rights and health, Technology and Privacy in the workplace, Human rights, Stockholders Rights and Corporate Governance, and Consumerism.

Unit II
Corporate Social Responsibility: Current CSR Practices of the Firms in India and Abroad; International Frameworks of CSR; Sustainable Development: Challenges of Sustainable Development; Environmental Challenges as Business Opportunity; Kyoto Protocol and Clean Development Mechanism (CDM); managing environmental quality; Green IT initiatives; and emerging trends in Corporate Social Responsibility.

Unit III
Overview of Indian Knowledge: Philosophy: The Vedic Tradition; Upanishad and Classical Indian Darshanas; Indian Culture and Civilization; Integrating Indian Knowledge System into Commerce: Introduction to Arthashastra by Kautilya; Traditional Knowledge Digital Library (TKDL); and Geographical Indications of Goods and Dance.

Unit IV
Spirituality: Spirituality vis à vis religion; Concept of Maya (Illusion): Advaita Vedanta; Meaning, scope, and implications at work; Concept of Dharma: varna ashram dharma,

svadharma; Concept of karma: meaning and importance to managers, corporate karma; Concept of Science, Engineering, and Technology in IKS: Mathematics, Health and Wellbeing, Astronomy, Engineering, and Technology.

Reading List:

1. Lawrence, A. T., and Weber, J. (2016), Business and society: Stakeholders, Ethics, Public Policy. McGraw-Hill Education.
2. Blowfield, M., & Murray, A. (2014), Corporate Responsibility. Oxford University Press. Reference Books
3. Hartman, L. P. and DesJardins J. (2013), Business Ethics: Decision-Making for Personal Integrity and Social Responsibility, Mc Graw-Hill Education.
4. Carroll, A., & Buchholtz, A. (2014), Business and Society: Ethics, Sustainability, and Stakeholder Management, Cengage Learning
5. Textbook on IKS by Prof. B Mahadevan, IIM Bengaluru
6. Kapur K and Singh A.K. Indian Knowledge Systems, Vol. 1. Indian Institute of Advanced Study, Shimla.
7. The Cultural Heritage of India. Vol.I. Kolkata:Ramakrishna Mission Publication.
8. Nair, Shantha N. Echoes of Ancient Indian Wisdom. New DELHI: Hindology Books.
9. Dr. R. C. Majumdar, H. C. Raychaudhuri and Kalikinkar Datta: An Advanced History of India (Second Edition) Macmillan & Co.,Limited, London.

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

The Table depicts the degree of relation between course outcomes and the programme outcomes where “3” indicates high degree of relationship, “2” indicates moderate degree of relationship and “1” indicates low degree of relationship of CO with PO.

Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	2	1	1	2	1	3	1	1
CO2	2	2	1	1	2	2	3	1	1
CO3	2	2	1	1	2	2	3	1	1
CO4	2	2	2	1	2	2	3	2	2
AVG	**2**	**2**	**1.25**	**1**	**2**	**1.75**	**3**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Fire Risk and Hazard Analysis of Built Environment

Course Code: MFIS 208 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Understand the concepts of fire risk and fire hazard analysis as applied to buildings and built environments.

CO2: Identify fire hazards and risk factors associated with building design, occupancy, materials, and human behaviour.

CO3: Apply basic fire risk assessment techniques to evaluate fire safety levels in residential, commercial, institutional, and industrial buildings.

CO4: Recommend practical fire risk control and mitigation measures in accordance with applicable fire safety codes and standards**.**

Course Contents

Unit I
Introduction to fire risk and hazard analysis; basic concepts of fire risk, hazard, vulnerability, and consequences; difference between fire hazard identification and fire risk assessment; importance of fire risk analysis in the built environment.

Unit II
Fire hazards in the built environment; building materials and fire behaviour; fire load and fire growth; impact of building layout, vertical and horizontal openings, and services on fire spread; human factors and occupant behaviour during fire emergencies; Physical assessment of University buildings.

Unit III
Fire risk assessment in industries, i e polymer, oil and gas, and big manufacturing industries; fire risk assessment methods for buildings; qualitative fire risk assessment techniques; use of checklists, inspection methods, and risk matrices; evaluation of means of escape, fire detection, alarm systems, firefighting provisions, and passive fire protection measures.

Unit IV
Fire risk mitigation and safety planning; interpretation of fire risk assessment findings; prioritisation of fire safety measures; basic documentation and reporting of fire risk assessments; linkage of fire risk analysis with National Building Code provisions and local fire safety regulations.

