Computer Science and Engineering CSE 3213/CSE 3223  
Software Engineering Senior Project I/II  

CREDIT/CONTACT HOURS: Credit Hours: 3/3, Contact Hours: 90/90  

COORDINATOR:  
Dr. David Dampier  

TEXTBOOKS: No required textbook  
a. Supplemental Material: Relevant software-engineering document templates are provided by instructor.  

SPECIFIC COURSE INFORMATION:  
CSE 3213:  
a. Catalog Description: Six hour laboratory. Software requirements elicitation and specification, cost estimation, scheduling, development of project management and quality assurance plans, reviews.  
b. Prerequisites: CSE 4214 with grade of C or better  
c. Required/Elective:  
Computer Science — Elective  
Software Engineering — Required  
Computer Engineering — Elective  

CSE 3223:  
a. Catalog Description: Six hour laboratory. Teamwork, software design, construction, implementation of project management and quality assurance plans, and configuration management.  
b. Prerequisites: CSE 4214 with grade of C or better  
c. Required/Elective:  
Computer Science — Elective  
Software Engineering — Required  
Computer Engineering — Elective  

SPECIFIC GOALS OF THE COURSE:  
a. Specific Outcomes of Instruction:  
1. Provide an actual development experience in the software-engineering discipline. (CSE3213/CSE3223)  
2. Work with an actual customer and exercise the entire software-engineering lifecycle. (CSE3213/CSE3223)  
3. The student will be placed in a project-management environment and required to work as part of a software development team. (CSE3213/CSE3223)  
4. The student will be able to perform software analysis (CSE3213), design (CSE3213/CSE3223), test (CSE3223), and implementation (CSE3223).  
5. The student will demonstrate proficiency in managing a software project to customer requirements. (CSE3213/CSE3223)
6. The student will be able to apply standard, accepted software-engineering techniques to system delivery. (CSE3213/CSE3223)
7. The student will demonstrate proficiency in eliciting requirements from a customer and refining the high level requirements to an end product. (CS 3213)
8. The student will demonstrate an ability to document their work to an acceptable standard. (CSE3213/CSE3223)

b. Criterion 3 Outcomes:
Note: Parenthesized list indicates the ABET EAC and CAC outcomes addressed by each performance criteria.
1. The student will be able to describe, discuss, and apply the software-engineering discipline. (EAC: c,e,f,g; CAC:b,c,e,f)
2. The student will be able to select the correct process for a given software-development scenario. (EAC: c; CAC:c)
3. The student will be placed in a project-management environment and required to successfully work as part of a software-development team. (EAC: d, g; CAC:d,f)
4. The student will be able to implement object-oriented software analysis, design, test, and implementation. (EAC: c; CAC: c)
5. The student will demonstrate proficiency in managing a software project to customer requirements. (EAC: c; CAC: c)
6. The student will be able to apply standard, accepted software-engineering techniques to system delivery and to apply appropriate metrics. (EAC: b, c; CAC:c,k)
7. The student will demonstrate proficiency in eliciting requirements from a customer and refining the high level requirements to an end product. (EAC: g; CAC: f)
8. The student will demonstrate an ability to document their work to an acceptable standard. (EAC: g; CAC: f)
9. The student will demonstrate an ability to effectively work with a customer in the context of professionalism and need. (EAC: h, j; CAC:g)

TOPICS COVERED:

Lecture: None
Laboratory: None

1. Requirements elicitation, analysis, and specifications 3
2. Project Management 6
3. Software design 3
4. Software testing 5
5. Software maintenance 4
6. Software Documentation 2
7. Quality Assurance 2
8. Object Oriented Methods 3
9. Customer Relationships 3