Annexure A

Department of Civil Engineering

1. Minor in Civil Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
CE 202	Mechanics of Solid	CE 204	Engineering Survey
CE 206	Soil Mechanics	CE 205	Fluid Mechanics
CE 207	Engineering Analysis and Design	CE 301	Analysis of Determinate Structure
		CE 303	Design of RCC Structure
		CE 304	Geotechnical Engineering
		CE 306	Transportation Engineering
		CE 308	Disaster Management
		CE 313	Earthquake Technology
		CE 406	Advanced design of Steel Structure
		CE 411	Interaction Behaviour of Soil Structure
		CE 420	Traffic Engineering
		CE 421	Hydraulic Structure and Flood Control Work

1. Minor in Sustainable Infrastructure

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
CE 205	Fluid Mechanics	CE 319	Application of Geoinformatics and GIS in Engineering
CE 206	Soil Mechanics	CE 322	Traffic and Transportation Planning
CE 207	Engineering Analysis and Design	CE 323	Occupational Safety and Health
		CE 324	Infrastructure Resilience and Socio-Economic Dynamic
		CE 413	Water Resources Management
		CE 416	Geo-Environmental and Geo-Hazard Engineering
		CE 425	Sustainable Construction and Practices

2. Minor in Disaster mitigation and management

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
CE 201	Civil Engineering Basics & Application	CE 308	Disaster Management
CE 207	Engineering Analysis and Design	CE 319	Application of Geo-Informatics Remote Sensing and GIS in Engineering
		CE 321	Disaster Preparedness and Mitigation
		CE 325	Human Values and Ethics in Disaster Management
		CE 327	Climate Change and Sustainable Development
		CE 422	Vulnerability and Risk Analysis
		CE 424	Hazard Monitoring, Prediction and Mitigation
		CE 426	Retrofitting of Structures

		CE 427	Wind Loads on Structures
		CE 429	Disaster Induced Risk
		CE 431	Cyclonic Hazard Assessment and Mitigation
		CE 433	Seismic Hazard Assessment and Mitigation
		CE 435	Landslide Hazard Assessment and Mitigation

Department of Applied Chemistry

1. Minor in Chemical Engineering (For students of other Disciplines)

Core		Electives	
Subject Codes	**Name of Subject**	**Subject Code**	**Name of Subject**
CH201	Chemical Engineering Process Calculations	CH202	Fluid Mechanics
CH203	Transport Phenomena	CH204	Chemical Reaction Engineering-1
		CH206	Mechanical Operations
		CH208	Heat Transfer
		CH303	Mass Transfer-1
		CH302	Chemical Reaction Engineering-2
		CH304	Mass Transfer-2
		CH306	Chemical Process Technology
		CH321	Numerical Methods in Chemical Engineering
		CH409	Plant Engineering and Process Economics
		CH411	Advanced Mass Transfer Operations
		CH410	Process Engineering and Design
		CH424	Safety & Hazards in Chemical Industries

2. Minor in Polymer Technology

Core		Electives	
Subject Code	**Name of Subject**	**Subject Code**	**Name of Subject**
CH301	Polymer Materials	CH311	Rheology
		CH315	Plastic Technology
		CH317	Resin Technology
		CH319	Rubber Technology
		CH310	Paint Technology
		CH312	Polymer Processing Techniques
		CH316	Coatings and Adhesives
		CH320	Packaging Technology
		CH322	Tyre Technology

		CH405	Fiber Technology
		CH407	Polymer Blends and Composites
		CH417	Polymer Waste Management
		CH425	Application of Polymers in Biomedical
		CH408	Specialty Polymers
		CH412	Thermoplastic Elastomers
		CH414	Non-woven Technology
		CH418	Application of Nanotechnology in Polymers
		CH420	Inorganic Polymers

3. Minor in Petrochemical Engineering

Core Courses		Elective Courses	
Course Code	Course Title	Course Code	Course Title
CH303	Mass Transfer I	CH307	Petroleum Refining Engineering
CH304	Mass Transfer II	CH315	Plastic Technology
		CH312	Polymer Processing Techniques
		CH318	Petrochemical Engineering
		CH324	Heat Exchangers
		CH409	Plant Engineering and Process Economics
		CH411	Advanced Mass Transfer Operations
		CH421	Polymer Reaction Engineering
		CH427	Combustion Engineering
		CH429	Energy Resources
		CH406	Catalysis
		CH410	Process Engineering and Design
		CH426	Biofuel Engineering
		CH428	Energy Conservation and Recycling

Department of Applied Mathematics.

1. Minor in Mathematics & Computing (For students of other Disciplines)

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
MC 205	Probability and Statistics	MC 305	Operations Research
MC 207	Engineering Analysis & Design (Differential Equations and Applications)	MC 312	Artificial Intelligence
MC 208	Linear Algebra	MC 404	Matrix Computation
		MC 405	Graph Theory
		MC 407	Cryptography and Network Security
		MC 409	Mathematical Modeling and Simulation
		MC 432	Fuzzy Set and Fuzzy Logic

2. Minor in Industrial Mathematics

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
MC 205	Probability and Statistics	MC 305	Operation Research
MC 303	Stochastic Processes	MC 405	Graph Theory
MC 306	Financial Engineering	MC 408	Quality Control and Decision Making
		MC 409	Mathematical Modeling and Simulation
		MC 418	Optimization Techniques
		MC 424	Game Theory
		MC 432	Fuzzy Set and Fuzzy Logic
		MC 440	Statistical Inference
		MC 419	Machine Learning

3. Minor in Computational Intelligence

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course title**
MC 205	Probability and Statistics	MC 312	Artificial Intelligence
CS 262	Algorithm Design and Analysis	MC 324	Big Data Analytics
MC 303	Stochastic Processes	MC408	Quality Control and Decision Making
		MC 409	Mathematical Modeling and Simulation
		MC 411	Data Warehousing & Data Mining
		MC 422	Finite element methods
		MC 440	Statistical Inference
		MC 419	Machine Learning

Department of Computer Science & Engineering

1. Minor in Computer Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
CO201	Data Structures	CO204	Operating Systems Design
CO202	Database Management Systems	CO205	Discrete Structures
CO203	Object Oriented Programming	CO206	Computer Organization and Architecture
		CO208	Algorithm Design & Analysis
		CO301	Software Engineering
		CO302	Compiler Design
		CO303	Theory of Computation
		CO304	Artificial Intelligence
		CO306	Computer Networks
		CO308	Parallel Algorithms
		CO313	Computer Graphics
		CO327	Machine Learning
		CO427	Web Technology
		CO428	Data Warehouse and Data Mining
		CO331	Project work related to Minor

2. Minor in Software Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
SE201	Data Structures	SE202	Object Oriented Software Engineering
SE206	Database Management Systems	SE301	Software Testing
SE207	Software Engineering	SE302	Empirical Software Engineering
		SE305	Software Requirement Engineering
		SE308	Software Reliability
		SE406	Advances in Software Engineering
		SE409	Software Maintenance
		SE411	Software Quality & Metrics
		SE427	Software Project management
		SE333	Project work related to Minor

3. Minor in Machine Learning

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
CO203	Object Oriented Programming	CO325	Probability and Statistics
CO201	Data Structures	CO329	Methods for Data Preparation & Analysis
CO327	Machine Learning	CO411	Computer Vision
		CO418	Natural Language Processing
		CO423	Swarm & Evolutionary Computing
		CO426	Advanced Machine Learning
		CO429	Neural Networks

		CO430	Deep Learning
		CO431	Reinforcement Learning
		CO331	Project work related to Minor

4. Minor in Data Analytics

Core Courses		Elective Courses	
Course Code	Course Title	Course Code	Course Title
SE201	Data Structures	SE326	Machine Learning
SE203	Object Oriented Programming	SE327	Methods for Data Analysis
SE206	Database Management Systems	SE328	Business Analytics
		SE329	Predictive Modeling
		SE331	Probability and Statistics
		SE412	Semantic Web & Web Mining
		SE416	Big Data Analytics
		SE418	Data Management and Ethics
		SE429	Data Warehouse & Data Mining
		SE333	Project work related to Minor

