Principles of Project Management

Instructor: Burcin Kaplanoglu, PhD - Construction Engineering and Management
Room: TBD
Email: TBD
Course Website: TBD
Text Books:

Case Studies: Nine case studies in project management published by Project Management Institute (see section D)

A. Introduction

Purpose of this course is to introduce the principles of project management framework that supports various types of management including construction, environmental, information technology and other areas. The Principles of Project Management Framework includes proven practices that are widely applied, as well as innovative practices that are emerging in the profession illustrated by case studies.

B. Syllabus

Week 1: Overview

Provide a basic structure for understanding project management. Define key terms and provide an overview for the rest of the PMBOK® Guide (Introduction, Chapter 1). Describe the environment in which projects operate. Discuss why the project management team should understand this broader context while they are managing the day-to-day activities of the project to ensure success. (Project Life Cycle and Organization, Chapter 2)

Reading before Class: Chapter 1 and 2

Week 2: Processes for a Project

Specify the project management processes that are used by the project team to manage a project. Describe the five required Project Management Process Groups for any project and their constituent project management processes. Discuss the multi-dimensional nature of project management. (Project Management Processes for a Project, Chapter 3).

Reading before Class: Chapter 3

Case Study: Springfield Interchange Improvement Project
Week 3: Introduction to the Knowledge Areas and Integration Management

Discuss how The Knowledge Areas, organize the 44 project management processes, (from Chapter 3) known as Project Management Process Groups into nine Knowledge Areas. Introduce the legend for the process flow diagrams used in each Knowledge Area chapter.

Discuss Chapter 4, Project Management. This chapter describes the processes and activities that integrate the various elements of project management, which are identified, defined, combined, unified and coordinated within the Project Management Process Groups. Framework includes developing project charter, developing preliminary project scope statement, developing project management plan, directing and managing project execution, monitoring and controlling project work, integrating change control, and closing.

Reading before Class: Chapter 4

Case Study: Superconducting Super Collider Project

Week 4: Scope Management

Discuss Chapter 5, Scope Management. This chapter describes the processes involved in ascertaining that the project includes all the work required, and only the work required, to complete the project successfully. Framework includes planning of scope, defining scope, creating WBS, verifying scope, and controlling scope.

Reading before Class: Chapter 5

Case Study: The Guri Dam

Week 5: Time Management

Discuss Chapter 6, Time Management. This chapter describes the processes concerning the timely completion of the project. Framework includes defining activity, sequencing activity, estimating activity resource, estimating activity duration, developing schedule, and controlling schedule.

Reading before Class: Chapter 6

Case Study: The Mars Pathfinder Project

Week 6: *MIDTERM EXAM*
**Week 7: Cost Management**

Discuss **Chapter 7, Cost Management**. This chapter describes the processes involved in planning, estimating, budgeting, and controlling costs so that the project is completed within the approved budget. Framework includes estimating cost, budgeting cost, and controlling cost.

Reading before Class: Chapter 7

Case Study: Miller Park Stadium Project

**Week 8: Quality Management**

Discuss **Chapter 8, Quality Management**. This chapter describes the processes involved in assuring that the project will satisfy the objectives for which it was undertaken. Framework includes planning quality, assuring quality, and performing quality control.

Reading before Class: Chapter 8

Case Study: The Chunnel Project

**Week 9: Human Resource, Communication and Stakeholder Management**

Discuss **Chapter 9, Human Resource Management**. This chapter describes the processes that organize and manage the project team. Framework includes planning human resource, acquiring project team, developing project team, and managing project team.

Discuss **Chapter 10, Communications Management**. This chapter describes the processes concerning the timely and appropriate generation, collection, dissemination, storage and ultimate disposition of project information. Framework includes planning communications, distributing information, reporting performance, and managing stakeholders.

Discuss **Chapter 13, Stakeholder Management**. This chapter describes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, the analyze stakeholder expectations and their impact on the project, and to develop appropriate strategies for effectively engaging stakeholders in project decisions and execution.

Reading before Class: Chapter 9, 10 and 13

Case Study: The Glasgow Science Center Tower Project
Week 10: Risk Management

Discuss Chapter 11, Risk Management. This chapter describes the processes concerned with conducting risk management on a project. Framework includes planning risk management, identifying risk, analyzing qualitative risk, analyzing quantitative risk, planning risk response, and monitoring and controlling risk.

Reading before Class: Chapter 11

Case Study: Using GPS in World Trade Center Cleanup Project

Week 11: Procurement Management

Discuss Chapter 12, Procurement Management. This chapter describes the processes that purchase or acquire products, services or results, as well as contract management processes. Framework includes planning purchases and acquisitions, planning contracting, requesting seller responses, selecting sellers, administering contracts, and closing contracts.

Reading before Class: Chapter 12

Case Study: Rebuilding an American Landmark

C. Course Grading

<table>
<thead>
<tr>
<th></th>
<th>Weighting</th>
<th>Date/frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Exam</td>
<td>30%</td>
<td>TBD</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
<td>TBD</td>
</tr>
<tr>
<td>In class Participation</td>
<td>10%</td>
<td>NA</td>
</tr>
<tr>
<td>Case Study Analysis</td>
<td>20%</td>
<td>Every week</td>
</tr>
</tbody>
</table>

D. Case Study Analysis

The case studies are structured to allow the students to evaluate the project management methods and processes used in the projects. They cover a wide range of project management areas within four project phases: inception, development, implementation and closeout. Discussions are provided within each project phase of specific activities, accomplishments, and performance shortcomings in applicable processes of the five Project Management Process Groups (Initiating, Planning, Executing, Monitoring and Controlling, and closing). Students are required to answer assessment and analysis sections at the end of each phase and summarize his or her assessments and provide a list
of lessons learned from the case studies each week as homework. Further instructions will be provided at the first class.

Week 2. Springfield Interchange Improvement Project
Week 3. Superconducting Super Collider Project
Week 4. The Guri Dam
Week 5. The Mars Pathfinder Project
Week 6. Midterm
Week 7. Miller Park Stadium Project
Week 8. The Chunnel Project
Week 9. The Glasgow Science Center Tower Project
Week 10. Using GPS in World Trade Center Cleanup Project
Week 11. Rebuilding an American Landmark