

Software Engineering (2)

Course Name: Software Engineering (2)

Course Code: SFT305

Credit hours: 3

Knowledge Domain: Software Engineering.

Prerequisite(s): Software Engineering (1) (SFT204)

Learning Objectives

Upon completion of this course, the student will be able to:

1. Present the aspects of software testing, verification & validation.
2. Grasp the basic concept of software quality assurance.
3. Apply Configuration management planning and some aspects of change management.

Learning Outcomes:

1. Grasping the remaining phases of the software development process.
2. Acquaintance with software cost-estimation basic concepts, Human resource management and change management.

Overview and Syllabus

Verification and Validation and Software Testing. Critical systems validation. Management of human resources. Software cost-estimation. Quality management and process improvement. Legacy systems and software change. Software reengineering. Configuration management.

Course Outline

	Topic
1	<u>Module 01: Software Quality Assurance</u> Introduction Objectives Lesson 01: Basic Definitions & Concepts Lesson 02: Software Quality Concepts Lesson 03: Software Quality Assurance Summary Assessment
2	<u>Module 02: Software Measurements and Metrics</u> Introduction Objectives

	<p>Lesson 01: Concepts of Software Measurement & Metrics</p> <p>Lesson 02: Size-Oriented Metrics</p> <p>Lesson 03: Function Point Analysis</p> <p>Lesson 04: Size and Design Metrics</p> <p>Summary</p> <p>Assessment</p>
3	<p><u>Module 03: Software Testing</u></p> <p>Introduction</p> <p>Objectives</p> <p>Lesson 01: Concepts of Software Testing</p> <p>Lesson 02: Testing: Process, Team and Standard Documentation</p> <p>Lesson 03: Verification and Validation</p> <p>Summary</p> <p>Assessment</p>
4	<p><u>Module 04: Strategic Testing Environment</u></p> <p>Introduction</p> <p>Objectives</p> <p>Lesson 01: Testing Strategies and Unit Test Environment</p> <p>Lesson 02: Integration Testing</p> <p>Lesson 03: System Testing</p> <p>Summary</p> <p>Assessment</p>
5	<p><u>Module 05: Unit Testing Techniques</u></p> <p>Introduction</p> <p>Objectives</p> <p>Lesson 01: Black-box Testing</p> <p>Lesson 02: White Box Testing</p> <p>Summary</p> <p>Assessment</p>