1. INTRODUCTION

Aims: This unit of study focuses on the integrated management of project scope, time and cost for effective control and delivery of projects. The scope of the subject matter includes delivering comprehensive theoretical knowledge and application skills in integrated management and control of cost and schedule in complex projects. By successful completion of this unit of study, students should achieve a clear understanding of the time and cost management and appropriate control measures in project development environments. Objectives: Students should be able to:

- Discuss the project management trade-offs on balancing the triple-constraint;

- Explain the integrated cost and schedule control processes;

- Construct work breakdown structure (WBS) using given project information;

 - Discuss scope monitoring and change control system;

- Produce networks diagrams for project scheduling;

- Apply critical path analysis (CPA) in network scheduling;

- Apply critical chain method in project scheduling;

- Estimate the project cost and duration;

- Apply resource scheduling techniques;

 - Construct a time-phased budget plan;

 - Discuss cost monitoring and control processes;

- Undertake earned value analysis (EVA); and

- Undertake integrated cost and schedule control processes using project management software (Microsoft Project or Primavera) By the end of this unit of study, students should be able to:

- Undertake WBS exercises, CPA, EVA and trade-off analysis using the given project information;

- Explain how the components of time and cost management interrelate;

- Explain in depth why integrated cost and schedule management are important to project management; and

 –Analyze a project situation that involves time and cost management issues and apply a solution(s)

1. LEARNING OUTCOMES

Learning outcomes are the key abilities and knowledge that will be assessed in this unit. See assessment summary table below for details of which outcomes are assessed where. Outcomes are listed according to the course goals that they support. Project Development (Level 3)

1. Estimate project cost and duration.

2. Construct work breakdown structure (WBS) using given project information. Project Methods (Level 3)

 3. Produce networks diagrams for project scheduling.

 4. Apply critical path analysis (CPA) in network scheduling.

 5. Apply critical chain method in project scheduling.

6. Construct a time-phased budget plan using appropriate resource scheduling techniques.

 7. Undertake earned value analysis (EVA).

 8. Discuss scope monitoring and change control system.

 9. Explain the integrated cost and schedule control processes and how the components of time and cost management interrelate.

10. Undertake integrated cost and schedule control processes using project management software (Microsoft Project or Primavera). Project Delivery (Level 2)

 11. Analyze a project situation that involves time and cost management issues and apply a solution(s).

12. Discuss the project management trade-offs on balancing the triple-constraint.

Block1:

Subject introduction

Lecture 1:

* Project Management Overview
* Scope, Cost, Schedule – Introduction
* Integration management – Introduction

Lecture 2:

* Project Scope Management
* Planning
* WBS

Lecture 3:

* Project Time Management
* Project Cost Estimation
* Estimation Techniques
* Project Resources Management

Tutorial

* WBS exercise
* Revision questions
* Team discussion and assignment preparation

Lecture 4:

* Project Planning and Scheduling
* PERT diagram and critical path
* Resource scheduling techniques

Lecture 5:

* Project Cost Management
* Cost reporting
* Project Accounts and Cash Flow

Tutorial:

* Estimating exercise
* Critical path exercise

Team discussion and assignment preparationLecture 6:

* Project Cash Flow Analysis
* Earned Value Analysis and Management
* Earned Value Reporting
* Earned Value Exercise

Lecture 7:

* Project Performance Management
* Cost Monitoring and Control Processes

Lecture 8:

* Integrated Project Management

Tutorial:

* PERT exercise
* Earned Value exercise
* Team discussion and assignment preparation
* Block3:
* Revision

Tutorial: Effective cost and schedule control with practical exercises

Student should be comfortable with the project management principles and the use of PMBOK as a reference.

Also, the students should consult the industry guidelines associated with their primary professional focus and seek relevant case studies.

There are no required texts for this subject – any textbook related to cost and time management are acceptable. For example:

 Title: Integrated Cost and Schedule control in Project Management

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