



Australian Government

UEEEEC0019 Develop software solutions for microcontroller-based systems

Release: 1

UEEEEC0019 Develop software solutions for microcontroller-based systems

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to develop software solutions for microcontroller-based systems.

It includes preparing to develop code, developing code, testing and documenting the development of code.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to develop code

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for relevant work area are identified, obtained and applied
- 1.2 Extent of code development is determined from job

	performance specifications and in consultation with relevant person/s
	1.3 Activities are planned to meet scheduled timelines in consultation with relevant person/s in accordance with workplace procedures
	1.4 Development kit and software are selected based on specified requirements and performance standard
	1.5 Strategies are implemented to ensure programming is carried out efficiently
2 Develop code	2.1 Correct syntax is applied when developing code
	2.2 Key features of the programming language used are applied to develop and test solutions
	2.3 Approaches to issues/problems are analysed to determine effective solution/s
	2.4 Quality of work is monitored against relevant performance measures in accordance with workplace procedures and relevant industry standards
3 Test and document the development of code	3.1 Testing procedures are developed to analyse code
	3.2 Problems and bugs in code are rectified to ensure specifications are met
	3.3 Reports are prepared in accordance with professional standards and presented to relevant person/s

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Developing software solutions in

- modifying an existing microcontroller program to comply with specified operating

microcontrollers/microprocessors must include at least the following:

- parameters
- developing microcontroller software to comply with a specified function and operating parameters
- debugging code
- analogue to digital converter (ADC)
- digital to analogue converter (DAC)
- external interrupt
- pulse width modulation (PWM)
- serial communications ports

Configuring and using at least one of the internal peripherals present on the device of the following:

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH115A Develop software solutions for microcontroller based systems.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>