PHYSICS (1st/2nd Semester)
Course Code: BPHY0-101

Course Outcome:

The student will be able to:

CO1: Understand the basics of Electromagnetism, Electrostatics in vacuum and in linear dielectric medium and electromagnetic waves.

CO2: Understand the basics of Faraday laws and evaluate the Maxwell's equations in different medium.

CO3: Understand the phenomenon of Magnetostatics and magnetitic in linear magnetic medium.

CO4: Understand the Relation between electric and magnetic field of EM wave

Mathematics-I (1st/2nd Semester)
Course Code: BMAT0-101

Course Outcome:

The student will be able to:

CO1: Learn basic knowledge of Calculus and understanding of Beta and Gamma Functions

CO2: Understand the fallouts of Mean value theorems that is fundamental to application of analysis of engineering problems

CO3: Recognize of sequences and series and able to test their convergence.

CO4: Learn the fundamentals of Multivariable calculus regarding the differentiation.

CO5: Understand the Basic properties of Gradient, Curl and divergence and directional derivatives.

CO6: Explore the essential tool of matrices and linear algebra in comprehensive manner.

Engineering Graphics & Design (1st/2nd Semester)
Course Code: BMEE0-101

Course Outcome:

The student will be able:

CO1: To understand basic of engineering drawing and its principles.

CO2: To get exposure to drawing, drafting techniques and interpretation of drawing scales.

CO3: To learn about the projection of point, line, panes and regular solids.

CO4: To learn about the development of surfaces.

CO5: To understand the concept of isometric and orthographic projections of simple and compound solids.

<div align="center">**Basics Electrical Engineering (1ˢᵗ/2ⁿᵈ Semester)**</div>

<div align="center">**Course: BELE0-101**</div>

Course Outcome:

The student will be able:

CO1: To understand and analyse basic DC and AC circuits.

CO2: To learn the use and working principle of single-phase transformers.

CO3: To study the application and working principles of three phase and single-phase induction motors.

CO4: To learn the components of low voltage electrical installations.

<div align="center">**Engineering Graphics & Design Lab. (1ˢᵗ/2ⁿᵈ Semester)**</div>

<div align="center">**Course Code: BMEE0-102**</div>

Course Outcome:

The student will be able:

CO1: To interpret engineering drawings using fundamental technical mathematics.

CO2: To improve their technical communication skill in the form of communicative drawings.

CO3: To know and understand the conventions and the advanced method of engineering drawing.

CO3: To enhance their visualization skills so that they can apply these skills in developing new products.

<div align="center">**Physics Lab. (1ˢᵗ/2ⁿᵈ Semester)**</div>

<div align="center">**Course Code: BPHY0-102**</div>

Course Outcomes:

The student will be able:

CO1: To understand the working of CRO

CO2: To understand the concept of oscillation in LCR Circuits

CO3: To understand the properties of Magnetic material

CO4: To know about the basics of the electric circuit (LC and RC circuits)

<div align="center">**Basics Electrical Engineering Lab. (1ˢᵗ/2ⁿᵈ Semester)**</div>

<div align="center">**Course Code: BELE0-102**</div>

Course Outcomes:

The student will be able to:

CO1: Get an exposure to common electrical components and their ratings

CO2: Make electrical connections by wires of appropriate ratings

CO3: Understand the usage of common electrical measuring instruments.

CO4: Understand the basic characteristics of transformers and electrical induction motors.

Drug Abuse: Problem, Management and Prevention (1st/2nd Semester)

Course Code: BHUM0-105

Course Outcomes:

The student will be able:

CO1: To understand prevention of drug abuse.

CO2: To understand the treatment and control of drug abuse.

CO3: To know consequences of unlawful and unsanctioned drug use.

CO4: To understand the impact of media messages on the health behavior of individuals and society.

Chemistry-I (1st/2nd Semester)

Course Code: BCHM0-101

Course Outcomes:

The student will be able:

CO1: To understand Atomic and molecular nature of various molecule

CO2: To understand Band structure

CO3: To elaborate the application of various spectroscopic Techniques

CO4: To understand thermodynamic function and their application

CO5: To rationalize periodic properties

CO6: To understand the concept of stereochemistry and preparation of organic molecule

Mathematics-II (1st/2nd Semester)

Course Code: BMAT0-201

Course Outcomes:

The student will learn:

CO1: The mathematical tools needed in evaluating multiple integrals and their usage.

CO2: The effective mathematical tools for the solutions of differential equations that model physical

processes.

CO3: The tools of differentiation and integration of functions of a complex variable that are used in

various techniques dealing engineering problems.

English (1st/2nd Semester)
Course Code: BHUM0-101

Course Outcomes:

The students will be able:

CO1: To cover comprehensive exposition to lexical derivatives and word-formation.

CO2: To understand the mechanics of writing: semantics.

