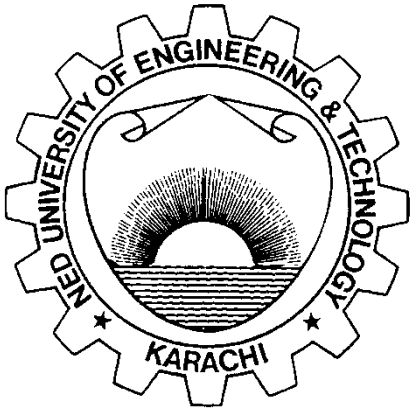
Practical Workbook

CS-302

Software Engineering



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Department of Computer & Information Systems Engineering
NED University of Engineering & Technology

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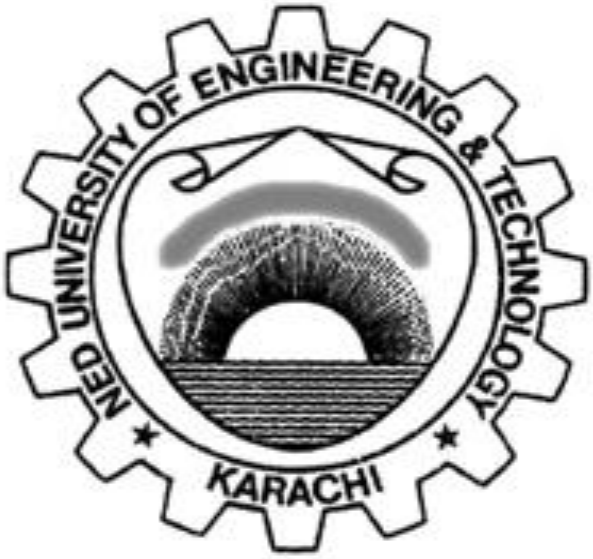

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INTRODUCTION

This workbook has been compiled to assist the conduct of practical classes for CS-302 Software Engineering. Practical work relevant to this course aims at providing students a chance to learn the complete Software Development Life Cycle (SDLC). SDLC has to be efficiently organized, and it is for this very reason that CASE (Computer Aided Software Engineering) tools are developed. With the help of CASE, the entire process can be automated and coordinated within the developed and adopted system life cycle. Therefore, variety of different example tools is covered in this workbook. In this way, students will be able to interact with modern CASE tools and can fully automate SDLC.

The Course Profile of CS-302 Software Engineering lays down the following Course Learning Outcome:

"Demonstrate the use of modern tools and techniques for software development and testing."

All lab sessions of this workbook have been designed to assist the achievement of the above CLO. A rubric to evaluate student performance has been provided at the end of the workbook.

Lab session 1 explains the software documentation with the basic features of very powerful documentation tool 'LaTeX'. Lab Session 2 covers Project Management tool 'MS-Project' for creating project plans. Lab sessions 3 - 6 are about learning the significance of Unified Modeling Language (UML) Diagrams in SDLC. These diagrams are developed using an open source tool named as 'StarUML'. Lab session 7 discusses the Software Design Patterns. Lab session 8 deals with Program Testing Techniques in SDLC. Lab sessions 9 - 11 demonstrate Web Development & Testing using Agile Project Management (Scrum). Lab sessions 12 & 13 elaborate Version Controlling System via Git & GitHub. Lab session 14 explains Complex Engineering Activity. Appendix A covers more features of LaTeX. Rubric sheets for student's evaluation are also attached.

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