



**SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS**  
Moga Road, NH-95, Ferozepur -152004  
**(Established by the Punjab Government)**  
(Formerly Shaheed Bhagat Singh College of Engineering & Technology)

Department of Management Studies

**COURSE OUTCOME**

## **BCA**

As per MRS Punjab Technical University, July, 2016

Course Outcomes

BCA 1<sup>st</sup> and 2<sup>nd</sup> Sem.

<b>SEMESTER-I</b>		
<b>BCAP1-101</b>	<b>Problem Solving using C</b>	<ol style="list-style-type: none"><li>1. Students will learn to write algorithm for solutions to various real life problems and converting the algorithms into computer programs using C language.</li><li>2. To gain experience about structured programming.</li><li>3. To help Students to understand implementation of C language.</li><li>4. To understand various features in C.</li></ol>
<b>BCAP1-102</b>	<b>Information Technology and Office Automation</b>	<ol style="list-style-type: none"><li>1. To gain and understanding of the core concepts and technologies which constitute information</li><li>2. The student should be able to demonstrate competency in a core set</li></ol>

		<p>of applications, including Microsoft Word, Excel and PowerPoint.</p> <ol style="list-style-type: none"> <li>The student should be able to demonstrate competency in using PC operating systems and using the Internet as a search tool.</li> <li>The intention is for the student to be able to articulate and demonstrate a basic understanding of the fundamental concepts of Information Technology.</li> </ol>
<b>BCAP1-103</b>	<b>Digital Electronics</b>	<ol style="list-style-type: none"> <li>To introduce basic postulates of Boolean algebra and shows the correlation between Boolean expressions</li> <li>To introduce the methods for simplifying Boolean expressions</li> <li>To outline the formal procedures for the analysis and design of combinational circuits and sequential circuits</li> <li>To introduce the concept of memories, programmable logic devices and digital ICs.</li> </ol>
<b>BCAP1-104</b>	<b>Software Lab-I (Problem Solving using C based on BCAP1-101)</b>	<ol style="list-style-type: none"> <li>Be able to implement, test, debug, and document programs in C.</li> <li>Program with pointers and arrays, perform pointer arithmetic, and use the pre-processor</li> <li>Be able to write programs that perform explicit memory management</li> <li>Understand and use the common data structures typically found in C programs — namely arrays, strings</li> </ol>
		<ol style="list-style-type: none"> <li>Demonstrate the basic technicalities of</li> </ol>

<b>BCAP1-105</b>	<b>Software Lab-II (Information Technology and Office Automation based on BCAP1-102)</b>	<ul style="list-style-type: none"> <li>creating word document for office use.</li> <li>2. Create and design a spreadsheet for general office.</li> <li>3. Demonstrate the basic technicalities of creating a power presentation.</li> <li>4. Demonstrate the practices in data and files management.</li> </ul>
<b>BHUM0-101</b>	<b>Communicative 101 English</b>	<ul style="list-style-type: none"> <li>1. Understand and appreciate the need of communication training.</li> <li>2. Use different strategies of effective communication and select the most appropriate mode of communication for a given situation.</li> <li>3. Speak effectively and assertively and Correspond effectively through different modes of written communication.</li> <li>4. Present himself/herself professionally through effective resumes and interviews.</li> </ul>
<b>BHUM0-103</b>	<b>Human Values and Professional ethics</b>	<ul style="list-style-type: none"> <li>1. Understanding the value education.</li> <li>2. Understanding harmony in the human being, family and society.</li> <li>3. Understanding harmony in the society, nature and existence.</li> <li>4. Understanding of harmony on professional ethics</li> </ul>
<b>SEMESTER-II</b>		
<b>BCAP1-206</b>	<b>Object Oriented Programming Using C ++</b>	<ul style="list-style-type: none"> <li>1. Creating class and objects , Basic of Structures and Unions, Functions.</li> <li>2. Implementing inheritance, polymorphism and object relationship in C++</li> <li>3.</li> </ul>

Designing methods and

**procedures, Constructor and  
destructor programs.**

#### **4. Data manipulation through file in C++.**

<p><b>BCAP1-207</b></p>	<p><b>Computer Organization and Architecture</b></p>	<ol style="list-style-type: none"> <li>1. Introduction to Registers, Micro operations, Common Bus System.</li> <li>2. Introduction to Instruction, Instruction Cycle, Interrupt and Interrupt Cycle.</li> <li>3. Addressing Modes, Concept of I/O bus , DMA Controller.</li> <li>4. Memory Hierarchy, Cache Memory, Replacement Algorithms, Mobile Devices Architecture &amp; Synchronous and Asynchronous Data Transfer.</li> </ol>
<p><b>BCAP1-208</b></p>	<p><b>Internet and its Applications</b></p>	<ol style="list-style-type: none"> <li>1. Protocols and standards supporting Internet Applications design and security issues</li> <li>2. Build tools that assist in automating data transfer over the Internet.</li> <li>3. Knows basic Internet technologies, specification and tools for internet services implementation.</li> <li>4. Knows how to design and implement Internet systems for enhancing education and engineering design, by means of efficient Internet technologies and services.</li> </ol>
<p><b>BCAP1-209</b></p>	<p><b>Multimedia and Applications</b></p>	<ol style="list-style-type: none"> <li>1. To understand multimedia systems and their applications</li> <li>2. This course covers the different compression standards used in multimedia, some current technology and related issues.</li> <li>3. Identify and use hardware components (input and output devices) used in</li> </ol>

		<p>desktop publishing, graphics/animation and multimedia.</p> <p>4. Model respect for intellectual property when manipulating, morphing, and editing video, graphics, sound, and text</p>
BCAP1-210	<p>Software Lab-III (Object Oriented Programming Using C ++ based on BCAP1-206)</p>	<p>1. To be able to apply an object oriented approach to programming and identify potential benefits of object-oriented programming over other Approaches.</p> <p>2. To be able to reuse the code and write the classes which work like built-in types.</p> <p>3. To be able to design applications which are easier to debug, maintain and extend.</p> <p>4. To be able to apply object-oriented concepts in real world applications..</p>
BCAP1-211	<p>Software Lab-IV (Internet and its Applications based on BCAP1-208)</p>	<p>1. Use search engines and directories effectively.</p> <p>2. Evaluate e-mail software and Web-based e-mail services.</p> <p>3. Implement the important features of the Web and Web browser software</p> <p>4. Find, evaluate, and use online information resources</p>
BMAT0-204	<p>Fundamentals of Mathematics</p>	<p>1. Learn fundamental mathematical concepts of matrix and determinant and how to apply them for finding the solution of equations</p> <p>2. Understand the concepts of differential calculus and how to apply them for finding the maxima and minima.</p> <p>3. Learn the concepts of integral calculus in which they find integration by parts, By partial fraction, by substitution and learn about definite, indefinite</p>

	BCA Semester-3 <sup>rd</sup> Sem

**integrals.**

- 4. Understand the Trapezoidal method, Simpson's 1/3 rule and Simpson's 3/8 rule using integration. Problems related to compound interest, depreciation and Annuities.**
- 5. Understand the concepts of Statistics in which they learn about measures of central Tendency, mean, median, mode, measures of dispersion ,range, mean deviation, correlation and regression analysis.  
Probability : Addition and Multiplication Law**

BCAP1-312	Data Structures	<ol style="list-style-type: none"> <li>1. Understanding of data structure. its objectives ,times and space complexity</li> <li>2. Understanding of various linear data structure , like linked list, stack ,queue and their implementation</li> <li>3. Understanding of non-linear data structure , tree and its implementation</li> <li>4. Implementation of various searching and sorting algorithm.</li> </ol>
BCAP1-313	Programming in Java	<ol style="list-style-type: none"> <li>1. Understand the concept of OOPs as well as the purpose and usage principles of Inheritance, polymorphism, encapsulation etc</li> <li>2. Understand the basic concepts of classes and objects JVM Concept , Data types and Operators</li> <li>3. Understand Internet Programming Using Java Applets</li> <li>4. Make use of array , constructors ,Inheritance, Packages and Interfaces</li> </ol>
BCAP1-314	Discrete Structures	<ol style="list-style-type: none"> <li>1. It is to learn that how to remember some fundamental mathematical concepts and terminology; how to apply and analyze recursive definitions; Permutations;Connectives, well-formed formulas, Truth Tables, tautology, equivalence implication, Normal forms, predicates, Free &amp; Bound variables, Rules of inference, Consistency, proof of contradiction, Automatic Theory Proving; how to count some different types of discrete structures; how to create techniques for constructing mathematical proofs, illustrated by discrete mathematics examples</li> <li>2. It is to model ,evaluate and analyze computational processes using analytic and combinatorial methods, Properties of binary Relations, equivalence, compatibility and partial ordering relations, Hasse diagram, Functions, Inverse functions, Composition of functions, Recursive functions, Lattice and its properties and to apply principles of discrete probability to calculate probabilities</li> </ol>



		<p>and expectations of simple random processes</p> <ol style="list-style-type: none"> <li>3. It is to understand the necessary back ground of discrete structures with particular reference to the relationships between discrete structures and their data structure counterparts including algorithm development and to create a complete knowledge on various discrete structures available in literature.</li> <li>4. It is to learn that how to apply sub graphs, connected components, cyclic graph, Bipartite graph, Planar graph, Euler’s formula, Euler circuit, Hamiltonian Graph, Chromatic number, Trees, Spanning tree of a Graph, Breadth – First &amp; Depth – First Spanning trees, Binary Tree, Conversion of a tree to binary tree. Tree traversals, Representation of Expressions by Binary tree, Forest, Binary search trees and to gain knowledge on discrete structures in literature.</li> </ol>
BHUM0-106	Technical English	<ol style="list-style-type: none"> <li>1. Understand the importance of communication in business.</li> <li>2. Produce effectively different forms of business writing such as letters, email and phone conversation.</li> <li>3. Practice a prescribed set of grammar items in suitable context.</li> <li>4. Improve the interview skills/ presentation skills with the help of speaking skills.</li> </ol>
BCAP1-356	Introduction to Microprocessors	<ol style="list-style-type: none"> <li>1. Describe the basic architecture of Microprocessor and Microcontroller system</li> <li>2. To write the assembly language programming for INTEL 8085 microprocessor.</li> <li>3. To describe a typical I/O interface &amp; to discuss timing diagrams.</li> <li>4. To describe different types of memory used in Microcontroller system</li> </ol>

