NCEAC. FORM. 001-C

Oral and Written Communications	Every student is required to submit at least 1 written report of 5-6 pages and to make 1 oral presentations of 10-15 minute's duration.

Instructor Name Abdul Wahab Instructor Signature

Date

Session No.	Book Ch.	Topics to be Covered	Date	Signature
1	Chapter 1	The Evolving Role of Software Software The Changing Nature of Software	08/02	
2		Software Process Framework Activities Umbrella Activities		
3	Chapter 1 and 2	Software Myths Software Engineering: A Layered Technology A Process Framework		
4		The Waterfall Model Incremental Process Models Evolutionary Process Models		
5	Chapter 3	Specialized Process Models The Unified Process Agile Process Models		
6		Features of RUP Examples of how RUP is use case driven Architecture Centric		
7	Chapter 23 and 26	Basic of software metrics Different types of metrics		
8		Use for software metrics for software estimation. LOC and FP examples		
9	Chapter 24	Introduction to project management The Management Spectrum The People The Product The Process		
10		The Project The W^{5}HH Principle Critical Practices		
11	Chapter 26	Basics of Software costing and estimation		
12		About the cone of un certainty and malpractices in estimation		

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13	Chapter 26	Introduction to COCOMO model Model and levels of COCOMO		
14		Intermediate COCOMO COCOMO 2, different types		
15	-	**MID TERM Examination**		
16	-	**MID TERM Examination**		
17	Steve McConell Book	Other estimation techniques, what is actually used in the industry		
18		Calibration, how to prepare for calibration Decomposition and Recomposition, simple and complex standard deviation techniques		
19	Chapter 28	Software Risks Risk Identification Risk Mitigation, Monitoring, and Management		
20		Preparing and making Risk Tables and Risk sheets		
21	Chapter 15	Introduction to software testing Using Static Testing Reviews and its importance		
22		Ripple effect and how to avoid it Savings to cost ration for reviews		
23	Chapter 17	Software Testing Fundamentals Black-Box and White Box Testing Basis Path Testing		
24		Control Structure Testing Object-Oriented Testing Testing Methods Applicable at the Class Level		
25	Chapter 18	Integration Testing types, Exhaustive testing		
26		CMM and its levels Key process areas of different levels		
27	Chapter 14	Software Quality and Quality Management		
28		Metrics for software quality Reliability, availability etc		
29	-	Project and Report Presentation		
30	-	Project and Report Presentation		

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COURSE DESCRITPTION FORM

INSTITUTION **Karachi Institute of Economics & Technology**

PROGRAM (S) TO BE EVALUATED BACHELORS OF SCIENCE IN COMPUTER SCIENCE
BS (CS) FOUR YEAR DEGREE

A. Course Description

Course Code	**SE302**
Course Title	Software Engineering
Credit Hours	3 + 0
Prerequisites by Course(s) and Topics	Object-Oriented Analysis & Design
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	5 Quizzes 10% Midterm 30% Assignment 5% Project 15% Final Exam 40%
Course Coordinator	Mohammad Ayub Latif
URL (if any)	-
Current Catalog Description	Introduction to Computer-based System Engineering; Project Management; Software Specification; Requirements Engineering, System Modelling; Requirements Specifications; Software Prototyping; Software Design: Architectural Design, Object-Oriented Design, UML modelling, Function-Oriented Design, User Interface Design; Quality Assurance; Processes & Configuration Management; Introduction to advanced issues: Reusability, Patterns.
Textbook (or **Laboratory Manual** for Laboratory Courses)	1. Software Engineering: A Practitioner's Approach /7E, Roger Pressman, McGraw-Hill, 2009
Reference Material	1. Software Engineering 8E by Sommerville Addison Wesley, 2006 2. Unified Software Development by Booch, Rambaugh, Jacobson 3. Software Estimation by Steve Mc Conell
Course Goals	Students will develop software using the best followed practices of software engineering using an appropriate software development model.
Topics Covered in the Course, with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)	Extra Sheet Attached
Laboratory Projects/Experiments Done in the Course	This course is without lab
Course Assignments Done in the Course	2-3 assignments on different software documents

Class Time Spent on (in credit hours)	**Theory**	**Problem Analysis**	**Solution Design**	**Social and Ethical Issues**