Reading List:

1. SP 7:2016 – National Building Code of India, Volume 1 & 2 (Bureau of Indian Standards, India)
2. Fire Protection Handbook, Volume I & II (National Fire Protection Association, USA)
3. NFPA 101 – Life Safety Code (National Fire Protection Association, USA)
4. Fire Safety Management Handbook by Daniel Della-Gatta (Wiley)
5. Fire Fighting: The Essential Handbook by Barendra Mohan Sen (UBS Publishers, India)
6. IS Codes on Fire Prevention and Fire Safety in Buildings (Bureau of Indian Standards, India)

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	1	2	1	1	1	1
CO2	2	3	1	1	2	1	1	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1**	**2**	**1.5**	**1.5**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Hazard Identification and Risk Assessment of Industries

Course Code: MFIS 210 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Understand the principles of hazard identification and risk assessment (HIRA) in industrial contexts and the role of systeoccmatic processes in preventing accidents.

CO2: Identify various types of hazards in industrial environments including physical, chemical, mechanical, electrical, ergonomic, and organizational hazards.

CO3: Apply standard approaches and tools for hazard identification and risk assessment to analyze industrial processes and workplace conditions.

CO4: Develop risk mitigation strategies and recommend control measures based on risk evaluation outcomes, linking HIRA results to effective safety management.

Course Contents

Unit I
Introduction to hazard identification and risk assessment; definition and significance of hazard and risk; importance of structured HIRA processes in industry; overview of the HIRA approach commonly used in safety practice and industrial safety management contexts; risk mitigation measures; risk levels; and ALARP (As low as reasonably practicable) terminology.

Unit II
Fire hazards and risk identification of refineries, petroleum depots, and powerhouses; types and sources of hazards in industrial settings; physical hazards such as machinery and moving parts; chemical hazards including toxic and flammable substances; electrical hazards including shock and arc flash; ergonomic and human factor hazards; and environmental and organizational hazards.

Unit III
Hazard identification techniques; systematic observation and inspection methods; job hazard analysis (JHA); checklist approaches; process mapping; risk assessment tools, including qualitative risk matrices and scoring systems; assessment of likelihood and consequence; Quantitative Risk Assessment (QRA) technique and various software available; HAZOP; event tree analysis; fault tree analysis; FMEA technique; and what if analysis methods.

Unit IV
Risk evaluation and risk control; prioritisation of risks based on severity and frequency; selection and recommendation of risk mitigation measures; linking risk assessment outcomes with safety controls, including engineering, administrative, and personal protective measures;

documentation and reporting of HIRA findings; Concept of Management of Change.

Reading List:

1. HIRA (Hazard Identification and Risk Assessment) Concepts and Tools- ORS Consulting overview on hazard identification and risk assessment
2. Introduction to Health and Safety at Work by Hughes & Ferrett (Routledge)- foundational coverage of hazard and risk assessment principles.
3. Risk Assessment: Techniques and Tools by D.J. Smith (Butterworth-Heinemann)- practical methods for qualitative risk evaluation.
4. Industrial Safety and Risk Management by L.M. Deshmukh (Tata McGraw-Hill) - industry context for HIRA applications.
5. Safety Management Systems: Principles and Practice by J. Ridley & J. Channing (Butterworth-Heinemann) - integration of risk assessment with safety management.
6. IS 14489: Fire Risk Assessment and Fire Safety (Bureau of Indian Standards) - for fire-related hazard and risk contexts.

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

The Table depicts the degree of relation between course outcomes and the programme outcomes where “3” indicates high degree of relationship, “2” indicates moderate degree of relationship and “1” indicates low degree of relationship of CO with PO.

Program level Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	2	3	1	1	2	1	1	1	1
CO2	2	3	1	1	2	1	1	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	3	2	1	2	2	2	2	2
AVG	**2**	**3**	**1.25**	**1**	**2**	**1.5**	**1.5**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

IOT based Fire and Industrial Safety

Course Code: MFIS 212 **L - 2, Credits - 2**

Course outcomes (COs)

CO1: Understand the fundamentals of Internet of Things (IoT) technology and its application in fire and industrial safety systems.

CO2: Identify the role of sensors, communication networks, and data platforms in real-time monitoring of fire and industrial hazards.

CO3: Apply IoT-based solutions for fire detection, environmental monitoring, equipment safety, and emergency response in industrial and building environments.

CO4: Evaluate the benefits, limitations, and implementation challenges of IoT-based safety systems with respect to reliability, data security, and operational effectiveness.

Course Content

Unit I
Roles and responsibilities of Safety Officer, Factory Manager, and Occupier in industries; near miss incidents, minor and major accidents; accident causation and cost of accidents, including direct, indirect, and social costs; safety policy, safety organisation, and safety leadership in industries.

Unit II
Industrial hazards and safety measures; classification of hazards; mechanical hazards related to moving machinery and equipment; hazards during material handling using dumpers, forklifts, trucks, and mobile cranes; machine safeguarding and types of guards; safety in the use of hand tools, portable tools, and power tools; and electrical hazards and electrical safety measures.

Unit III
Standard operating procedures and safe work practices; work permit system and types of permits for safe execution of non routine activities, including hot work, confined space, and working at height; Job Safety Analysis (JSA) and Tool Box Talks (TBT).

Unit IV
Safety in project management; construction safety challenges and mitigation measures; and working at height risks and measures; emergency preparedness in high hazard industries; on site and off site plans; ERDMP regulations by PNGRB; and fire protection systems.

Unit V
Introduction to IoT and smart safety systems; concept and architecture of IoT; components of

IoT, including sensors, actuators, gateways, and cloud platforms; IoT based fire safety systems, including smart fire detection and alarm systems; smoke, heat, flame, and gas sensors; real time monitoring and alert mechanisms; integration of IoT fire safety systems; role of IoT in preventive and predictive safety management; data analytics and dashboards for safety decision making; cybersecurity and data privacy issues; challenges in deployment and maintenance; and future trends in smart fire and industrial safety systems.

Reading List:

1. Internet of Things: A Hands-On Approach by Arshdeep Bahga & Vijay Madisetti (Universities Press)
2. Smart Buildings and Fire Safety Systems - Selected chapters from NFPA and ASHRAE publications
3. IoT Applications in Industrial Safety - Industry white papers and technical notes (IEC / IEEE)
4. Building Automation and Control Systems by James Sinopoli (Artech House)
5. National Building Code of India (Fire and Life Safety Provisions), SP 7:2016 (BIS)
6. Industrial Safety and Risk Management by L.M. Deshmukh (Tata McGraw-Hill)
7. Industrial Safety Management by Raj Kishore Ojha
8. Advances in Construction safety by Siddiqui, Yadav, Tauseef, Garg and Gill : Springer publication

Mapping of Course Outcomes with Program outcomes and Program Specific Outcomes

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CO1	2	2	1	3	2	1	1	1	1
CO2	2	3	1	3	2	1	1	1	1
CO3	2	3	1	3	2	2	1	1	1
CO4	2	2	2	3	2	2	2	2	2
AVG	**2**	**2.5**	**1.25**	**3**	**2**	**1.75**	**1.25**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Occupational Safety and Health (OSH)

Course Code: MFIS 214 **L - 2, Credits - 2**

Course Outcomes (COs)

CO1: Understand the fundamental concepts, objectives, and scope of occupational safety and health (OSH) within industrial and organisational contexts.

CO2: Identify common workplace hazards and the associated health risks across different industries, including physical, chemical, biological, ergonomic, and psychosocial hazards.

CO3: Apply basic OSH principles, regulatory requirements, and preventive strategies to enhance safety, health, and wellbeing of workers in industrial settings.

CO4: Evaluate the role of organisational systems, safety culture, training, and leadership in promoting occupational safety and health performance.

Course Contents

Unit I
Introduction to Occupational Safety and Health; definitions and evolution of OSH; purpose and importance of safety and health at work; global and national perspectives on OSH; and basic components of an effective OSH programme.

Unit II
Workplace hazards and health risks; identification of physical hazards such as noise, vibration, heat, and radiation; chemical hazards including toxic substances and dust; biological hazards and occupational diseases; ergonomic and psychosocial risk factors; and impact of hazards on worker health.

Unit III
OSH regulatory frameworks and standards; overview of international OSH frameworks and conventions; national OSH laws and regulations with reference to the Factories Act and relevant labour safety provisions; and the role of regulatory bodies and enforcement mechanisms.

Unit IV
OSH management and preventive strategies; principles of hazard control and risk reduction; personal protective equipment (PPE); workplace safety training and education; employee participation; health surveillance and incident reporting; and promoting a positive safety culture and continuous OSH improvement.

Reading List:

1. Occupational Safety and Health – general overview
2. Introduction to Health and Safety at Work by Hughes & Ferrett (Routledge)
3. OSH Management Systems: An Implementation Guide by International Labour Organization (ILO)
4. Occupational Safety and Health for Technologists, Engineers and Managers by D. Goetsch (Pearson)
5. Industrial Safety and Risk Management by L.M. Deshmukh (Tata McGraw-Hill)
6. National OSH Acts and Codes including the Factories Act, Labour laws and relevant OSH standards (India)

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CO2	2	3	1	1	2	1	1	1	1
CO3	2	3	1	1	2	2	2	1	1
CO4	2	2	2	1	2	2	2	2	2
AVG	**2**	**2.75**	**1.25**	**1**	**2**	**1.5**	**1.5**	**1.25**	**1.25**

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, NEW DELHI

MASTER OF BUSINESS ADMINISTRATION
(FIRE AND INDUSTRIAL SAFETY)

Research seminar

Course Code: MFIS 252 **L - 0, Credits - 8**

The research seminar should focus on applying management concepts, theories, or techniques learned in the first and second semesters to explore and address a specific organizational or social issue or challenge. The seminar may be based on primary or secondary research. Upon completion, students are required to present their research findings and submit a detailed report, demonstrating the relevance of the management theories or techniques applied