Department of Mechanical Engineering

1. Minor in Mechanical Engineering (For students of other Disciplines)

Core Courses		Electives Courses	
Course Code	Course title	Course Code	Course title
ME-201	Mechanics of Solids	ME-305	Design of Machine Elements
ME-208	Manufacturing Technology-I	ME-302	Heat and Mass Transfer
ME-307	Manufacturing Technology-Ii	ME-316	Power Plant Engineering
		ME-318	Computer Aided Manufacturing
		ME-407	Refrigeration and Air Conditioning
		ME-411	I C Engines
		ME-423	Advanced Manufacturing Processes
		ME-433	Computer Integrated Manufacturing
		ME-404	Industrial Engineering

2. Minor In Production Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
Course Code	Course Title	Course Code	Course Title
PE-208	Metal Cutting and Tool Design	PE-314	Manufacturing of Composite Materials
PE-301	Casting Technology	PE-316	Advances In Welding
PE-302	Welding Technology	PE-318	Advances In Casting
		PE-405	Metal Forming and Press Working
		PE-411	Computer Integrated Design And Manufacuring
		PE-413	Robotics And Automation
		PE-414	Flexible Manufacturing System
		PE-418	Advance Manufacturing Processes

3. Minor in Automotive Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
	Course Title		Course Title
Ae-317	Power Units And Transmission	Ae-305	Automobile Aerodynamics And Cfd
Ae-304	Internal Combustion Engine	Ae-307	Combustion Generated Pollution
Ae-306	Alternative Fuels and Energy Systems	Ae-315	Turbo Machinery And Gas Dynamic
		AE-411	Vehicle Maintenance and Tribology
		AE-413	Vehicle Transport Management
		AE-408	Refrigeration And Automobile Air Conditioning
		AE-412	Modern Vehicle Technology
		AE-414	Automobiles Vibration System Analysis
		AE-420	Vehicle Safety Engineering

4. Minor in Energy Technology

Core Courses		Elective Courses	
ME-301	Fluid System	ME-302	Heat And Mass Transfer
ME-353	Reneable Sources of Energy	ME-308	Gas Dynamics and Jet Propulsion
ME-316	Power Plant Engineering	ME-411	Internal Combustion Engine
		ME-421	Computational Fluid Dynamic
		ME-408	Combustion Generated Polution
		ME-416	Nuclear Energy
		ME-422	Fuel Cell

5. Minor in Operations and Supply Chain Management

Core Courses		Elective Courses	
ME-304	Production And Operations Manegement	ME-415	Project Management
ME-312	Quality Management and Six Sigma Applications	ME-427	Operations Research
ME-320	Reliability and Maintenance Engineering	ME-435	Optimization Techniques
		ME-404	Industrial Engineering
		ME-412	Supply Chain Management
		ME-418	Operations and Manufacturing Strategy
		ME-420	Materials Management

6. Minor in Design and Automation Engineering

Core Courses		Elective Courses	
ME-305	Design Of Machine Elements	ME-306	Finite Element Method
ME-324	System Modeling, Simulation And Analysis	ME-310	Automation In Manufacturing
ME-409	Mechatronics And Control	ME-314	Mechanical Vibrations
		ME-322	Design Of Mechanical Assemblies
		ME-419	Robotics And Automation
		ME429	Industrial Tribology
		ME-406	Elastic And Plastics Behaviour Of Materials
		ME-414	Fracture Mechanics

Department of Environmental Engineering

1. Minor in Environmental Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
EN204	Water Engineering: Design & Application	EN205	Environmental Chemistry & Microbiology
EN301	Waste Water Engineering: Design and Application	EN311	Climate Change & CDM
EN304	Air Pollution & Control	EN302	Solid Waste Management
		EN306	Hydrology & Ground water Engineering
		EN316	Environmental Law & Policy
		EN404	Environmental Impact Assessment & Audit
		EN412	Environment & Sustainable Development
		EN416	Non-Conventional Energy Systems

2. Minor in Environmental Remediation & Control

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
EN310	Surface and Groundwater Pollution	EN206	Engineering geology, GIS and Remote Sensing
		EN305	Soil Pollution & Remediation
EN413	Water & Soil Conservation	EN304	Air Pollution & Control
		EN314	Green Technology
		EN409	Industrial waste management
		EN417	Environmental Risk assessment
		EN416	Non-Conventional Energy Systems

