

Learning Guide Unit 1

Site: [University of the People](#)
Course: CS 4403-01 Software Engineering 2 - AY2025-T1
Book: Learning Guide Unit 1

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Description

Learning Guide Unit 1

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Overview

Unit 1: Project Planning

Topics:

- Overview of Software Engineering
 - Learning Application Development
 - Data Gathering and Application Development
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Learning Objectives:

By the end of this Unit, you will be able to:

1. Discuss the role of Project managers and other software managers in the team
 2. Explore methods of data gathering and data identification about the task to be automated
 3. Implement project planning and choose appropriate process model for a given scenario
 4. Compare structured and unstructured interviews, open and closed ended questions, meetings and reviews
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Tasks:

- Read through the Learning Guide and the Reading Assignment
- Complete the Discussion Assignment by posting in the Discussion Forum
- Respond to three of your fellow classmates' posts in the Discussion Forum
- Complete and submit the Programming Assignment
- Submit the Learning Journal
- Take and submit the Self-Quiz

Introduction

In this course, students will get an introduction to the art of project planning as it relates to software engineering. This process is a team based activity in reality which follows a well-documented process which students will learn and use throughout the course.

Chapter 1

Discusses software engineering as a systematic approach to the development, operation, maintenance, and retirement of software. A software engineer is a person who has a broad knowledge of methodologies, life cycles, languages, and all aspects of software development, and who applies that knowledge to the systematic development of application systems. The two main goals of software engineering are to build a quality product through a quality process.

Chapter 2

Explains the nature of learning and experience. Declarative knowledge is knowledge about what actions, procedures, or steps are taken to perform some task. Declarative knowledge is a required but incomplete learning. Process knowledge is knowledge about how to perform, reason, and integrate the steps we know from declarative learning. Analogies or cases that form patterns of experiences will be used.

Chapter 3

Discusses matching a pattern from experience with a current problem, using analogical thinking. When a past experience does not match some current problem, we analyze the differences to develop a new case based on the new situation. The internalization of cases in memory is learning. The project manager is solely responsible for most people-related aspects of projects. The three main tasks of the project manager are organizational liaison, employee management, and project monitoring and control. Organizational Liaison includes creating working relationships with other organizations and departments, resolving project-related problems regardless of their nature, and reconciling the project design with expectations of others.

The Project Management Primer

Discusses the discipline of project management as it relates to software engineering, including concepts such as the scope triangle (time, cost, and quality). The primer further discusses project scope, planning, execution, implementation and, review.

Chapter 4:

Discuss data gathering techniques used during various phases of software development. Data gathering is done during every phase of application development but varies with each phase. The types of data collected depends on the application type and phase of development. Several data collection techniques are discussed in this chapter including interviews, group meetings, questionnaires, observation, temporary job assignment, review of internal and external documents, and review of the software.

Reading Assignment

TEXT: The New Software Engineering:

- Chapter 1 Overview of Software Engineering
- Chapter 2 Learning Application Development
- Chapter 3 Project Management
- Chapter 4 Data Gathering for Application Development
- The Project Manager Primer

Discussion Assignment

List and define the data type for all data currently identified for ABC's rental application. Refer to Chapter 2 for the data definitions.

You must post your initial response (with references) before being able to review other student's responses. Once you have made your first response, you will be able to reply to other student's posts. You are expected to make a minimum of 3 responses to your fellow student's posts.

Programming Assignment

Assume you are a project manager and your job is to develop an application which is similar to what you have developed in past, only larger and complex. The customer has documented the requirements clearly. What team structure would you choose in this case and why? Also, What software process model(s) would you choose and why?

Also, discuss how your choice is affected if, due to intense competition, tight deadlines are established and announced?

Your response must be a complete APA lab report (title page, conclusion and references page) and your own work.

Purdue OWL APA guide help. Retrieved from: <https://owl.english.purdue.edu/owl/>

Learning Journal

The Learning Journal is a tool for self-reflection on the learning process. In addition to completing directed tasks, you should use the Learning Journal to document your activities, record problems you may have encountered and to draft answers for Discussion Forums and Assignments. The Learning Journal should be updated regularly (on a weekly basis), as the learning journals will be assessed by your instructor as part of your Final Grade.

Your learning journal entry must be a reflective statement that considers the following questions:

1. Describe what you did, what you learned, your weekly activities, in what ways are you able to apply the ideas and concepts gained, and finally, describe one important thing that you are thinking about in relation to the activity
2. Compare and contrast individual interviews and meetings, listing two purposes that are the same for both techniques and two that are different. Compare Structured and Unstructured interviews and Open-ended questions and Closed-ended questions.

Self-Quiz

The Self-Quiz gives you an opportunity to self-assess your knowledge of what you have learned so far.

The results of the Self-Quiz do not count towards your final grade, but the quiz is an important part of the University's learning process and it is expected that you will take it to ensure understanding of the materials presented. Reviewing and analyzing your results will help you perform better on future Graded Quizzes and the Final Exam.

Please access the Self-Quiz on the main course homepage; it will be listed inside the Unit.

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