

# 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:

This course requires both of these prerequisite categories

1. Any one of these four

Algebra College Level

Placement into MATH 1150

MATH 0970 - Bridge to College Algebra (Minimum grade: 1.67 GPA Equivalent)

MATH 0980 - Pre College Algebra (Minimum grade: 1.67 GPA Equivalent)

And

2. One of these two groups

1. Both of these groups

1. Any one of these three

Reading College Level

Reading at College Level

ADEV 0952 - College Reading and Learning Strategies II (Minimum grade: 1.67 GPA

Equivalent)

And

2. Any one of these four

Writing College Level

Placement into ENGL 1201

ENGL 0950 - Preparation for College Writing II (Minimum grade: 1.67 GPA Equivalent)

ENGL 0990 - Gateway Composition

Or

2. All of these four groups

1. One of these two

Placement into EAP 1230

EAP 0930 - Academic Reading and Study Skills (Minimum grade: 1.67 GPA Equivalent)

And

2. One of these two

Sentence Meaning at College Level

EAP 0900 - College Vocabulary Development

And

3. One of these two

Placement into EAP 1280

EAP 0980 - Academic Listening and Speaking (Minimum grade: 1.67 GPA Equivalent)

And

4. One of these two

Placement into EAP 1260

EAP 1260 - College Writing Skills Development (Minimum grade: 1.67 GPA Equivalent)

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.