3. Minor in Sustainability and Environmental Management

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
EN412	Environment & Sustainable Development	EN311	Climate Change & CDM
EN317	Environmental Management	EN351	Environmental Pollution & e-waste management

		EN314	Green Technology
		EN413	Water & Soil Conservation
		EN417	Environmental Risk assessment
		EN414	Disaster Management
		EN416	Non-Conventional Energy Systems
		EN420	Life Cycle Assessment

Department of Applied Physics

1. Minor in Minor in Engineering Physics (For students of other Disciplines)

Core Courses		Elective Courses	
Course Codes	Course Title	Course Codes	Course Title
EP-205	Classical & Quantum Mechanics	EP-305	Atomic and molecular Physics
EP-202	Condensed Matter Physics	EP-309	Quantum information and computing
EP-302	EP-308		Laser and instrumentation
		EP-411	Advanced Simulation Techniques in Physics
		EP-423	Space and Atmospheric Sciences –I
		EP-425	Plasma Science and Technology-I
		EP-406	Introduction to Spintronics
		EP-408	Integrated Optics
		EP-414	Space and Atmospheric Sciences –II
		EP-416	Plasma Science and Technology-II

2. Minor in Minor in Material Science & Engineering

Core Courses		Elective Course	
Course Codes	Course Title	Course Codes	Course Title
EP202	Condensed Matters Physics	EP427	Thermodynamics of Materials
EP301	Semiconductor Devices	EP429	Science and Technology of Thin Films
EP304	Fabrication & Characterization of materials	EP431	Advanced Materials for Photonic Devices
		EP433	Advanced characterization techniques in material Science
		EP404	Alternate Energy Storage and Conversion Devices
		EP406	Introduction to spintronic
		NST6403	Nano Sensor and Devices
		EP426	Computational Material Science
		EP428	Mechanical and Electrical behaviour of Thin Films
		NST6405	Micro & Nano electromechanical Systems

3. Minor in Photonics

Core Courses		Elective Courses	
Course Codes	**Course Title**	**Course Codes**	**Course Title**
EP-204	Optics	EP-305	Atomic and molecular Physics
EP-303	Electromagnetic theory, antennas and propagation	EP-309	Quantum information and computing
EP-302	Fiber optics and optical communication	EP-308	Laser System and instrumentation
		EP-312	Fourier optics and holography
		EP-417	Optical Electronics
		EP-431	Advanced materials for photonic devices
		EP-408	Integrated optics
		NST-5402	Nanophotonics
		MSPH-213	Advanced Numerical Physics

Department of Electrical Engineering

1. Minor in Electrical Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
Course Codes	**Course Title**	**Course Codes**	**Course Title**
EE201	Network Analysis and Synthesis	EE203	Electronic Devices and Circuits
EE206	Control Systems	EE208	Asynchronous and Synchronous machines
EE303	Power Transmission and Distribution	EE301	Power Electronics
		EE317	Renewable Energy systems
		EE357	Utilization of Electrical Energy
		EE302	Electric Drives
		EE304	Power System Analysis
		EE306	Microprocessors & Microcontroller Applications
		EE324	Design, Estimation and costing of Industrial Electrical Systems
		EE326	Process Instrumentation and control
		EE407	Measurement and Instrumentation
		EE434	Computer control of processes
		EE440	SCADA and Energy Management Systems

2. Minor in Machine Learning for IOT Systems

Core Courses		Elective Courses	
Course Codes	**Course Title**	**Course Codes**	**Course Title**
MC261	Numerical and Engineering Optimization	EE323	Fundamentals of Machine Learning

	Methods		
EE-407	Instrumentation and Measurement	EE325	Internet of Things
		EE327	Introduction to Python Programming
		EE328	Deep Learning with Artificial Neural Network
		EE330	Introduction to ARM Architecture
		EE332	Wireless Sensor Networks
		EE405	Digital Signal Processing
		EE423	Microcontroller and Embedded Systems
		EE442	Robotics and Machine Vision
		EE446	Data Communication and Computer Networks
		EE448	Big Data Analytics
		EE450	Cloud computing fundamentals

3. Minor in Power Electronics and Renewable Energy Systems

Core Courses		Elective Courses	
Course Codes	Course Title	Course Codes	Course Title
EE301	Power Electronics	EE309	Special Electrical machines
EE 303	Power Transmission and Distribution	EE317	Renewable Energy Systems
EE302	Electric drives	EE351	Power Electronics Systems
		EE314	Power Electronics Applications to Power Systems
		EE318	Switch mode power supply
		EE419	PWM For Power Converters
		EE429	Power Electronics Application to Photovoltaic Systems
		EE408	Restructured Power systems
		EE416	Grid Integration of Renewable Energy Sources
		EE418	Selected Topics in Power Electronics
		EE420	Power Quality
		EE422	High Voltage DC Transmission
		EE424	Flexible AC Transmission Systems
		EE426	Smart Grid

Department of Electronics and Communication Engineering

1. Minor in Electronics and Communication Engineering (For students of other Disciplines)

Core Courses		Elective Courses	
EC-201	Analog Electronics-I	EE-251	Network analysis and synthesis
EC-203	Digital Design -I	EC-202	Analog Electronics-II
EC-205	Signal and Systems	EC-206	Communication Systems
		EC-303	Linear Integrated Circuits
		EC-305	Semiconductor device Electronics
		EC-307	Antenna Design
		EC-313	Microprocessor and interfacing
		EC-323	Control systems
		EC-325	Probability and random Process
		EC-302	VLSI Design
		EC-304	Digital Signal Processing
		EC-306	Embedded Systems
		EC-308	Analog Filter Design

		EC-332	Information Theory and coding
		EC-330	Digital Image Processing
		EC-407	Optical communication
		EC-405	Microwave Engineering
		EC-409	Computer Vision
		EC-437	Fractals and its application in electronics
		EC-416	Pattern Recognition
		EC-438	RADAR and Satellite Communication systems
		EC-442	Microwave Digital Communication
		EC-444	Wavelets and its application in Antenna

2. Minor in VLSI Design

Core Elective		Elective Coruses	
Code	Title	Code	Title
EC-201	Analog Electronics I	EC-305	Semiconductor Device Electronics
EC-203	Digital Design I	EC-319	CMOS Analog Integrated Circuits
EC-302	VLSI Design	EC-321	IC Technology
		EC-361	Analog circuits: Design to Layout
		EC-308	Analog Filter Design
		EC-310	Testing and Diagnosis of Digital System Design
		EC-318	RF Circuits in CMOS Technology
		EC-324	Nano Electronics
		EC-326	Data Converters
		EC-336	Flexible Electronics
		EC-338	Design Verification
		EC-340	Robust Analog Circuit Design
		EC-415	System on Chip Design
		EC-417	CAD for VLSI Design
		EC-419	Memory Design
		EC-425	Mixed Signal Design
		EC-429	Emerging Semiconductor Devices
		EC-431	MEMS and Sensor Design
		EC-433	Hardware Design Methodology
		EC-435	Quantum Electronics
		EC-408	Low Power VLSI Design
		EC 412	Machine Learning
		EC-428	Neuro-electronics
		EC-430	Advanced Computer Architecture
		EC-440	Photonic Integrated Circuits

3. Minor in Signal Processing & Machine Intelligence

CORE COURSES		ELECTIVE COURSES	
EC-205	Signal and Systems	EC-309	Bio – Medical Electronics & Instrumentation
EC-304	Digital Signal Processing	EC- 327	Time-frequency analysis
		EC – 329	Analog Signal Processing
		EC-308	Analog Filter Design
		EC-320	Soft Computing
		EC - 328	Speech Recognition
		EC-330	Digital Image Processing
		EC - 342	Machine Learning
		EC - 409	Computer Vision

Code	Title
EC - 411	Bio – Medical Signal And Image Processing
EC -427	Mathematical Modelling & Simulation
EC449	Adaptive Signal Processing
EC - 451	Reconfigurable Computing
EC - 453	Statistical Signal Processing
EC -455	Data Analytics
EC - 457	Natural Language Processing
EC-406	Autonomous Mobile Robots
EC -416	Pattern Recognition
EC - 420	Cloud Computing
EC-422	Robotics & Machine Vision
EC - 456	Wavelets in Signal Processing
EC -458	Deep Learning
EC - 460	Computational Optimization
EC -462	Recent Trends in Artificial Intelligence
EC - 464	Virtual Reality
EC - 466	Human Computer Interaction
EC -468	Probabilistic Graphical Models

4. Minor in Advanced Communication Systems

Core Courses		Elective Courses	
Code	Title	Code	Title
EC206	Communication Systems	EC 405	Microwave Engineering
EE262	Electromagnetics	EC 407	Optical Communication
EC301	Digital Communication	EC 427	Information Theory and Coding
		EC435	Quantum Electronics and Communication
		EC439	Microwave integrated circuit
		EC441	Radar Signal processing
		EC443	RF MEMS Design and Technology
		EC445	Nanophotonic Devices for Communications
		EC447	Spread Spectrum Techniques and Multiple Access
		EC449	Adaptive Signal Processing
		EC404	Wireless Communication
		EC410	Advanced Coding Theory
		EC418	Estimation and Detection Theory
		EC 436	Advance Microwave & Antenna Design
		EC438	Radar and Satellite Communication
		EC440	Photonic Integrated Circuits for Communication
		EC446	RF and Microwave Active circuits
		EC448	Optical Electronics for Communication Systems
		EC450	Optical Networks
		EC452	Optical CDMA systems
		EC454	5G Wireless technologies

Biotechnology

1. Minor in Biotechnology (For Disciplines other than Biotechnology)

Core Courses		Elective Courses	
Course Code	Courses	Course Code	Courses
BT201	Introduction to Biotechnology	BT206	Microbiology
BT202	Molecular Biology	BT 301	Immunology and Immuno- Technology
BT303	Genetic Engineering	BT424	Environmental Biotechnology
		BT203	Biochemistry
		BT 207	Fundamentals of Computational Biology
		BT306	Genomics and Proteomics
		BT327	Project Work related to minor

2. Minor in Biological Computing

Core Courses		Elective Courses	
Course Code	Courses	Course Code	Courses
BT 303	Fundamentals of Computational Biology	BT419	Pharmacogenomics and Personalized Medicine
BT306	Advances in Computational Biology	BT328	Bioinformatics approaches in Complex disorders
BT319	Drug Design and Delivery	BT309	Object oriented Programing
		BT306	Genomics and Proteomics
		BT320	Genomics in Medicine
		BT316	Population Genetics
		BT327	Project Work related to minor

3. Minor in Public Health

Core Courses		Elective Courses	
Course Code	Courses	Course Code	Courses
BT424	Environmental Biotechnology	BT307	Food and Nutrition
BT441	Principles and practice of Public Health	BT206	Microbiology
BT411	Basic Epidemiology	BT430	Waste water treatment
		BT443	Rehabilitation Engineering
		BT316	Population Genetics
		BT425	Pharmaceutical Sciences
		BT327	Project Work related to minor

Department of Information Technology

1. Minor in Information Technology (For other discipline)

Course Code	Core Courses	Course Code	Elective Courses
IT201	Data Structures	IT351	Artificial Intelligence and Machine Learning
IT208	Algorithm Design and Analysis	IT302	Compiler Design

IT303	Computer Networks	IT321	Malware Analysis
		IT304	Software Engineering
		IT407	Information and Network Security
		IT404	Big Data Analytics
		IT204	Operating System
		IT 427	Intrusion Detection and Information Warfare
		IT425	Natural Language Processing
		IT 307	Pattern Recognition

2. Minor in Cyber Forensics & Cyber Laws

Course Code	Core Courses	Course Code	Elective Courses
IT204	Operating System	IT325	Secure Coding
IT321	Malware Analysis	IT328	Ethical Hacking
IT312	Cyber Forensics	IT407	Information and Network Security
		IT429	Cyber laws
		IT431	Information Security and Audit
		IT428	Mobile and Digital Forensics

