Objective
Programming languages are used to express and implement real-world problems in computer systems. While programming languages may differ in syntax and semantics, they share many common design concepts, translation mechanisms, and properties. The IT614 course, Programming Paradigms, aims to cover the fundamental concepts underlying Procedural and Object-oriented programming languages, such as, C, C++ and Java. After completion of this course, students will be able to demonstrate how different programming language concepts are implemented by a language designer, and their impact on programmer and software systems.

Contents
- Introduction to programming; compilers and interpreters; syntax and semantics.
- Imperative languages; control structures; data types and their representation.
- Arrays; strings; pointers
- Functions, methods; parameter passing; scope and visibility.
- Objects, classes; data and methods; constructors and destructors.
- Inheritance, Polymorphism; Containers and Iterators.
- Exception handling; Concurrent programming: threads, synchronization, communication.

[Programming Language: C/C++ and Java]

Book (you can use any books on C, C++, Java; following are recommended)

Grading Policy
First in-sem exam (1) : 20 %
End-sem Exam: 30 %
Lab exams/Projects: 30 %
Presentations/class participation: 20%