

<b>Course Name:</b> Software Measurements And Testing	<b>Course Code:</b> ITSE4115
<b>Pre-Requisite:</b> ITSE2102 Introduction to Software Engineering ITSE4101 Software Design Methods	<b>Credit Hours:</b> 3
<b>Passing Grade:</b> C	<b>Level:</b> Year 4
<b>No. Of Theory &amp; Practical Hours</b> : 2:2	
<b>Goal:</b> This course covers principles and techniques of software measurements and testing.	
<b>Objectives:</b> The course should enable the student to: <ul style="list-style-type: none"> <li>1. Understand methods of testing, measuring and documenting of software systems.</li> <li>2. Analyze software metrics and measurements</li> <li>3. Analyze various testing and management techniques</li> <li>4. Use case studies and tools for software measurements and testing</li> </ul>	
<b>Outcomes</b> At the end of this course, students should be able to:	<b>Method</b>
1. Discuss standards, principles and importance of quality in software systems	Theory
2. Design testing and measurement procedures	Theory and Practical
3. Apply different types of Software Testing including unit, system, integration, application and regressions, security, performance and reliability testing.	Theory and Practical
4. Apply software inspections and test analysis.	Theory and Practical
5. Analyze software metrics including reliability modeling, McCabe Cyclomatic complexity, Halstead's Software Sciences, function points and the COCOMO model.	Theory and Practical
6. Discuss security principles and testing.	Theory
7. Analyze various testing techniques in system specification including black box.	Theory and Practical
8. Analyze various testing techniques including white box.	Theory and Practical
9. Analyze various test activities and management issues including testing schedule and phases, team organization and process issues.	Theory and Practical
10. Use a tool for test automation.	Practical
11. Use case study for software measurements and testing.	Theory and Practical

#### Hardware/Software Tools

WinRunner, Selenium

#### Text Book:

Introduction to Software Testing by Paul Ammann (Author), Jeff Offutt (Author)

#### Reference Book:

1. Desikan. S and Ramesh.G. 2007 Software Testing Principles and Practices .New York :Pearson Education .
2. Sommerville .I. 2007 Software Engineering . New York : Pearson Education