



Australian Government

UEECS0019 Develop, implement and test object-oriented code

Release: 1

UEECS0019 Develop, implement and test object-oriented code

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, implement and test object-oriented code.

It includes following development scope, using appropriate development software, writing code and documenting development activities.

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

Computer Systems

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to develop object-oriented 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) processes and workplace procedures for a given work area are identified, obtained and applied
- 1.2** WHS/OHS risk control measures and workplace procedures in preparation for the work are followed

- | | | |
|----------|--|---|
| | 1.3 | Scope of code development work is determined from job performance specifications and in consultation with relevant person/s |
| | 1.4 | Activities are planned in accordance with workplace procedures for timelines and in consultation with others involved |
| | 1.5 | Relevant development kit and software are selected in accordance with specified requirements and performance standards |
| | 1.6 | Strategies are implemented to ensure programming is carried out efficiently |
| 2 | Develop object-oriented code | |
| | 2.1 | WHS/OHS risk control measures and workplace procedures for carrying out the work are followed |
| | 2.2 | Correct syntax is applied to developing code |
| | 2.3 | Features of object-orientated programming language are applied to develop and test solutions |
| | 2.4 | Code written features data encapsulation, inheritance and libraries |
| | 2.5 | Approaches to issues/problems are analysed to provide effective solutions |
| | 2.6 | Quality of work is monitored in accordance with workplace procedures and relevant industry standards |
| 3 | Test and document the development of object-oriented code | |
| | 3.1 | Testing procedures are developed to analyse code in accordance with job performance specifications and workplace procedures |
| | 3.2 | Problems in code are rectified to ensure job performance specifications are met |
| | 3.3 | Intermediate and final documentation is completed in accordance with relevant industry 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 object-oriented code must consist of multiple user-classes and include at least the following:

- inheritance
- arrays
- graphical user interface (GUI) components
- exceptions
- file input/output (I/O)
- event handling

Unit Mapping Information

This unit replaces and is equivalent to UEENEED111A Develop, implement and test object oriented code.

Links

Companion Volume implementation guides are found in VETNet - -

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

Assessment Requirements for UEECS0019 Develop, implement and test object-oriented code

Modification History

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

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying correct syntax to developing code
- applying features of object-oriented programming language
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - using risk control measures
- creating new classes
- determining code development work from job performance specifications and in consultation with relevant person/s
- developing code
- developing and testing workplace procedures
- documenting outcomes in accordance with relevant industry standards
- identifying issues/problems and bugs in code to provide solutions
- implementing strategies to ensure programming is carried out efficiently
- monitoring quality of work
- planning activities to meet scheduled timelines
- preparing to develop object-oriented code
- rectifying problems in code
- selecting development kit and software
- defining and using arrays
- creating graphical user interfaces (GUI) applications using library classes
- using GUI components and event-driven programming.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- file input/output (I/O)

- multi-threading
- object-oriented programming language elements
- object-oriented programming language operators and control structures
- relevant code written features, including:
 - data encapsulation
 - inheritance
 - system libraries
- relevant collections and collection framework
- relevant development kit and software
- relevant exception handling
- relevant features of object-oriented programming
- relevant programming
- job safety assessments or risk mitigation processes
- relevant syntax to developing code
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace instructions, quality policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities and equipment currently used in industry
- resources that reflect current industry practices in relation to developing object-oriented code
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

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