

University of North Alabama  
Departmental Syllabus

**COURSE:** CS 455

**COURSE TITLE:** Software Engineering

**CREDIT:** 3 Semester hours

**PREREQUISITE:** CS 355

**COURSE DESCRIPTION:** This is a study of all the phases in a software systems life cycle including analysis, specification, design, implementation, testing and maintenance. A continued emphasis on problem solving concepts integrated within the treatment of the software life cycle, with regard to requirements, specification, verification and validation.

**COURSE OBJECTIVE: The student shall demonstrate knowledge of:**

1. The Software Process
2. Software Life-Cycle Models
3. The Structured and Object-Oriented Programming Paradigms
4. Documentation and Testing
5. CASE tools

**The student shall demonstrate ability to:**

6. Apply sound programming practices to the construction of large software projects.
7. Work with team members on programming projects.
8. Implement the phases of the software life cycle.

**COURSE CONTENT:**

1. Historical background of software engineering
2. Overview of the software process
3. Life-Cycle Models
4. Tools and Testing
5. Object-Oriented vs. Structured programming
6. The Phases of the Software Life Cycle

*The class will be divided into small teams and given a project by a client from who they determine the requirements, agree on a specification document, design, implement, integrate and test the project before delivery.*

**Accommodation Statement:** In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the University offers reasonable accommodations to students with eligible documental learning, physical and/or psychological disabilities. Under Title II of the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973, a disability is defined as a physical or mental impairment that substantially limits one or more major life activities as compared to an average person in the population. It is the responsibility of the student to contact Developmental Services prior to the beginning of the semester to initiate the accommodation process and to notify instructors within the first three class meetings to develop an accommodation plan. Appropriate, reasonable accommodations will be made to allow each student to meet course requirements, but no fundamental or substantial alteration of academic standards will be made. Students needing assistance should contact Development Services.