North Hennepin Community College

CSCI 1130: Introduction to Programming in Java (CS0)

A. COURSE DESCRIPTION

Credits: 4
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*

Prerequisites:
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Corequisites: None
MnTC Goals: None

This course provides an introduction to the Java programming language and its foundational topics. In this course students will explore fundamental programming and computing concepts with a focus on problem solving, algorithm development and implementation. Topics included are: data types and memory concepts, arithmetic operators and mathematical expressions, conditional statements, repetition, arrays, methods and the basics of object-orientation.

B. COURSE EFFECTIVE DATES: 07/02/2018 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Topics include: algorithm design and use in problem-solving, common programming structures (sequence, conditional and repetition statements) and their use in algorithms, data types, operators, operands, introduction to Boolean algebra, methods, basic array operations and algorithms, security, privacy, ethics, digital systems evolution and impact on society and the economy.

D. LEARNING OUTCOMES (General)

1. Describe algorithms and their role in solving problems. (ELO # 1, 2)
2. Develop algorithmic solutions using appropriate programming structures (ELO # 1, 2)
3. Express algorithms using pseudocode, flow-charts or other design notation. (ELO # 1, 2)
4. Demonstrate knowledge of common algorithms (ELO # 1, 2)
5. Demonstrate the ability to select an appropriate algorithm for solving a problem. (ELO # 1, 2)
6. Implement algorithms with a high-level programming language and provide simple documentation. (ELO # 1, 2)
7. Use Boolean expressions. (ELO # 2)
8. Describe the Von Neumann architecture and interaction between the processor and memory. (ELO # 1, 2)
9. Explain the role of the operating system in a digital system. (ELO # 1, 2)
10. Explain security and privacy threats and describe measures to prevent them. (ELO # 1, 2, 4)
11. Describe the evolution of digital systems and their past, present, and potential future impact on human society. (ELO # 1, 4)

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus
G. SPECIAL INFORMATION

1. Knowledge of Human Cultures and the Physical and Natural World --Through study in the sciences, mathematics, social sciences, humanities, histories, languages, the arts, technology and professions.

2. Intellectual and Practical Skills - Including: Inquiry and analysis; Critical and creative thinking; Written and oral communication; Quantitative literacy; Information literacy; Teamwork and problem solving.

4. Integrative and Applied Learning; Including: Synthesis and advanced accomplishment across general education, liberal studies, specialized studies and activities in the broader campus community.