Administrative Unit: Computer and Mathematical Sciences Department  
Course Prefix and Number: CISS 465  
Course Title: Software Engineering  
Number of: Credit Hours: 3  Lecture Hours: 3  Laboratory Hours: 0  
Catalog Description: An introduction to software engineering including process models, software metrics, configuration management, risk analysis, testing techniques and quality assurance, project management and tracking. Prerequisite: CISS 430. Offered even Fall.  
Prerequisite(s)/Corequisite(s): CISS 430.  
Text(s): Pressman, R.S.  *Software Engineering—A Practitioner’s Approach.* McGraw Hill.  
Sommerville, I.  *Software Engineering.* Addison Wesley.  

Course Objectives:  
• To develop an engineering approach to complex software system development.  
• To utilize metrics to manage development.  
• To write software requirements specifications.  
• To develop use cases.  
• To utilize analysis modeling techniques.  
• To utilize configuration management tools.  
• To develop testing plans.  
• To use UML as a development and documentation aid.  
• To understand risk management.  

Measurable Learning Outcomes:  
• Explain the common system development models.  
• Explain analysis and design modeling principles.  
• Explain requirements engineering.  
• Develop use cases.  
• Explain architectural design principles and options.  
• Develop a testing strategy.  
• Prepare a risk management plan.  
• Develop a set of metrics for project management.  

Topical Outline (major areas of coverage):  
• Software development models  
• Software and project metrics  
• Estimating and tools  
• Configuration management  
• Risk analysis  
• Testing techniques and issues  
• Project management and tracking  
• Software requirements specification  
• Software design description
• Software testing plan
• IEEE standards

Material from this course may be tested on the Major Field Test (MFT) administered during the Culminating Experience course for the degree.

Recommended maximum class size for this course: 20

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Lawrence West

Name ____________________________ Signature ______________

Date: May 10, 2005

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

Office of Academic Affairs
12/04