Tentative list of courses offered (January - April 2022 semester)

BASIC ENGINEERING COURSES

Introduction to Life Sciences: Fundamentals of Life
Engineering Graphics
Introduction to Electrical Systems
Introduction to Engineering
Introduction to Writing II

Mathematics I
Physics
Economics

Mathematics IV
Introduction to Materials

Mechanics of Solids

Fluid Mechanics

Sustainability and Environment
Fluid Mechanics Lab
Electrical Machines
Discrete Mathematics
Computer Organization and Architecture
Signals, Systems, and Networks
Data Structures and Algorithms II
Microstructural Engineering

Material Thermodynamics and Kinetics

BIOLOGICAL ENGINEERING

Introduction to Biomedical Engineering
Biomolecular Forensics

Biophysical Techniques

Molecular Basis of Neurodegenerative Diseases
Special Topics in Biological Engineering: Analysis and Characterization of Biologicals
Special Topics in Biological Engineering: Human Physiology

CIVIL ENGINEERING

Concrete Design
Steel Design

Civil Engineering Materials Lab
Masonry Design

Field Survey Project

Construction Technology & Management
Geotechnical Engineering
Analysis and Design of Foundation Systems
Remote Sensing of Land and Water Resources
Applied Hydraulic Transient
Geosynthetics
Advanced Concrete Design
Special Topics in Civil Engineering: Design for Dynamic Loads
Finite Element Methods

COGNITIVE SCIENCE

Research Methods in Cognitive Science

Special Topics in Cognitive Science: Neuroplasticity
Special Topics in Cognitive Science: Introduction to Cognitive Linguistics
Neurophysiological Basis of Movement
Computational Neuroscience
Evolutionary Neuropsychology

CHEMISTRY

Forensic Chemistry
Organometallic and Bioinorganic Chemistry
Reactions and Mechanisms in Organic Chemistry
Introduction to Molecular Modelling
Medicinal Chemistry for life

Fluorescence spectroscopy for chemists and biologists
Analytical and Computational Chemistry Laboratory
Solid State Chemistry and Applications
Chemistry of Natural Products
Electrochemistry
Physical Chemistry Laboratory
Catalytic Chemistry

CHEMICAL ENGINEERING

Separation Processes
Process Control

Process Analysis and Simulation
Advanced Thermodynamics
Advanced Reaction Engineering

Chemical Microscopy

Introduction to Polymer Science and Engineering
Water Quality Engineering

Engineering Optimization

Mass Transfer and Reaction Engineering Lab

COMPUTER SCIENCE

Compilers
Introduction to Data Science

Computer and Network Security
Databases

Advanced Algorithms

Advanced Computer Networks

Machine Learning
Special Topics in Computer Science: Deep learning

ELECTRICAL ENGINEERING

Power Electronics
Communication Systems
Control Theory
Microprocessors and Embedded Systems

Lasers
Microelectronics Lab
Microfabrication and Semiconductor Processes

High Voltage DC and Flexible AC Transmission Systems
Advanced Signal Processing

CMOS Analog IC Design
IC Design lab
Nanoscale Device engineering
Special Topics in Electrical Engineering: Microwave and Millimeterwave System
Electronic Instrumentation

EARTH SCIENCE

River Morphology and Ecology

Quantitative Geomorphology
Biodiversity Conversation and Sustainable Development

HUMANITIES AND SOCIAL SCIENCES

Writing

Foundational Sanskrit
Urdu Script & Poetry
Urdu Poetry Interpretation
Sanskrit literature
Harappan Civilization

Indian Systems of Ethics
Creative Writing in Practise
Introduction to Indian Knowledge Systems
Political Thought
Perspectives in History

The Politics of the Environment

Philosophy, Cognition and Psychoanalysis
Digital Cultures and New Media

India Through the Writer's Eye

Theories of Social Epidemiology

Structures and Hydrology in Ancient India
Critical perspectives in Sociology and Anthropology
Special Topics in HSS : Epidemiology
Special Topics in HSS: Public Policy & Impact Evaluation
Human Evolution
Special Topics: Modeling and Simulation of Complex Systems
Special Topics in HSS: Anthropology in the 21st Century
World Civilizations and Cultures

MATERIALS ENGINEERING

Microstructural Engineering

Material Thermodynamics and Kinetics

Corrosion and Degradation of Materials
Biomolecular Materials Science
Materials Processing
Light metal Alloys for automative Industry

Biomaterials and Tissue regeneration
Thin Film Processing and Characterization
Process Plant Design – How to Set Up a Process Industry

MECHANICAL ENGINEERING

Control Theory

Synthesis and Analysis of Mechanisms

Industrial Engineering and Operations Research

Mechanical Engineering Laboratory II

Special Topics in Mechanical Engineering: Laser Materials Processing

Nonlinear Continuum Mechanics

Human-Robot Interaction

Advanced Fluid Mechanics

Aircraft and Rocket Propulsion

Integrated Design and Manufacturing I

MANAGEMENT

Business Communication

Principles of Business Management

Business Skills for Entrepreneurs

Special Topics in Management: Social Media Marketing

Special Topics in Management: Business Risk Management

PHYSICS

Quantum Mechanics II

Methods of Experimental Physics

Introduction to Einstein's Theory of General Relativity

Computational Physics

Topics in Quantum and Statistical Mechanics

Statistical Mechanics

Physics of two-dimensional materials

Tools of Experimental Physics

Special Topics in Physics: Particle Physics-Standard Model

DESIGN

Creativity design and doing

Special Topics in Design: From Idea to marketable product

MATHEMATICS

Complex Analysis

Ordinary Differential Equations

Advanced Numerical Methods in Engineering

Measure Theory

Special Topics in Mathematics: Perturbation Methods

Algebra-II

Introduction to Differential Geometry

Special Functions

Algebraic Number Theory

Commutative Algebra

Stochastic Differential Equations