

Minnesota State University Moorhead

CSIS 462: Software Security

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:

This course requires the following prerequisite

CSIS 364 - Information Systems Security

Corequisites: None

MnTC Goals: None

The intent of this course is to provide students with the ability to describe why software assurance is important to the development of secure systems and describe the methods and techniques that lead to secure software. Further, this course will provide students with an understanding of the characteristics of secure programs and help students apply basic security design fundamentals to implement programs that are free from vulnerabilities and worthy of being trusted.

B. COURSE EFFECTIVE DATES: 01/02/2021 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Software Assurance
2. Secure Programming Practices

D. LEARNING OUTCOMES (General)

1. Explain the vulnerabilities inherent in different programming languages.
2. Examine vulnerabilities introduced through the use of libraries and how to mitigate those vulnerabilities.
3. Define and apply security design principles.
4. Describe the characteristics of secure programming and how system design and architecture affects security.
5. Create a system design optimized to meet appropriate security requirements.
6. Produce software components that satisfy their functional requirements without introducing vulnerabilities.
7. Apply modeling and vulnerability assessment to create a secure design.
8. Explain the importance of Design Reviews in creating secure systems.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted