CSE3310-003 Fundamentals of Software Engineering

Software engineering principles, processes, and techniques; software development approaches focusing on functional analysis and functional design methods. Configuration management, implementation strategies, and testing. Team project. Prerequisite: C or better in each of the following: CSE 1320, CSE 1325 and CSE 2315.

MW 4:00pm-5:20pm
COBA150

Mr. Jimmie "Bud" Davis
Jimmie.davis@uta.edu
817-323-7143
ERB552
Office Hours M/W 2:00pm to 3:50pm, and by appointment

TextBook:

- Software Engineering, Tenth Edition, Ian Sommerville. ($165.32)
- Software Engineering Book of Knowledge (SWEBOK), available online from the IEEE ($0.00)
- Students are required to purchase a bound notebook for the "Engineering Notebook" which is used turned in several times during the semester.

Reading Assignments

Introduction	Sommerville Ch 1.1 Professional software development Ch 1.2 Software engineering ethics SWEBOK Ch 11.1 Software Engineering Professional Practice
Software Process	Sommerville Ch 2.1 Software process models Ch 2.2 Process Activities SWEBOK Ch 8.1 Software Process Definition
Software Process	Sommerville Ch 2.3 Coping with change Ch 2.4 Process Improvements SWBOK

	Ch 8.2 Software Process Definition
Requirements	Sommerville Ch 4.1 Functional and non-functional requirements Ch 4.2 Requirements engineering processes Ch 4.3 Requirements elicitation SWEBOK Ch 1.1 Software Requirements Ch 1.2 Software Requirements Ch 1.3 Software Requirements
Requirements	Sommerville Ch 4.4 Requirements specification Ch 4.5 Requirements validation Ch 4.5 Requirements change SWEBOK Ch 1.4 Software Requirements Ch 1.5 Software Requirements Ch 1.6 Software Requirements Ch 1.7 Software Requirements
System Modeling	Sommerville Ch 5.1 Control models Ch 5.2 Interaction models Ch 5.3 Structural models SWEBOK Ch 9.1 Software Engineering Models and Methods Ch 9.2 Software Engineering Models and Methods
System Modeling	Sommerville Ch 5.4 Behavioral models Ch 5.5 Model Driven Architecture SWEBOK Ch 9.3 Software Engineering Models and Methods Ch 9.4 Software Engineering Models and Methods
Architectural Design	Sommerville Ch 6.1 Architectural design decisions Ch 6.2 Architectural views
Architectural Design	Sommerville Ch 6.3 Architectural patterns Ch 6.4 Application architectures
Design and Implementation	SWEBOK Ch 3.1-3.4 Software Construction

Software Testing	Sommerville Ch 8.1 Development testing Ch 8.2 Test driven development SWEBOK Ch 4.1 Software Testing Ch 4.2 Software Testing
Software Testing	Sommerville Ch 8.3 Release testing Ch 8.4 User testing SWEBOK Ch 4.3 Software Testing Ch 4.4 Software Testing Ch 4.5 Software Testing
Software Evolution	Sommerville Ch 9.1 Evolution processes Ch 9.2 Legacy systems Ch 9.3 Software maintenance
Agile Methods	Sommerville Ch 3.1 Agile methods Ch 3.2 Agile development techniques
Agile Methods	Sommerville Ch 3.3 Agile project management Ch 3.2 Scaling agile methods
Project Management	Sommerville Ch 22.1 Risk management Ch 22.2 Managing people Ch 22.3 Teamwork
Project Planning	Sommerville Ch 23.1 Software pricing Ch 23.2 Plan driven development Ch 23.3 Project scheduling
Project Planning	Sommerville Ch 23.4 Agile planning Ch 23.5 Estimation techniques Ch 23.6 COCOMO cost modeling
Quality Management	Sommerville Ch 24.1 Software quality Ch 24.2 Software standards Ch 24.3 Reviews and inspections Ch 24.5 Software measurement SWEBOK Ch 10.1-10.3 Software Quality

8/19	**Introduction**	
8/26	**Software Process**	

9/2	**Software Requirements**	
9/9	**Software Modelling**	
9/16	**Software Architecture**	
9/23	**Midterm**	
9/30	**Implementation**	
10/7	**Focus on Project**	
10/14	**Software Testing**	
10/21	**Software Evolution**	
10/28	**Agile**	
11/4	**Project Management**	
11/11	**Project Planning**	
11/18	**Quality Management**	
11/25	**Focus on Project**	
12/2	**Review**	

Significant Assignments

- 4 Individual Assignments (8%)
- Engineering Notebook (7%)
- Semester Group Project (25%)
- Midterm (25%)
- Final Exam (25%)
- Attendance (10%)