



COURSE OUTLINE

Course Code: CSE 108

Course Title: Object Oriented Programming Language Sessional

Level/Term: 1/II

Section: A & B

Academic Session: January 2021 Course

Teacher(s):

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Course Outline:

Laboratory works covering Philosophy of Object Oriented Programming (OOP); Advantages of OOP over structured programming; Encapsulation, classes and objects, access specifiers, static and non-static members; Constructors, destructors and copy constructors; Array of objects, object pointers, and object references; Inheritance: single and multiple inheritance; Polymorphism: overloading, abstract classes, virtual functions and overriding; Exceptions; Object Oriented I/O; Template functions and classes; Multithreaded Programming; Networking; User interface development for OOP.



Learning Outcomes/Objectives:

After undergoing this course, students should be able to:

- i. Understand the fundamentals of Object-Oriented Programming
- ii. Demonstrate analytical and technical skills required for design and development of real-life software.
- iii. Implement the well-known programming principles to write codes in C++/JAVA programming language.
- iv. Proficiently write computer programs using C++ and Java
- v. Develop/ engineer new solutions and algorithms in object-oriented programming language to solve real life problems

Tentative Assessment

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| i. Attendance: | 10% |
| ii. Performance in Practice classes, Online & Offline: | 40% |
| iii. Term Assignment: | 30% |
| iv. Quiz: | 20% |

Text and Reference books:

- i. Herbert Schildt, Teach Yourself C++
- ii. Herbert Schildt, Java: The Complete Reference

Policies:

- i. The lab works will be focused on Online and offline Assessment.
- ii. The lab works will be done open book or close book which will be specified by concerned teachers before beginning of the online assignment.
- iii. The weight of the assignments will be decided by the course teachers.
- iv. In case of home assignment, late submission is not allowed in general.
- v. Pending submission of online assignment is not allowed in general.
- vi. Concerned Lab teachers have the authority to alter the order of the online assignments listed below (e.g. in case the topic has not yet been covered in Theory class etc.)
- vii. In case of reproduction of code (copy), the rules and practice of the Department will be followed.



Weekly schedule:

Week	Topics
1	Lecture Topic: Introduction to OOP, Structure vs. Class, Encapsulation.
2	Evaluation Type: Online Performance (C++) Topic: Constructor and Destructor functions and Introduction to function overloading. Publish Offline (Constructor and Destructor functions, Function Overloading)
3	Evaluation Type: Offline evaluation (C++)
4	Evaluation Type: Practice Session (C++) Topic: Dynamic allocation of objects, Function Overloading: Overloading Constructor functions, Copy Constructors, passing objects to and returning objects from functions Publish Offline (Dynamic allocation of objects, Function Overloading: Overloading Constructor functions, Copy Constructors, Passing objects to and returning objects from functions)
5	Evaluation Type: Offline evaluation (C++) Publish Offline (Operator Overloading)
6	Evaluation Type: Offline evaluation (C++)
7	Evaluation Type: Practice Session (C++) Topic: Inheritance; Function Overriding, Advanced Topics
8	Evaluation Type: Practice Session (Java) Topic: Introduction to Java, Java simple program, scanner, array, command line argument. Publish Offline (Java simple program, scanner, array, command line argument)
9	Evaluation Type: Offline evaluation (Java) Common Java Project Assignment Extra Virtual Lecture on Java FX
10	Evaluation Type: Practice Session (Java) Topic: Inheritance, Interface, Exception
11	Evaluation Type: Practice Session & Project evaluation 1 (Java) Topic: Threading & Networking
12	Evaluation Type: Practice Session Topic: Collections & Generics
13	Quiz + Project evaluation 2 (Java)
14	Reserved
15	Project evaluation 3 (Java)