CO3: To identify errors and non-native flaws in English sentence framework.

CO4: To learn nature and style of writing with varied writing forms.

Programming for Problem Solving (1st/2nd Semester)
Course Code: BCSE0-101

Course Outcomes:

The student will be able:

CO1: To translate the algorithms to programs (in C language).

CO2: To formulate simple algorithms for arithmetic and logical problems

CO3: To test and execute the programs and correct syntax and logical errors.

CO4: To implement conditional branching, iteration and recursion.

CO5: To decompose a problem into functions and synthesize a complete program using divide and conquer approach.

CO6: To use arrays, pointers and structures to formulate algorithms and programs.

CO7: To apply programming to solve matrix addition and multiplication problems and searching and

sorting problems.

Chemistry-I Lab. (1st/2nd Semester)
Course Code: BCHM0-102

Course Outcomes:

After undergoing this course student will be able:

CO1: To learn the preparation and standardization of solutions

CO2: To learn the estimation of various physical properties of given liquid samples

CO3: To estimate various crucial parameters for water sample

CO4: To learn the preparation of various molecules and detection of functional groups.

English Lab. (1st/2nd Semester)
Course Code: BHUM0-102

Course Outcomes:

The student will:

CO1: Effectively communicate verbally for a wide variety of purposes and audiences.

CO2: Maintain self-confidence when speaking to an audience.

CO3: Structure a speech that is clear and easy to follow.

CO4: Exhibit behaviours and mannerisms associated with successful presentations (e.g., voice, pace, dress, gestures, eye contact, etc.)

Programming for Problem Solving Lab. (1st/2nd Semester)
Course Code: BCSE0-102

Course Outcomes:

The student will be able:

CO1: To formulate the algorithms for simple problems.

CO2: To translate given algorithms to a working and correct program.

CO3: To correct syntax errors as reported by the compilers.

CO4: To identify and correct logical errors encountered at run time.

CO5: To write iterative as well as recursive programs.

CO6: To represent data in arrays, strings and structures and manipulate them through a program.

CO7: To declare pointers of different types and use them in defining self-referential structures.

CO8: To create, read and write to and from simple text files.

Manufacturing Practices (1st/2nd Semester)
Course Code: BMFP0-101

Course Outcomes:

The students will be able to:

CO1: Gain knowledge of the different manufacturing processes which are commonly employed in the industry.

CO2: Fabricate components with their own hands using different materials.

CO2: Get practical knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes.

CO3: Assemble different components and produce small devices of their interest.

Human Values & Professional Ethics (1st/2nd Semester)
Course Code: BHUM0-103

Course Outcomes:

The students will be able to

CO1: Understand practically the importance of trust, mutually satisfying human behaviour and enriching interaction with nature.

CO2: Understood the core values that shape the ethical behaviour of an engineer.

CO3: Expose awareness on professional ethics and human values.

CO4: Known their role in technological development.

Calculus and Ordinary Differential Equation (3rd Semester)
Course Code- BMATH1- 301

Course Outcomes:

The students after undertaking this course will be able:

CO1: To apply differential and integral calculus to notions of curvature and to improper integrals. Apart from various applications, they will have a basic understanding of Beta and Gamma functions.

CO2: To apply the essential tools of matrices and linear algebra including linear transformations, eigenvalues, diagonalization and orthogonalization.

COMPUTER PERIPHERALS & INTERFACES (3rd Semester)
Course Code- BCSES1-301

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Familiarize with the basic knowledge of various I/O buses, IDE interfaces &standards.

CO2: Solve future peripheral problems with modern tool usage.

CO3: Recognize various aspects of cost performance methods and apply these to manage projects.

CO4: Assemble and calibrate various H/W system as per the application requirement.

CO5: Analyse the hardware problem and perform troubleshooting for the same.

DATA STRUCTURE & ALGORITHMS (3rd Semester)
Course Code- BCSES1-302

Course Outcomes:

After undertaking this course:

CO1: For a given algorithm student will able to analyse the algorithms to determine the time and computation complexity and justify the correctness.

CO2: For a given Search problem (Linear Search and Binary Search) student will able to implement it.

CO3: For a given problem of Stacks, Queues and linked list student will able to implement it and analyse the same to determine the time and computation complexity.

CO4: Student will able to write an algorithm Selection Sort, Bubble Sort, Insertion Sort, Quick Sort, Merge Sort, Heap Sort and compare their performance in term of Space and Time complexity.

CO5: Student will able to implement Graph search and traversal algorithms and determine the time and computation complexity.

DIGITAL ELECTRONICS (3rd Semester)
Course Code- BCSES1-303

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Understand working of logic families and logic gates.

CO2: Design and implement Combinational and Sequential logic circuits.

CO3: Understand the process of Analog to Digital conversion and Digital to Analog conversion.

CO4: Be able to use PLDs to implement the given logical problem.

DATA STRUCTURE & ALGORITHMS LABORATORY (3rd Semester)
Course Code- BCSES1-304

Course Outcomes:

The students after undertaking this course will be able:

CO1: To introduce the basic concepts of Data structure, basic data types, searching and sorting based on array data types.

CO2: To introduce the structured data types like Stacks and Queue and its basic operation 's implementation.

CO3: To introduces dynamic implementation of linked list.

CO4: To introduce the concepts of Tree and graph and implementation of traversal algorithms.

DIGITAL ELECTRONICS LABORATORY (3rd Semester)
Course Code- BCSES1-305

Course Outcomes:

The students after undertaking this course will be able:

CO1: To Familiarization with Digital Trainer Kit and associated equipment.

CO2: To Study and design of TTL gates.

CO3: To learn the formal procedures for the analysis and design of combinational circuits.

CO4: To learn the formal procedures for the analysis and design of sequential circuits.

IT WORKSHOP (SciLab / MATLAB) LABORATORY (3rd Semester)
Course Code- BCSES1-306

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Understanding the MATLAB environment

CO2: Being able to do simple calculations using MATLAB

CO3: Being able to carry out simple numerical computations and analyses using MATLAB

TRAINING-1 (3rd Semester)
Course Code- BCSES1-307

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Acquire in depth knowledge of modern engineering and IT tool usage.

CO2: Develop applications according to user's needs.

CO3: Learn about an environment required for project development and effective communication skills.

CO4: Get knowledge to prepare reports and presentations.

CO5: Learn to work in a team as a member or a leader.

DEVELOPMENT OF SOCIETIES (3rd Semester)
Course Code- BHSMC0-007

Course Outcomes:

After undertaking this course, students:

CO1: Being able to provide a natural link between engineering and humanities with an emphasis that Development is not just materialistic, larger view of all-round human development should also be considered.

CO2: Being able to imbibe importance of sustainable development, interdependence and co-existence in nature should be realised through this course.

CO3: It is to gain an understanding of alternative models of development.

DISCRETE MATHEMATICS (4th Semester)
Course Code- BMATH1-401

Course Outcomes:

After undertaking this course, Students will learn:

CO1: For a given a problem, derive the solution using deductive logic and prove the solution based on logical inference.

CO2: For a given a mathematical problem, classify its algebraic structure.

CO3: Evaluate Boolean functions and simplify expressions using the properties of Boolean Algebra.

CO4: Develop the given problem as graph networks and solve with techniques of graph theory.

COMPUTER ORGANIZATION & ARCHITECTURE (4th Semester)
Course Code- BCSES1-401

Course Outcomes:

After undertaking this course, students can:

CO1: Draw the functional block diagram of a single bus architecture of a computer and describe the function of the instruction execution cycle, RTL interpretation of instructions, addressing modes, instruction set.

CO2: Write assembly language program for specified microprocessor for computing16 bit multiplication, division and I/O device interface (ADC, Control circuit, serialport communication).

CO3: Write a flowchart for Concurrent access to memory and cache coherency in Parallel Processors and describe the process.

CO4: Given a CPU organization and instruction, design a memory module and analyze its operation by interfacing with the CPU.

CO5: Given a CPU organization, assess its performance, and apply design techniques to enhance performance using pipelining, parallelism and RISC methodology

OPERATING SYSTEMS (4th Semester)
Course Code- BCSES1-402

Course Outcomes:

After undertaking this course, Students will be able to:

CO1: Create processes and threads.

CO2: Develop algorithms for process scheduling for a given specification of CPU utilization, Throughput, Turnaround Time, Waiting Time, Response Time.

CO3: For a given specification of memory organization develop the techniques for optimally allocating memory to processes by increasing memory utilization and for improving the access time.

CO4: Design and implement file management system and for a given I/O devices and OS (specify) develop the I/O management functions in OS as part of a uniform device abstraction by performing operations for synchronization between CPU and I/O controllers.

OBJECT ORIENTED PROGRAMMING (4th Semester)
Course Code- BCSES1-403

Course Outcomes:

The students after undertaking this course will be able:

CO1: To introduce the basic concepts of object-oriented programming language and its representation.

CO2: To allocate dynamic memory, access private members of class and the behaviour of inheritance and its implementation.

CO3: To introduce polymorphism, interface design and overloading of operator.

CO4: The handle backup system using file, general purpose template and handling of raised exception during programming.

OPERATING SYSTEMS LABORATORY (4th Semester)
Course Code- -BCSES1-404

Course Outcomes:

The students after undertaking this course can:

CO1: Perform installation of various operating systems.

CO2: Understand virtualization and installation of Operating System in virtual machine.

CO3: Implement commands for files and directories in LINUX O.S.

CO4: Apply process management through commands in LINUX.

CO5: Acquire knowledge of shell scripts and their execution, shell variables, statements and creation of shell programs for automation of tasks.

OBJECT ORIENTED PROGRAMMING USING C++ LABORATORY (4th Semester)
Course Code- BCSES1-405

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Implement OOPS concepts like classes & objects, inheritance & polymorphism.

CO2: Understand the concepts of pointers, standard I/O function.

CO3: Implement the concepts of exception handling.

CO4: Acquire knowledge of various file operations.

ORGANIZATIONAL BEHAVIOR (4th Semester)
Course Code- BHSMC0-016

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Understand basic concepts of organizational behaviour.

CO2**:** Understand theories associated with behaviour of individuals working with groups.

CO3: Understand the different theories of motivation.

CO4: Understand the different theories and styles of leadership.

COMPILER DESIGN (5th Semester)
Course Code- BCSES1-501

Course Outcomes:

The students after undertaking this course will be able to:

CO1: For a given grammar specification, develop the lexical analyser.

CO2: For a given parser specification design top-down and bottom-up parsers.

CO3: Use syntax directed translation schemes to develop intermediate code.

CO4: Learn algorithms to generate code for a target machine

DATABASE MANAGEMENT SYSTEM (5th Semester)
Course Code- BCSES1- 502

Course Outcomes:

The students after undertaking this course will be able to:

CO1: To be able to learn different DBMS languages and data models.

CO2: For a given specification construct the SQL queries for Open source and Commercial DBMS-MYSQL, ORACLE, and DB2.

CO3: For a given transaction-processing system, determine the transaction atomicity, consistency, isolation, and durability.

CO4: Implement database security.

FORMAL LANGUAGE AND AUTOMATA THEORY (5th Semester)
Course Code- BCSES1- 503

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Design finite automata to accept a set of strings of a language.

CO2: Design context free grammars to generate strings of context free language.

CO3: Design Turing machine for accepting context sensitive languages.

CO4: To learn Rice's theorem.

DESIGN &ANALYSIS OF ALGORITHMS (5th Semester)
Course Code- BCSES1- 504

Course Outcomes:

The students after undertaking this course will be able to:

CO1: For a given algorithms analyze worst-case running times of algorithms based on asymptotic analysis and justify the correctness of algorithms.

CO2: Describe the greedy paradigm and explain when an algorithmic design situation calls for it.

CO3: Describe the different graph and tree traversal algorithms.

CO4: Describe the computability of problem using Cook's theorem.

DATABASE MANAGEMENT SYSTEM LABORATORY (5th Semester)
Course Code- BCSES1- 505

Course Outcomes:

The students after undertaking this course will be able to:

CO1: To understand basic DDL, DML, DCL commands

CO2: To understand the SQL queries using SQL operators

CO3: To understand the concept of relational algebra, date and group functions

CO4: To implement checkpoints.

DESIGN &ANALYSIS OF ALGORITHMS LABORATORY (5th Semester)
Course Code- BCSES1- 506

Course Outcomes:

The students after undertaking this course will be able to:

CO1: To perform different operations on integers.

CO2: To sort number of elements of an array using different sorting techniques.

CO3: To implement dynamic programming for various problems.

CO4: To compute convex hull.

COMPUTER GRAPHICS (5th Semester)
Course Code- BCSED1-511

Course Outcomes:

The students after undertaking this course will be able to:

CO1: Able to learn about the basics of graphics, its applications, uses and Knowledge to draw different shapes in graphics on computer.

CO2: Ability to apply different 2-D and 3-D transformations on an object.

CO3: Learn clipping operations and various object filling techniques, different projections techniques. Various hidden surface removal.

CO4: Knowledge of Rendering techniques, Fractals and different colour models.

GRAPH THEORY (5th Semester)
Course Code- BCSED1-512

Course Outcomes:

The students after undertaking this course will be able to:

CO1: To have knowledge of the basic concepts of graph

CO2: To have a knowledge of classes of graphs and its properties.

CO3: To have knowledge of graph algorithms.

CO4: Be exposed to constrained and unconstrained optimization techniques

WEB TECHNOLOGIES (5th Semester)
Course Code- BCSED1-513

Course Outcomes:

The students after undertaking this course will be able to:

CO1: To understand the HTML and Style Sheets

CO2: To have knowledge of client side scripting using JSP.

CO3: To understand the basics and object oriented concepts of PHP.

CO4: To access database using PHP programming.

JAVA PROGRAMMING (5th Semester)
Course Code- BCSED1-514

Course Outcomes:

The students after undertaking this course will be able to:

CO1: To learn the basics of Java and to understand the implementation of Classes and Inheritance with respect to Java.

CO2: To describe the concept of handling of exceptions and multithreading.

CO3: To understand how to implement I/O, Applets and Graphics in Java

CO4: To comprehend the advanced topics of Java Programming