Minnesota State University Moorhead

CSIS 340: Software Engineering

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires all three of these prerequisite categories
1. CSIS 304 - Databases
   And
2. MATH 210 - Concepts from Discrete Mathematics
   And
3. Any one of these three
   CSIS 255 - Data Structures
   CSIS 335 - Graphical User Interface Programming
   CSIS 336 - C#.Net Programming

Corequisites: None

MnTC Goals: None

A study of the software development life-cycle including Requirements, Design, Implementation, Testing, Maintenance and Quality Assurance. Tools, techniques and methods will be studied. Project required.

B. COURSE EFFECTIVE DATES: 10/29/2012 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Software Engineering concepts (purpose, life cycle models, design characteristics).
2. cepts (purpose, life cycle models, design characteristics) 25%
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3. CASE tools to enable team project development .
4. Requirements workflow (use cases and user stories).
5. Analysis workflow (functional, entity class, and dynamic modeling).
6. Design Workflow (detailed method design).
7. Implementation.
8. Testing (non-execution and execution based, including automated unit testing).

D. LEARNING OUTCOMES (General)

1. Understand the purpose of Software Engineering.
2. Describe various software life cycle models emphasizing iteration and incrementation.
3. Utilize tools for project management.
4. Understand the necessity and use tools to produce project documentation.
5. Understand the continual necessity for testing all project artifacts.
6. Perform non-execution based testing on project artifacts.
7. Understand characteristics of sound software design.
8. Apply techniques for requirements elicitation including use cases and user stories.
9. Perform Object Oriented Analysis to extract classes and develop scenarios.
10. Perform Object Oriented Design to complete the required classes.
11. Implement an Object Oriented design in a programming language.
12. Perform execution based testing on software artifacts
13. Utilize tools that enable software development by teams.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted