Tentative list of courses offered (August - November 2022 semester)

BASIC ENGINEERING COURSES

Chemical Process Calculations (for CL students)
Computing
Data Structures and Algorithms I (For CS students)
Digital Systems (for EE & CSE students)
Dynamics and Vibrations (for ME students)
Earth Materials and Processes (for CE students)
Electrical and Electronics Lab
Electronic Devices (for EE students)
Engineering Graphics
General Chemistry
Introduction to Computing
Introduction to Design and Innovation
Introduction to Electrical Systems
Introduction to Life Sciences: Fundamentals of Life
Introduction to Materials (for MSE students)
Introduction to Writing I
Manufacturing and Workshop Practice
Mathematics I
Mathematics III
Matter and Energy Laboratory
Thermodynamics (CL, ME & MSE)

BIOLOGICAL ENGINEERING

Biochemistry
Bioinformatics and Computational Biology
Bio nanotechnology – Principles and Applications
Biostatistics
Methods in Biology
Molecular and Cellular Biotechnology
Molecular Oncology

CIVIL ENGINEERING

Advanced Engineering Hydrology
Advanced Geotechnical Engineering
Advanced Hydraulic Engineering
Advanced Solid Mechanics
Advanced Structural Analysis
Air Pollution Control Engineering
Comprehensive Project - 1
Design of Experiments
Geospatial Engineering
Slopes and Retaining Structures
Soil Mechanics
Structural Analysis
Structural Dynamics
Water Resource Engineering
Water Resource Systems: Planning and Management

COGNITIVE SCIENCE

Computation and Cognition
Fundamental Neuroscience
Fundamentals of Cognitive Psychology
Learning and Memory
Philosophy of Mind
Research Methods in Cognitive Science

CHEMISTRY

Advance Organic Chemistry
Applied Chemical Biology
Asymmetric Synthesis and Catalysis
Inorganic Chemistry Laboratory
Interpretative Organic Spectroscopy
Main Group and Transition Metal Chemistry
Organic Chemistry Laboratory
Physical Organic Chemistry
Quantum Chemistry
Statistical Thermodynamics and its Applications in Chemistry

CHEMICAL ENGINEERING

Advance Transport Phenomena
Biochemical Engineering
Chemical Engineering Thermodynamics
Chemical Reaction engineering
Colloidal Domain: Where Science meets Engineering
Heat and Mass Transfer
Heat Transfer and Thermodynamics Lab
Introduction to Polymer Science and Engineering
Liquid State Theory
Process Dynamics and Control Lab
Process Synthesis and Design

COMPUTER SCIENCE

Algorithms
Computer Networks
Computer Systems
Natural Language Processing
Operating System
Optimization Methods for Machine Learning
Parallel and Distributed Systems
Probability and Random Processes
Special Topics in Computer Science: Complexity Theory
Theory of Computing

ELECTRICAL ENGINEERING

Analog Circuits
Applied Statistical Bioelectric Signal Analysis
Artificial Intelligence
Digital Control Systems
Digital Signal Processing
Dynamic Behaviour of Electric Machines
Electrical Systems Lab
Electromagnetic Waves
Introduction to Photonics
Medical Imaging Systems
Microelectronics Lab
Physics of Transistors
Power Systems
Probability and Random Processes
Special Topics in Electrical Engineering: Economics of Regulation in India
VLSI Design

EARTH SCIENCE

Biodiversity Conversation and Sustainable Development
Earth Surface Processes in the Anthropocene
Modeling of Earth System and Sustainability
Special Topics in Earth Science: Carbonate Sedimentology
Special Topics in Earth Science: Microwave remote sensing
Special Topics in Earth Science: Physics of lithosphere

HUMANITIES AND SOCIAL SCIENCES

Ancient Indian Architecture
Ancient Indian Technology
Economics
Foundational Sanskrit
History of India, 1930-1964
Humanism, Anti-humanism, and Posthumanism
Introduction to Archaeology
Introduction to Philosophy
Literary Experiment in European Modernism
Tropes of Time and Topography: Select Fiction from South-Asia
Perspectives on Indian Civilization
Special Topics in HSS: World Englishes
Sanskrit Literature
Urdu poetry interpretation
Urdu script and poetry
Special Topics in HSS: Development Economics
Literature, Theory and Social Context
Linguistic Anthropology
Special Topics in HSS: Anthropology in the 21st Century
Research Methods in Humanities and Social Sciences
Writing

MATERIALS ENGINEERING

Advance Metal Forming Technology
Advanced Materials
Characterization of Materials
Computational Process Design
Mechanical Behaviour of Materials
Physics of Materials
Principles of Metal Extraction and Refining
Science and Technology of Welding and Joining
Structure and Defects of Materials
Surface Engineering
Thermodynamics of Materials
Transmission Electron Microscopy

MECHANICAL ENGINEERING

Compressible Flow
Computational Fluid Dynamics
Energy Efficient Design of Separation Processes
Foundations of Fluid Dynamics
Heat and Mass Transfer
Integrated Design and Manufacturing II
Introduction to Robotics
Manufacturing Processes and Systems
Mechanical Engineering Laboratory I
Mechanics of Deformable Bodies

MANAGEMENT

Engineering Entrepreneurship
Special Topics in Management: Alternative business models for sustainable development
Special Topics in Management: Digital Innovation and transformation for Enterprises
Special Topics in Management: Entrepreneurship and New Ventures
Special Topics in Management: Marketing Analytics

MATHEMATICS

Algebra
Algebraic Topology
Linear Algebra
Mathematical Methods in Engineering
Measure Theory and Functional Analysis
Number Theory
Partial Differential Equations
Probability Theory
Real Analysis
Topology

PHYSICS

Advanced Statistical Physics
Atomic and Molecular Physics
Classical Electrodynamics
Classical Mechanics
Condensed Matter Physics
Introduction to Inverse Modelling in Physical Sciences
Mathematical Methods of Physics - I
Molecular and Crystal Physics
Quantum Field Theory I
Quantum Mechanics I
Tools of Theoretical Physics
Topics in Classical Mechanics and Electrodynamics