COURSE OUTLINE

Course Code : **CSE 108**

Course Title : **Object Oriented Programming Language Sessional**

Level/Term : **1/2**

Academic Session : **2017/2018**

Course Teacher(s) :

Name	Office/Room	E-mail and Telephone
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Assessment

Attendance and performance in Practice classes	10 - 15%
Lab. and Home Assignments	40 - 50 %
Term Assignment	20 - 25%
Quiz	20 - 25%

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 andmultiple inheritance; Polymorphism: overloading, abstract classes, virtual functions and overriding; Exceptions; Object Oriented I/O; Template functions and classes; Multi-threaded 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 languageto solve real life problems.

Text and Reference books:

a. Teach yourself C++, Herbert Shildt (3rdEdition)
b. Herbert Schildt, Java: The Complete Reference, Ninth Edition
c. Effective Java, Joshua Bloch (3rd Edition)

Misc. Policies:

- The lab works will be focused on Online and offline Assessment.
- The lab works will be done open book or close book which will be specified by concerned teachers before beginning of the online assignment.
- The weight of the assignments will be decided by the course teachers.
- In case of home assignment, late submission is not allowed in general.
- Pending submission of online assignment is not allowed in general.
- 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.)
- In case of reproduction of code (copy), the rules and practice of the Department will be followed.

Tentative Weekly Schedule:

Week	Topics
Week 1	Evaluation Type: Practice Performance (C++) Topic: Introduction to OOP, Class: Encapsulation. Publish Practice Problem
Week 2	Evaluation Type: Practice Performance (C++) Topic: Constructor and Destructor functions and Introduction to function overloading. Publish Offline (Constructor and Destructor functions, Dynamic allocation of objects)
Week 3	Evaluation Type: Lab Assignment (Both online & offline) (C++) Topic: Constructor and Destructor functions, Dynamic allocation of objects Publish Offline (Function Overloading: Overloading Constructor functions, Copy Constructors)
Week 4	Evaluation Type: Lab Assignment (Both online & offline)(C++) Topic: Function Overloading: Overloading Constructor functions, Copy Constructors, Passing objects to and returning objects from functions
Week 5	Evaluation Type: Lab Assignment (Online)(C++) Topic: Operator Overloading Publish Offline (Inheritance; Function Overriding) & **Project Assignment**
Week 6	Evaluation Type: Lab Assignment (Both online & offline)(C++) Topic: Inheritance; Function Overriding.
Week 7	Evaluation Type: Practice Performance (JAVA) Topic: Java simple program, scanner, array, constructor, command line argument.
Week 8	Evaluation Type: Lab Assignment (Online)(JAVA) Topic: Java simple program, scanner, array, constructor, command line argument. Practice Topic: Java String, Collection
Week 8 (Extra Class)	Evaluation Type: Lecture Attendance (JAVA) Topic: Java FX (Publish a comprehensive offline on Java FX and String)
Week 9	Evaluation Type: Lab Assignment (Both online & offline) (JAVA) Topic: Java FX, Java String Publish Offline (Inheritance & Threading)
Week 10	Show progress of term project (JAVA)
Week 11	Evaluation Type: Lab Assignment (Offline) (JAVA) Topic: Inheritance & Threading Publish Offline (Networking)
Week 12	Evaluation Type: Lab Assignment (Offline) (JAVA) Topic: Networking
Week 13	Quiz + Show progress of term project (JAVA)
Week 14	Term Project evaluation