3. Minor in Artificial Intelligence and Machine Learning

Core Courses		Elective Courses	
Course Code	Name of Course	Course Code	Name of Course
IT201	Data Structures	IT307	Pattern Recognition
IT208	Algorithm Design and Analysis	IT306	Artificial Intelligence and Expert Systems
IT323	Machine Learning	IT324	Deep Learning
		IT411	Digital Image Processing
		IT425	Natural Language Processing
		IT433	Multi modal data processing
		IT420	Computer Vision
		IT430	Speech & Natural Language Understanding

Delhi School of Management

1. **Minor in Supply Chain Management**

Core Courses		Elective Courses	
Course Code	Course Title	Course Code	Course Title
MGT-26	Operations & Supply Chain Management	MGS-02	Operations Analytics
MGT-27	Management Accounting	MGS-03	Logistics Planning & Strategy
		MGS-04	Total Quality Management
		MGS-07	Supply Chain Strategy & Innovation
		MGS-08	Transportation and Distribution Management
		MGM-05	Sales & Distribution Management

		MGM-07	Retail Management
		MGM-11	Customer Relationship Management

2. Minor in Marketing Management

Core Courses		Elective Courses	
Course Code	**Course Title**	**Course Code**	**Course Title**
MGM-10	Digital Marketing	MGM-01	Consumer Behavior
MGT-13	Marketing Management	MGM-02	Advertising & Brand Management
		MGM-04	International Marketing
		MGM-06	Marketing Research
		MGM-08	Promotion Management & B2B Marketing
		MGM-09	Marketing of Services
		MGM-11	Customer Relationship Management
		MGM-12	Entrepreneurial Marketing & Sales

3. Minor in Innovation and Entrepreneurship

	Core courses		Elective Courses
Course Code	**Course Title**	**Course Code**	**Course Title**
MBE ALS1	Action Learning Segment-1	BBA - 201	Organizational Behaviour
MBE ALS2	Action Learning Segment-1I	BBA- 202	Marketing Management
BBA -303	Entrepreneurship Development	BBA - 211	Human Resource Management
		DD - 303	Design Thinking
		BBA -302	Financial Management
		CO-408	Intellectual Property Rights
		FB-404	Government Policies, Institutions and Economic Zones for Entrepreneurship
		FIE-1	International Entrepreneurship
		FSE-5	Venture Capital Investment
		MGK-01	Knowledge Creation, Critical Thinking and Innovation
		MGM-10	Digital Marketing
		MGM-12	Entrepreneurial Marketing and Sales
		MGT-28	Information Technology and Innovation Management

Department of Humanities

1. Minor in Economics

Core Course	Elective Course		
	S.No.	Course Code	Paper
None	1	HU 206	Microeconomics
	2	HU 305	Macroeconomics
	3	HU 306	Money, Banking and Finance
	4	HU 307	Basic Econometrics
	5	HU 308	Mathematical Economics
	6	HU 309	Indian Economy
	7	HU 310	International Trade
	8	HU 405	Economic Growth
	9	HU 406	Public Finance and Policy
	10	HU 407	Wealth and Poverty of Nations- Indian Economic Development

2. Minor in English

Core Course	Elective Course		
	S.No.	Course Code	Paper
None	1	HU 225	Basic Communication Skills
	2	HU 226	Professional Writing Skills
	3	HU 325	Creative Writing Skills
	4	HU 326	Rhetoric and Public Speaking
	5	HU 327	Non-Verbal Communication
	6	HU 328	Theatre and stagecraft
	7	HU 425	Soft Skills Development
	8	HU 426	Language and Social Media
	9	HU 427	Literary Appreciation
	10	HU 428	Adaptation and Translation
	11	HU 429	Advanced Spoken Skills

Department of Design

Minor in Industrial Design

Core Course		Elective Course	
Course Code	Course Name	Course Code	Course Name
DD108	Material & Processes for Designers	DD102	Design Methodology & Methods
DD106	Communication Studios and Semiotics	DD107	Tinkering Studio
DD205	Basics of Interaction Design	DD201	Physical Ergonomics
		DD202	Cognitive Ergonomics
		DD203	Design and People
		DD204	Video Editing & Compositing
		DD209	Visual Design
		DD207	Basics of Photography and Videography