

COURSE CODE	COURSE TITLE	L	T	P	C
1152CS202	SOFTWARE TESTING	1	0	2	2

Course Category: Program Elective

A. Preamble :

The purpose of this course is to provide an understanding of concepts and techniques for testing software and assuring its quality.

B. Prerequisite:

Sl. No	Course Code	Course Name
1	1151CS112	Object Oriented Software Engineering

C. Related Courses:

Sl. No	Course Code	Course Name
1	1156CS601	Minor Project
2	1156CS701	Major Project

D. Course Educational Objectives :

Learners are exposed to

- To Gain Knowledge in the Test Environment
- Ability to plan tests
- Ability to execute tests, design test cases, use test tools, etc
- Ability to develop testing status reports

E. Course Outcomes :

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Discuss about software testing, test plan and test case design	K2
CO2	Perform test case designing and documenting using open source test management tool.	K3
CO3	Illustrate the process involved in defect management for logging and tracking	K3
CO4	Demonstrate about the test data management, and the need for test automation	K3
CO5	Examine the importance of Selenium open source tool for automation testing	K3

F. Correlation of COs with POs :

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	M		L		L										
CO2	M	M	L		M	L									
CO3	M		M		M	L									M
CO4	M		M	L	M	L		L				L		L	M
CO5	M		M	L	M	L		L				L		L	M

H- High; M-Medium; L-Low

G. Course Content :

UNIT I:Introduction to Testing: **12** **why and what:**

Why is testing necessary? What is testing? Role of Tester, Testing and Quality, Overview of STLCSoftware Testing LifeCycle - V model:SDLC vs STLC, different stages in STLC, document templates generated in different phases of STLC, different levels of testing, different types of testing**Static Testing, Duration:** Static techniques, reviews, walkthroughs**Basics of test design techniques:** Various test categories, test design techniques for different categories of tests. Designing test cases using MS-Excel.

UNIT II: Test management **6**

Documenting test plan and test case, effort estimation, configuration management, project progress management. Use of Testopia for test case documentation and test management.

UNIT III: Defect management: **6**

Test Execution, logging defects, defect lifecycle, fixing / closing defects. Use of Bugzilla for logging and tracing defects.

UNIT IV:Test Data Management and Basics of Automation testing **8**

Test Data Management –Overview, Why Test Data Management, Test Data Types, Need for Test Data Setup, Test Data Setup Stages, Test data management Challenges. Creating sample test data using MS-Excel

Basics of Automation testing:

Introduction to automation testing, why automation, what to automate, tools available for automation testing.

UNIT V:Basics of Automation testing using Selenium **13**

Introduction to Selenium, using Selenium IDE for automation testing, using Selenium Web driver for automation testing, understanding TestNG framework with Selenium Web driver for automation testing.

Text Books:

1. Rex Black, “Managing the Testing Process” (2nd edition), John Wiley & Sons, 2004.
2. Dorothy Graham, Erik van Veenendaal, Isabel Evans, Rex Black , “Foundations of software testing”, ISTQB Ceretification.

Reference Books:

1. Elfriede Dustin, Thom Garrett, Berne Gauf, “Implementing Automated Software Testing: How to Save Time and Lower Costs While Raising Quality” 1st Edition, Addison-Wesley Professional Publisher.

Online Resources:

1. <http://docs.seleniumhq.org/docs/>
2. <http://www.seleniumhq.org/download/>
3. Selenium-ide.xpi (latest current version)
4. Selenium-java.jar (latest current version)
5. Firebug.xpi (latest current version)
6. Firepath.xpi (latest current version)
7. IEDriverServer.exe (latest current version)
8. Jxl.jar (latest current version)