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 six
   Algebra College Level
   Placement into MATH 1150
   MATH 0970 - Bridge to College Algebra (Minimum grade: 1.67 GPA Equivalent)
   MATH 0920 - College Algebra Support
   MATH 0980 - Pre College Algebra (Minimum grade: 1.67 GPA Equivalent)
   MATH 1120 - 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
         ENGL 0990 - Gateway Composition
   Or
   2. All of these four groups
      1. Any one of these five
         Placement into EAP 1230
         Reading at College Level
         EAP 0930 - Academic Reading and Study Skills (Minimum grade: 1.67 GPA Equivalent)
         ESOL 0930 - Academic Reading and Study Skills
         EAP 1230 - College Reading and Studying Skills
      And
      2. One of these two
         Sentence Meaning at College Level
         EAP 0900 - College Vocabulary Development
      And
      3. Any one of these four
         Placement into EAP 1280
         Listening at College Level
         EAP 0980 - Academic Listening and Speaking (Minimum grade: 1.67 GPA Equivalent)
         EAP 1280 - Listening and Speaking for College Success
      And
      4. Any one of these four
         Placement into EAP 1260
         Placement into ENGL 1201
         Placement into ENGL 0990/1200
         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.