**Course Number and Name**
BCS4L3 – OBJECT ORIENTED PROGRAMMING AND DATA STRUCTURES LAB

**Credits and Contact Hours**
2 & 45

**Course Coordinator’s Name**
Dr C.Nalini

**Text Books and References**
Lab Manual

**Course Description**
- To learn various object oriented concepts through simple programs.
- To understand the concepts of searching and sorting algorithms

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<tr>
<th>Prerequisites</th>
<th>Co-requisites</th>
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<tr>
<td>BCS1L1-Computer Practice Lab</td>
<td>BCS406-Object Oriented Programming and Data Structures required, elective, or selected elective (as per Table 5-1) required</td>
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**Course Outcomes (COs)**
CO1: Implement various object oriented concepts through simple programs.
CO2: Implement different data structures using C++
CO3: Apply the different data structures for implementing solutions to practical problems
CO4: Demonstrate searching algorithms.
CO5: Demonstrate sorting algorithms
CO6: To develop the skills in programming using C++ which forms the basics for advanced Programming.

**Student Outcomes (SOs) from Criterion 3 covered by this Course**

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<th>COs/SOs</th>
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**List of Topics Covered**

**LIST OF EXPERIMENTS**

**Programs for C++ Concepts**
- Constructors and destructors
- Static data member
- Function overloading
- Operator overloading
- Inheritance

**Data Structures**

1. List
   - Array implementation
   - Linked list implementation
   - Polynomial operations
2. Stack
   - Array implementation
   - Linked list implementation
   - Applications
3. Queue
   - Array implementation
   - Linked list implementation
4. Binary Search tree
5. Sorting
   - Quick sort
   - Mergesort
6. Searching
   - Linear search
   - Binary search