

## COURSE OUTLINE

Course Code: CSE 108

Course Title: Object Oriented Programming Language Sessional

Level/Term: 1/II

Section: A & B

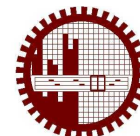
Academic Session: January 2020

Course Teacher(s):

Name:	Office/Room:	E-mail and Telephone: (optional)
Dr. Tanzima Hashem (Professor)	CSE 313	<a href="mailto:tanzimahashem@gmail.com">tanzimahashem@gmail.com</a>
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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%

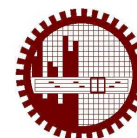
Quiz: 25%

## Text and Reference books:

- a. Herbert Schildt, Teach Yourself C++, 3<sup>rd</sup> Edition.
- b. Herbert Schildt, Java: The Complete Reference, 11<sup>th</sup> 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