

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: CSC 200

Credits: 3

Course Title: Introduction to Computer Science

Course Description: Provides a broad introduction to computer science and the work of computer scientists. Discusses architecture and the function of computer hardware, including networks and operating systems, data and instruction representation, and data organization. Covers software, algorithms, programming languages, team dynamics, research resources, social and ethical aspects of technology, and software engineering. Discusses artificial intelligence and theory of computation. Includes a hands-on component with oral and written presentations. Prerequisite: MATH 167 or the equivalent with a grade of C or better. Lecture 3 hours per week.

General Course Purpose: The course provides a broad introduction to computer science and the work of computer scientists.

Course Prerequisites and Co-requisites:

Prerequisite: MATH 167 or the equivalent with a grade of C or better

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Identify current research and application areas, as well as career opportunities;
- b. Discuss architecture and the function of computer hardware, including networks and operating systems, data and instruction representation, and data organization;
- c. Discuss software, algorithms, and programming languages;
- d. Understand the importance of team dynamics, research resources, social and ethical aspects of technology, and software engineering;
- e. Discuss artificial intelligence and theory of computation, architecture and the function of computer hardware, including networks and operating systems, data and instruction representation, and data organization; and
- f. Prepare a hands-on component with oral and written presentations.

Major Topics to Be Included:

- a. Current research, application area, and career opportunities in computer science
- b. Computer architecture and the function of computer hardware
- c. Networks and operating systems
- d. Data and instruction representation and data organization
- e. Software, algorithms, programming languages
- f. Team dynamics, research resources, social and ethical aspects of technology
- g. Software engineering
- h. Artificial intelligence
- i. Theory of computation

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