

# CSC-339 Concepts of Programming Languages

## Course and Contact Information

Credits: 3

Prerequisite: Grade of at least C in CSC 330

Meeting Times: M W F 10:00 am - 10:50 am

Location: Petty 213

Instructor: Somya D. Mohanty

Office: Petty 152

E-mail: [mohanty.somya@uncg.edu](mailto:mohanty.somya@uncg.edu)

Office hours: M W 2:00 pm - 3:00 pm or by appointment

## Course Learning Outcomes and Topics

Concepts of block-structured, object-oriented, functional, logic, and concurrent programming languages. Comparative study of syntactic and semantic features of these languages and writing programs using them.

Upon successful completion of this course, a student should be able to:

1. describe different paradigms through a comparative study of syntactic and semantic features
2. develop C++ programming skills by understanding pointers, memory management, and special C++ features such as templates and multiple inheritance
3. obtain a flavor of programming in other paradigms like functional and logic programming (Lisp and Prolog) which are quite different from "usual" imperative ones (like C++ or Java)

The topics that we will cover during the course of the semester include:

- Describing syntax and semantics
- Imperative programming: constructs, data types, statements, procedures
- Object-oriented programming: abstract data types, inheritance, object-oriented programming in C++, C#, and Java
- Concurrent programming: threads in Java, principles of concurrency, concurrency in Ada
- C++ features
- Functional programming
- Logic programming

## Textbook and Readings

*Required textbooks:*

Robert W. Sebesta, Concepts of Programming Languages, 11th Edition. Addison-Wesley, 2015. ISBN: 978-0-13-394302-3.

Optional text for C++:

C++ How To Program, by Deitel&Deitel, 5th edition, 2005. There is a new version (8th, 9th) online.

## **Grading Policy**

### **1. Exams**

There will be two closed notes, closed books exams.

### **2. Homework and Programming Assignments**

Four homework and programming assignments are due before class of the scheduled date. *No late homework is accepted.* Each student should complete all the assignments *independently*.

### **3. Grading Scheme)**

Quizzes: 10%

Homework: 40% (10%, 10%, 10%, 10%)

Exam I: 25%

Exam II: 25%

### **4. Attendance Policy**

Attendance is required for all the class meetings and tests. If you will be absent for an exam due to circumstances beyond control, let me know in advance so that we can arrange a make-up test. Students who miss an exam without informing me *prior to* the exam will receive a 0 on that exam.

### **5. Academic Honesty**

The instructor will deal strictly with any violations of academic honesty and integrity in this course. See [Academic Integrity Policy \(Links to an external site.\)](#)[Links to an external site.](#) for more details. Any student who violates this policy receives zero point for the work and is subject to a reduction of the final grade of this course (up to "F"). The instructor will report the case to the university.

Please read the textbook sections in advance, attend all the lectures and start on homework early. If you need any help, please see me during my office hours, email me, or make an appointment. I am more than happy to help you.