

1. Module details**Module name****Project Planning and Estimating****Module duration**

It is expected that students with the appropriate entry knowledge and skills will successfully complete this module in 54 - 60 hours.

Module code

NUE954

Discipline code

0904505

2. Module purpose

To enable students to describe the principles and concepts of project planning, as related to a specific project or process, including typical documents required and procedures associated with a project, and to draw up a construction schedule for this project or process.

3. Prerequisites

Before attempting this module, the learner should have knowledge of Contracting (Electrical/Refrigeration/Air Conditioning/Mechanical).

4. Relationship to competency standards

This module provides part of the underpinning knowledge and skills in the 'Evidence Guide' of specific units of competency in the National Electrotechnology Training Package and provides similar support, where mapped, to equivalent units in the National Metals and Engineering Competency Standards. For details refer to the module to unit maps, available from NUEITAB.

5. Content**Introduction to project planning**

Simple and complex projects: start and finish dates, events, activities and durations, dependencies, plans, specification, budget, materials, plant and equipment

The project planning process: project life cycle, starting a project, progressive monitoring, finishing, constraints of time, budget and quality, project outcomes. Need for reports and meetings, budgets, records and project tracking information

The project planning environment: projects within continuing organisations. Project applications and project application of management principles, company and public authority organisation, industrial relations, safety, finance, legal aspects, types of contracts

Importance of project planning: brief history. The mutual benefits to society, management, clients and workers of effective project planning. The low salvage value of unsuccessful or uncompleted projects, follies

Contract documents

Different types of contracts: acts and regulations

Contract documentation

Contract administration

Contract variation

Graphical representation of projects

Construction scheduling

The Gantt Bar Chart: horizontal time, vertical activities, variations, specific examples and limitations

The Critical path: alternative paths to the finish node, the critical path, forward and backward pass, earliest and latest start and finish times, slack or float times, special terminology, calculation procedures. calendaring

Relevant computer software packages

6. Assessment strategy

Assessment methods

Assessment should be progressive reflecting a holistic approach to ensure the module purpose is met. To assist in ensuring validity, reliability and fairness assessment instruments should include practical exercises, assignments and written tests consisting of a number of item types, such as multiple choice, short answer and problem solving.

Conditions of assessment

Learning and assessment will take place in an environment that is conducive to a learner's development.

7. Learning outcome details

Learning outcome 1

Apply the concepts, specific technical terms and procedures used in project planning.

Assessment criteria

1.1 Outline a specific project or process identifying the role of each of the major participants in accordance with standard engineering practice.

Learning outcome 2

List and state the purpose of typical documents needed before the start of a project and those used to track and record project progress and costs.

Assessment criteria

2.1 Identify and describe the essential features of each component area of the contract document for the relevant engineering field related activity, all in accordance with written literature and texts pertinent to this course of study.

Learning outcome 3

Discuss case studies in writing, including graphics, comparison charts and checklists, relating possible solutions and probable consequences.

Assessment criteria

3.1 Develop and draw up a critical path method network for a field related project/process. The CPM wall chart will sequence and co-ordinate a variety of activities required for a specific production or construction process, indicating critical paths, early and late finish dates, all in accordance with recognised industry practice.

8. Delivery of the module

Delivery strategy

Delivery strategies must be suitable for learning both theoretical and practical aspects described in the module purpose. It is considered that the most effective method to achieve this is by integration of theory and practice where students learn by experimentation, research and reports. It is recommended that learning and assessment be facilitated in a holistic manner that may require learning outcome sequence other than that indicated in the module.

Resource requirements

Resources should be sufficient for students to carry-out learning activities on an individual basis. This could include:
 - Suitable workshops/laboratories
 - Suitable tools and equipment.

Occupational health and safety requirements

A safe and healthy environment will be provided for students and teachers as well as the particular safety procedures followed as part of the learning / teaching activity and content.