A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:
This course requires both of these prerequisite categories
1. Any one of these seven
   Algebra College Level
   Placement into MATH 1150
   MATH 0920 - College Algebra Support
   MATH 0970 - Bridge to College Algebra (Minimum grade: 1.67 GPA Equivalent)
   MATH 0980 - Pre College Algebra (Minimum grade: 1.67 GPA Equivalent)
   MATH 1120 - College Algebra (Minimum grade: 1.67 GPA Equivalent)
   MATH 1150 - College Algebra (Minimum grade: 1.67 GPA Equivalent)
   And
2. One of these two groups
   1. Both of these groups
      1. One of these two
         Reading College Level
         Reading at College Level
         And
      2. Any one of these four
         Writing College Level
         Placement into ENGL 1201
         ENGL 0990 - Gateway Composition
         ENGL 1201 - College Writing I (Minimum grade: 1.67 GPA Equivalent)
         Or
   2. All of these four groups
      1. Any one of these six
         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
         ESOL 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 five
         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
         ESOL 1280 - Listening and Speaking for College Success
         And
      4. Any one of these four
         Placement into EAP 1260
         Placement into ENGL 1201
         EAP 0960 - Academic Writing Skills Development (Minimum grade: 1.67 GPA Equivalent)
         EAP 1260 - College Writing Skills Development (Minimum grade: 1.67 GPA Equivalent)

Corequisites: None

MnTC Goals: None
This course introduces the C/C++ 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, functions, procedure and the basics of object-orientation.

B. COURSE EFFECTIVE DATES: 08/27/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)
   1. Develop an understanding of basic programming concepts including, but not limited to: functions, methods, recursion, pointers, and application flow. (NHCC ELOs 1, 2a)
   2. Demonstrate knowledge of the structure and common heritage of C and C++ programming languages and the additional features and enhancements that C++ has to offer over the C programming language. (NHCC ELOs 1, 2a, 4c)
   3. Develop and apply basic programming concepts utilizing the C++ language. (NHCC ELOs 1, 2a, 4a, 4c)
   4. Analyze the features and functionalities of C and C++ languages from the point of view of implementing and maintaining programming solutions. (NHCC ELOs 1, 2a, 4a, 4c, 4d)
   5. Assess competitive advantages of C++ for programmers in the global job market. (NHCC ELOs 1, 2a, 4a, 4d)
   6. Develop critical thinking skills through problem analysis, algorithm development, coding, and testing. (NHCC ELOs 1, 2a, 4d)

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.