COMP 5700, Software Process

**Credit hours:** 3 lecture  
**Contact hours:** 3 lecture

**Catalog Description:** Process models of the software life cycle as well as methods and tools for software development.

**Prerequisites:** COMP 3700 or COMP 3710  
**Corequisites:** None

**Required Course** (SWEN, WIRS – software specialization) **Selected Elective Course** (CSCI)

**Instructor or Course Coordinator:** Dr. David Umphress

**Required Textbook**  
None

**Reference Materials**  
Outside readings as appropriate

**Course Outcomes**  
The student will be able to  
• understand processes raison d’être.  
• know the processes identified as being necessary for successful software production.  
• understand the what a life cycle is, its component parts, and how it affects the software production process.  
• understand the planning process.  
• understand how to define “size”, measure it, and estimate it.  
• understand how to decompose work units.  
• understand task dependencies, be able to construct and analyze a dependency chart.  
• estimate software cost.  
• understand the process of risk management.  
• understand the purpose and function of status reviews.  
• understand process/product measurement.  
• measure and analyze a sample project.  
• understand own personal performance.

**Topics Covered**  
• Software engineering raison d’être (1 hour)  
• Process foundations (2 hours)  
• Process models (2 hours)  
• Lifecycles (3 hours)  
• Construction processes – Test-Driven Development (2 hours)  
• Refactoring (2 hours)
• Feature identification and prioritization (2 hours)
• Size estimation (4 hours)
• Task decomposition (1 hour)
• Scheduling (4 hours)
• Measurements (2 hours)
• Reviews (2 hours)
• Example processes in industry (4 hours)
• Process description techniques (1 hour)
• Organizational infrastructure needed for process (1 hour)
• Retrospective (1 hour)

**Course Requirements**
• Homework assignments (40%)
• Exams (60%)

Syllabus prepared: Spring 2016