COURSE OUTLINE

Course Code: CSE 108

Course Title: Object Oriented Programming Language Sessional

Level/Term: 1/II **Section: A & B**

Academic Session: January 2020

Course Teacher(s):

Name:	Office/Room:	E-mail and Telephone: (optional)
Dr. Tanzima Hashem (Professor)	CSE 313	tanzimahashem@gmail.com
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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; 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 language to solve real life problems

Assessment

Attendance and performance in Practice classes:	10%
Lab. and Home Assignments:	40%
Term Assignment:	25%
Quiz:	25%

Text and Reference books:

a. Herbert Schildt, Teach Yourself C++, 3rd Edition.
b. Herbert Schildt, Java: The Complete Reference, 11th Edition (covers Java 11)

Misc. 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, Struct vs. Class, Encapsulation.
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)
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)
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
5	Evaluation Type: Lab Assignment (Online)(C++) Topic: Operator Overloading Publish Offline (Inheritance; Function Overriding) & Project Assignment
6	Evaluation Type: Offline (C++) Lecture Topic: Introduction to Java
7	Evaluation Type: Practice Performance (Java) Topic: Java simple program, scanner, array, constructor, command line argument.
8	Evaluation Type: Lab Assignment (Online) (Java) Topic: Java simple program, scanner, array, constructor, command line argument. Practice Topic: Java String, Inheritance, Exception
8 (Extra Class)	Evaluation Type: Lecture Attendance (Java) Topic: Java FX (Publish a comprehensive offline on Java FX and Java Collections)
9	Evaluation Type: Lab Assignment (Both online & offline) (Java) Topic: Java FX and Java Collections Publish Offline (Threading)
10	Show progress of term project (Java)
11	Evaluation Type: Lab Assignment (Offline) (Java) Topic: Threading Publish Offline (Networking)
12	Evaluation Type: Lab Assignment (Offline) (Java) Topic: Networking
13	Quiz + Show progress of term project (Java)
14	Term Project evaluation