

# Minnesota State College Southeast

## COMC 2999: Computer Engineering Technology Capstone

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Students will devise capstone projects integrating their coursework in electronics, programming, automation, and system integration. Projects will be vetted through their academic advisor and will be presented to the class at the end of the semester. The course will require specification of design requirements, outline integration of technical solutions, and map how the project relates to both industry and their program curriculum. Completion of COMC 2754 will meet the completion requirements for COMC 2756. (2 credits: 1 lecture, 1 lab) (2 credits: 1 lecture/1 lab)

**B. COURSE EFFECTIVE DATES:** 02/22/2018 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

#### **D. LEARNING OUTCOMES (General)**

1. Analyze business problems
2. Participate in project planning sessions
3. Write user stories/use cases
4. Identify user requirements
5. Plan solution design
6. Communicate/collaborate with team members (if necessary)
7. Estimate time lines and cost
8. Define processing requirements
9. Diagram proposed solution
10. Write program specifications
11. Design system test plan
12. Develop implementation plan
13. Analyze program specifications
14. Analyze hardware specification
15. Analyze system integration specifications
16. Diagram program flow
17. Access technical manuals
18. Prioritize system features
19. Design system interactions
20. Prepare operation documentation
21. Prepare user documentation
22. Create project source documents
23. Debug engineered system
24. Perform code review
25. Perform hardware review
26. Create application documentation
27. Submit progress reports
28. Use iterative development process
29. Demonstrate professional attitude

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

None

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted