SWE 3313: Introduction to Software Engineering
3 Credit Hours

Prerequisite: (CSE 1322 and CSE 1322L)

This course provides an overview of the software engineering discipline, introducing the student to the fundamental principles and processes of software engineering. This course highlights the need for an engineering approach (both personal and team) to software with understanding of the activities performed at each stage in the development cycle. In this course, students will perform requirements analysis, design, implementation and testing. The course presents software development processes at the various degrees of granularity. Students will become aware of libraries of standards (IEEE, ACM, SWEBOK, etc.).

SWE 3623: Software Systems Requirements
3 Credit Hours

Prerequisite: (SWE 3313 and (CSE 2300 or MATH 2345)) or CPE 3000

This course covers engineering activities related to the definition and representation of software system requirements. Topics include the elicitation, analysis, specification and validation of software system requirements. Emphasis is on the application of processes and techniques of requirements engineering. Projects focus on current analysis methods and supporting tools for specification, organization, change management, traceability, prototyping, and validating requirements.

SWE 3633: Software Architecture and Design
3 Credit Hours

Prerequisite: SWE 3313 or CPE 3000

This course covers the fundamental design principles and strategy for software architecture and design. Architectural styles, quality attributes, design notations and documents, reference architecture, domain specific architecture in architecture process and pattern-oriented design, component-oriented design, and interface design in detailed design process are discussed.