

Prince Sultan University
College of Computer and Info Sciences / Department of Software Engineering
Term 251 (2025-2026)

COURSE SYLLABUS

Mission Statement of the Bachelor of Computer Science Program(s):

Prepare world-class software engineering graduates through an academic environment that promotes professional skills, ethical behavior, life-long learning, research and service to the community.

1. **Course number and name:** SE201 – Introduction to Software Engineering
 0. **Credits and contact hours:** 3 credits and 4 contact hours (Lectures: 3 - Tutorials: 0 - Lab:1)
 1. **Instructor's or Course Coordinator's Name:** Ms.Ishrat Khan
 - a. **Scheduled Office Hours:** 9 am – 10 am (Sun, Mon, Tue and Wed)
 - b. **Office Location:** Ms.Ishrat Khan: Building 101, 2nd Floor, R307
 - c. **Email:** ikh@psu.edu.sa
 0. **Text book, title, author, and year**
 - **Primary Text:** Software Engineering, 10th ed. Ian Sommerville, 978-9332582699, Pearson
 - **Other References:**
 - Ian Sommerville, Engineering Software Products: An Introduction to Modern Software Engineering, Global Edition 1st Edition, 2021, Pearson, ISBN-10: 1292376341
 - Roger Pressman and Bruce Maxim, Software Engineering: A practitioner's approach, 8th edition, McGraw Hill, 2014.
 - Shari Lawrence Pfleeger, Joanne M. Atlee, Software Engineering: Theory and Practice (4th Edition)

Course Website [Optional]: None

Learning Management System: Moodle available at <https://lms.psu.edu.sa>

0. Specific course information

- a. **Brief description of the content of the course (catalog description):**

This course serves as an introduction to software engineering design and development. Students learn various aspects of software development stages. The following aspects of software are reviewed as well: process models, life cycles, requirement analysis, documentation, design methodologies, development strategies and project management. The course emphasizes the development of high-quality software using software engineering best principles.
- a. **Prerequisites or co-requisites:** CS 102+ ENG 103
- b. **Indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program:** Required as a Core course in BSSE program
0. **Specific goals for the course**
 - a. **Specific outcomes of instruction.** The student will be able to:
 - CLO1:** Recognize software engineering fundamentals, processes, lifecycle phases, iterations, and best practices.
 - CLO2:** Apply the object-oriented methodology in software engineering for analysis and design.
 - CLO3:** Demonstrate an understanding of professional, ethical and social responsibilities in Software Engineering.

Week No.	Topics	CLO(s) alignment	Assessments
1	Chapter1: Software Engineering Practice and Ethics What is Engineering Software and its various types Software Engineering - A Layered Technology Professional Ethics for Software Engineers	CLO1, CLO3	Quiz1 Major Final Exam
2	Chapter2: Software Engineering Process Software process models Requirement Engineering Process and activities Software processes and SDLCs Capability Maturity Model (CMM)	CLO1	Quiz1 Major Final Exam
3	Chapter3: Agile software development Agile methods Plan-driven and agile development Extreme programming	CLO1	Major Final Exam
4-5	Chapter4: Planning and Managing the Project Project Management Spectrum Software Project Management Activities Project Scheduling Risk management Professional Ethics Issue related to Project Management	CLO3, CLO4	Major Final Exam Project
6-7	Chapter5: Requirements Engineering Types of Requirements The requirement engineering processes Requirements Documentation System Modelling (Structural, Behavioural and Implementation) Professional Ethics Issue related to Requirements Engineering	CLO2, CLO3	Quiz2 Final Exam Project
8-9	Chapter6: Designing the Software The Design Principles The Design Concepts Architectural Patterns Interface Design Professional Ethics Issue related to Design	CLO2, CLO3	Final Exam Project
10-11	Chapter7: Implementing the Software Software Construction Fundamentals Intro to Software Construction Standards for programming (Creating Understandable Code) Guidelines for reuse Source Code Organization Code Documentations Professional Ethics Issue related to Software Implementation	CLO2, CLO3	Final Exam Project
12-13	Chapter8: Testing the Software Types of faults and how to classify them The purpose of testing What is a Software Testing? Why do software projects fail? Types of testing Levels of testing Professional Ethics Issue related to software testing	CLO3, CLO5	Final Exam Project
2 - 15	Course Project	CLO3, CLO6	

8. Weight of Assessments

Assessment	Assessment Task	Week Due	Proportion of Final Assessment
1	Quiz-I	Week5 (14 Sep in class)	5%
2	Quiz-II	Week13(9 Nov in class)	5%
3	Labs+ Assignments+ Attendance	Week1 to Week15	15%
4	Project	Week2 to Week14	15%
5	Major Exam	Week8 (5 Oct from 12-1 pm)	20%
6	Final Exam	Announced on Edugate	40%

9. Additional Information

Plagiarism and Academic Dishonesty: "Plagiarism can be defined as unintentionally or deliberately using another person's writing or ideas as though they are one's own. Plagiarism includes, but is not limited to, copying another individual's work and taking credit for it, paraphrasing information from a source without proper documentation, and mixing one's own words with those of another author without attribution. In addition, buying a paper or project, or downloading a paper from the Internet, and submitting them as your own are also plagiarism. The penalty for academic dishonesty will bring course expulsion and failure, or even suspension" (Academic Integrity and Syllabus Acknowledgement Form).

Attendance Policies: The University attendance policy will be strictly followed. Students are expected to attend all class sessions and be in class on-time. Missing a class session is a student's responsibility. Missed classes will not be repeated. A total of 16 absences may lead to denial grade DN. It is the sole responsibility of a student to keep satisfying level of attendance. Otherwise, "DN" grade will be granted automatically during any time in the semester, without any notice. Please refer to the table below for the details. It is the student's responsibility to periodically check course website/Moodle for course content, projects assignments, updates and notifications.

	No deduction	1 mark	2 marks deduction	3 marks deduction	4 marks deduction	5 marks deduction	DN
Four Times Weekly	Total of or less than 3 absences	Total of 4 absences	Total of 7 absences	Total of 10 absences	Total of 13 absences	Total of 15 absences	Total of 16 absences

Major Exam Policies: Major exams are unified among all sections (if applicable) and their dates are announced from the onset of the semester. Arrangements with the Registration Office and the department are made before the beginning of the semester so that all sections will take the same exam and during the same time. It is not possible to reschedule any major exam. If any student missed an assessment, the makeup will be at the end of the semester and all the materials are included. Makeup exam will only be approved in limited cases as stipulated in the university bylaws. Generally, the final exam includes all material covered during the semester (comprehensive).

Labs/Assignment/ /Project Policies: Students are expected to actively participate in class activities. Students are expected to solve the assignment and submit the solution during the concerned session. Late submissions are not accepted. It is the student's responsibility to check/test/verify the solution before submission and ensure that all files have been uploaded to the LMS.