Minnesota State University Moorhead

CSIS 252: Introduction to Computers and Programming II

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 45

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires both of these prerequisites
CSIS 153 - Introduction to Computers and Programming I-b
MATH 210 - Concepts from Discrete Mathematics

Corequisites: None

MnTC Goals: None

Continuation of CSIS 153 with emphasis on data structures. Discussion of representations and processing techniques for lists, strings, trees, graphs, and records.

B. COURSE EFFECTIVE DATES: 01/14/2013 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Syntax of a programming language that is popular in industry.
2. Additional programming language features.
3. Object-Oriented design.
4. Abstract Data Types.
5. Algorithm analysis.
6. Recursion.
7. Data representation.

D. LEARNING OUTCOMES (General)

1. Demonstrate the ability to write more complex computer programs consisting of 500 or more lines of code.
2. Develop computer programs using existing Abstract Data Types.
3. Describe Object-Oriented programming in detail.
4. Demonstrate the use of composition and inheritance (derivation).
5. Explain base conversions, 2's complement representation and arithmetic.
6. Explain algorithm efficiency at a basic level.
7. Describe dynamic memory.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted