

## ***CS 1113: Computer Science I***

---

**Required Course:** Required

**Course Number:** CS 1113

**Course Name:** Computer Science I

**Credit Hours:** 3

**Lecture Hours:** 3

**Lab Hours:** 1.8

**Instructors:** Dr.Sadiq Albuhamood

---

**Book Title(s):** Introduction to Programming using Java (7<sup>th</sup> Edition)

**Book Author(s):** David J.Eck

**Book Year(s):**

---

**Course Description:** Introduction to computer science using a block-structured high-level computer language, including subprograms, arrays, recursion, records, and abstract data types. Principles of problem solving, debugging, documentation, and good programming practice. Elementary methods of sorting and searching. Use of operating system commands and utilities.

**Course Prerequisites:** MATH 1513(College Algebra (A)) or higher, with a grade of “C” or better

---

**Course Goals:** At the end of taking the course, students should be able to:

- Read and interpret basic Java programs.
- Write short programs in the Java language based on a written specification.
- Recognize proper and improper Java syntax.
- Follow a coding standard.

**ABET Outcomes:**

<b>Student Outcomes</b>	<b>Course Outcomes</b>
2	<ul style="list-style-type: none"><li>• Learn problem solving using computers.</li><li>• Learn to design, write, and debug computer programs using the Java programming language.</li><li>• Learn to read and understand Java code.</li><li>• Learn some of the basic UNIX systems.</li><li>• Explore design and programming methodologies including object-oriented methodologies.</li></ul>

	• Learn basics of GUI programming in Java using Swing.
--	--

---

**Course Topics:**

- Introduction to UNIX operating system utilities.
- Computer problem solving
- Fundamentals of Java programming
- Data types
- Java arithmetic
- String processing
- If statements
- Loops
- Arrays and ArrayLists
- Dividing code into methods
- Reading and writing files
- Debugging techniques
- Object-oriented programming