Chem 1231 (Chemistry)

Lecture: 3 hrs. /week *No. of Credit: 3.00*

Inorganic Chemistry: Different types of chemical bonds and their properties. Different types of solutions and their compositions. Properties of dilute solutions. Thermochemistry, chemical kinetics, chemical equilibria. Electrolytic conductance, emf. Electrochemical cells.

Organic Chemistry: Preparation, properties and industrial applications of aliphatic and aromatic compounds.

Chem 1232 (Chemistry Sessional)

Sessional: 3 hrs. /week *No. of Credit: 1.50*

Sessional based on Chem 1231

Math 1231 (Vector Analysis and Matrices)

Lecture: 3 hrs. /week *No. of Credit: 3.00*

Vector Calculus: Gradient of a scalar function, divergence and curl of vector functions. Line, surface and volume integrals. Gauss's theorem, Stoke's theorem, Green's theorem and their applications.

Matrices: Different types of Matrices. Adjoint and inverse of a matrix. Elementary transformations. Normal and canonical forms, Rank of matrices, Solution of linear equations. Quadratic forms. Matrix polynomials. Caley-Hamilton theorem. Eigenvalues and eigenvectors.

Hum 1231 (Communication English)

Lecture: 3 hrs. /week *No. of Credit: 3.00*

Grammar: Properties of English grammar, IPA, correction. Construction of sentences

Vocabulary: Scientific terms, phrases and idioms, group verb, prepositional phrases.

Reading Comprehension: Techniques of reading, skimming, scanning, SQ3R technique

Writing: Formal letter, resume, paragraph, report writing, tender and schedule, APA style sheet, email writing. Commercial correspondence and tenders, amplification, précis writing

Modern Literature: At least three short stories and three poems.

Hum 1232 (Communication English Sessional)

Lecture: 1.5 hrs. /week *No. of Credit: 0.75*

Listening: Monologue, conversation (formal and informal), telephoning and direction; note taking skills

Speaking: Basic conversation, job interview, seminar and paper presentation; formal speech, telephoning, difference between British and American English.

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CSE 1291 (Programming Language and Data Structure)

Lecture: 3 hrs. /week *No. of Credit: 3.00*

Introduction to Digital Computer: Main parts like I/O devices, Memory unit and CPU. Primary and secondary storage devices, different memory types, Introduction to Number System
Languages: Development of programming logic, algorithm, flow chart, Assembly level language and Machine level language, high level language, Compiler, Interpreter, Source and Object programs.
Concept of Algorithms: Development of Flowcharts to solve engineering problems
Introduction to C & C++ Language: Preliminaries, Program construction and data types, I/O statements, Expressions, Decision making, Loops, Function and its Calling procedure, Recursion, Arrays and pointer, Linear and Non-linear Array, structure aduminar, Application of computer programming for solving mechanical engineering problems, Files I/O, Error Handling

CSE 1292 (Programming Language and Data Structure Sessional)

Sessional: 1.5 hrs. /week *No. of Credit: 0.75*

Sessional based on CSE 1291

ME 1259 (Engineering Mechanics)

Lecture: 3 hrs. /week *No. of Credit: 3.00*

Statics: Basic concepts of mechanics, statics of particles and rigid bodies, centroids of lines, areas and volumes. Forces in trusses and frames. Friction. Moments of inertia of areas and masses. Relative motion.
Dynamics: Kinematics of particles- Newton's Second law of motion. Principles of work and energy. System of particles. Kinematics of rigid bodies, kinematics of plane motion of rigid bodies-forces and acceleration.

MSE 1200 (Computer Fundamentals and Ethics)

Lecture: 1.5 hrs. /week *No. of Credit: 0.75*

Computer Fundamentals: Overview of DOS, Windows and UNIX operating systems, Essential general purpose packages for word processing, spreadsheet analysis, slide presentation etc.
Ethics: Computers in workplace, computer crime, rules of common privacy, protection of intellectual property.

ME 1250 (Computer Graphics)

Lecture: 3 hrs. /week *No. of Credit: 1.50*

Computer Aided Drawing: Use of interactive menu-driven software for preparation of line drawings, graphic coordinate system, commands for draw, erase, move, rotate mirror, hatch etc., blocks and layers, dimensional drawing files, saving, editing, and plotting
Production Drawing: Machine drawing, study of part drawing, study of assembly drawing, preparing complete working drawing (detail and assembly) from explodes pictorial and actual machines, dimensioning with tolerances, notes etc. representation of conventional features (threads, fasteners, gear, spring, their specification) and drawing; introduction to solid work.

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