Australian Government

Department of Education, Employment and Workplace Relations

UEENEED029B Develop basic web pages for engineering applications

Release: 1

UEENEED029B Develop basic web pages for engineering applications

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor **1**)

1.1) **Descriptor**

This unit covers the development of web pages for engineering applications. It encompasses working safely, developing web pages using authoring tools, client-side scripting, fundamental server-side scripting and documenting development activities.

Note:
This unit applies to all aspects of Electrotechnology - engineering applications only. For general competencies related to Information Technologies refer to the latest endorsed IT Training Package.

Application of the Unit

Application of the Unit **4**)

This unit applies to any recognised development program that leads to the acquisition of a formal award at AQF level 5 or higher.

Licensing/Regulatory Information

1.2) License to practice

The skills and knowledge described in this unit do not require a license to practice in the workplace. However, practice in this unit is subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) **2)**

2.1) Competencies

There are no prerequisite competencies for this unit.

Employability Skills Information

Employability Skills **3)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to develop basic web pages for engineering applications.	1.1 OHS processes and procedures for a given work area are identified, obtained and understood.
	1.2 Established OHS risk control measures and procedures are followed in preparation for the work.
	1.3 The extent of development work is determined from page development specifications, including engineering subject matter, and in consultation with relevant persons.
	1.4 Activities are planned to meet scheduled timelines in consultation with others involved in the work.
	1.5 Appropriate development tools and software are selected based on specified requirements and performance standards.
	1.6 Strategies are implemented to ensure development work is carried out efficiently.
2 Develop basic web pages for engineering applications.	2.1 OHS risk control measures and procedures for carrying out the work are followed.
	2.2 Knowledge of syntax functions and features of mark-up languages scripts in current use are applied to developing client-side programming. (Notes 1 and 2)
	2.3 Pages are created and rendered with relative and absolute links, images and table formatting using cascaded styles sheets.
	2.4 Forms are created with a variety of appropriate elements and element groupings to make forms easy to follow.
	2.5 Knowledge of server scripting languages in current use is applied to scripting to developing client-side programming and validations. (See Note 3)
	2.6 Approaches to issues/problems are analysed to

ELEMENT	PERFORMANCE CRITERIA	
		provide most effective solutions.
	2.7	Quality of work is monitored against personal performance agreement and/or established organisational or professional standards.
3 Test, evaluate, implement and document the developed web pages.	3.1	Testing and procedures are developed to evaluate web page programming.
	3.2	Problems and bugs in web page programming are identified and rectified to ensure specifications are met.
	3.3	Intermediate and final work reports are written in accordance with professional standards and presented to appropriate person(s).

Note
1. Examples of mark-up languages are HTML, XML and XSL.
2. Examples of scripts are Javascript and VB script.
3. Examples of server scripting languages are JSP, ASP, PHP and Perl.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing basic web pages for engineering applications.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

The extent of the essential knowledge and associated skills (EKAS) required is given in Volume 2 - Part 2.2 EKAS. It forms an integral part of this unit.

2.4.21 Client side programming

2.4.22 Server scripting

2.18.1 Occupational Health and Safety principles

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in

EVIDENCE GUIDE

the Assessment Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Develop basic web pages for engineering applications as described in 8) and including:

    A Interpreting page development requirements.

    B Identifying the appropriate development tools and software.

    C Creating and rendering effective web pages.

EVIDENCE GUIDE

D Providing basic web functionality.

E Developing testing procedures.

F Identifying problem and bugs in web page program.

G Rectifying problem and bugs.

H Writing intermediate and final work reports ti the required standard.

I Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to developing basic web pages for engineering applications.

EVIDENCE GUIDE

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:
Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

8) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to developing basic web pages for engineering applications for any electrotechnology engineering disciplines. This shall include

- Development, implementation and testing HTML pages with at least four of the following features:
  - Relative and absolute links, images and table formatting
  - Cascaded styles sheets
  - Forms
  - New browser windows
  - Validation of form data

RANGE STATEMENT

- Development, implementation and testing of server scripting for database access with at least four of the following features:
  - Form data input response
  - Form data processing
  - Database access
  - Output of database table contents
  - Insertion of table data to database

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	4	Writing	4	Numeracy	4

Custom Content Section

Competency Field 5)

Computer Systems