Minnesota State University Moorhead

CSIS 352: Advanced Concepts in Programming

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
   CSIS 252 - Introduction to Computers and Programming II

Corequisites: None

MnTC Goals: None

Continuation of CSIS 252 with emphasis on the implementation of data structures, implementation alternatives, and algorithm analysis.

B. COURSE EFFECTIVE DATES: 04/15/2001 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Polymorphism and Inheritance.
2. Implementation of Abstract Data Types.
3. Algorithms.
4. Namespaces.
5. Exceptions.
6. Standard Template Library.

D. LEARNING OUTCOMES (General)

1. Demonstrate the ability to write complex computer programs consisting of 1,000 or more lines of code.
2. Explain design alternatives in selecting Abstract Data Types in terms of time and space.
3. Explain the implementation of the Abstract Data Types covered in class.
4. Design solutions using many levels of composition and inheritance (derivation).
5. Explain polymorphism.
6. Demonstrate classic Computer Science algorithms and explain their efficiency.
7. Explain namespaces and demonstrate it in computer programming.
8. Explain exceptions and demonstrate it in computer programming.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted