



Australian Government

Department of Education, Employment and Workplace Relations

ICAWEB501A Build a dynamic website

Release: 1

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Modification History

Version	Comments
ICAWEB501A	This version first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to analyse, design, build and test a dynamic website to meet technical requirements.

Application of the Unit

This unit applies to web developers responsible for the analysis, design and implementation and testing of websites.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Define and analyse technical requirements	1.1 Identify business requirements and appropriate standards 1.2 Determine and document the purpose, expectations and functionality of the website 1.3 Analyse the user-interface design requirements, including user needs, design principles and operating systems
2. Produce software design specifications	2.1 Produce a hierarchy of the website showing navigation 2.2 Ensure content is logical and accessible to user 2.3 Produce prototype of the user interface 2.4 Determine and document the architectural requirements 2.5 Design data storage requirements
3. Develop website to the specified design	3.1 Create software components of the website 3.2 Test components of the website 3.3 Integrate components to produce the web application
4. Test web application	4.1 Test website against the requirements 4.2 Complete and document the design structure 4.3 Obtain client feedback and adjust web applications as appropriate

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - determine functional requirements
 - identify dynamic client and server-side requirements
- communication skills to liaise with the client
- initiative and enterprise skills to provide feedback and recommend the most appropriate technology solutions
- literacy skills to:
 - follow documented instruction from a supplied guide
 - interpret workplace instructions and other technical documents
 - keep up-to-date with latest industry guidelines
- planning and organisational skills to plan and organise the most appropriate solution
- problem-solving skills to:
 - identify and rectify website functional problems
 - identify and resolve bugs in the code created
 - select the most efficient and effective algorithms
- research skills to:
 - find solutions to encountered problems
 - keep up-to-date with industry trends
- technical skills to:
 - apply web programming concepts
 - create HTML and XHTML pages
 - create software in a variety of languages, including client and server-side languages
 - create aesthetically pleasing web pages
 - understand hypertext transfer protocol (HTTP).

Required knowledge

- features of internet technology
- principles of analysis and design
- programming control structures and object-oriented programming
- web programming concepts, including:
 - authentication and web security
 - HTTP
 - session management
 - stateless programming.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: - analyse, design, implement and test a website to meet technical requirements - create efficient and effective code to meet technical requirements.
Context of and specific resources for assessment	Assessment must ensure access to: - appropriate learning and assessment support when required - modified equipment for people with special needs - development environment - server access - database server - browsers.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: - review of documentation and code of an implemented and tested web application prepared by candidate - evaluation of candidate's completed website.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate. Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed. Indigenous people and other people from a non-English speaking background may need additional support. In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Document may include:	• software requirement specifications • unified modelling language (UML) diagrams • wireframes.
Prototype may be in the form of:	• images of sample web pages • non-functional static website to demonstrate what the site will look like.
Architectural requirements may be in reference to:	• classes required to build the application • configuration • operating system • software.
Data storage may include:	• database • files, such as eXtensible markup language (XML).
Components may include:	• classes required to build the application • flash movies • JavaScript • jQuery • shopping cart • web user controls.
Design structure may include:	• cascading style sheet (CSS) • eXtensible hypertext markup language (XHTML).

Unit Sector(s)

Web

Custom Content Section

Not applicable.