



Australian Government

UEECS0001 Administer computer networks

Release: 1

UEECS0001 Administer computer networks

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 administer computer networks.

It includes working safely; planning server installations and upgrades; planning for infrastructure services roles; determining and maintaining user and group permissions, delegated administration, network security and shared resource management; monitoring and maintaining servers for performance evaluation and optimisation, terminal server infrastructure and application deployment; planning for business continuity and high availability; and documenting all administration activities.

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

Pre-requisite Unit

Not applicable

Competency Field

Computer Systems

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install, upgrade and maintain network operations

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 a given work area are identified, obtained and applied

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| | 1.2 | Scope of the network is determined from network specifications and in consultation with relevant person/s |
| | 1.3 | Activities are planned in accordance with workplace procedures for timelines and in consultation with others involved |
| | 1.4 | Network operating system versions and updates required to maintain the network are obtained in accordance with workplace procedures and network requirements |
| 2 Administer network operations and document activities | 2.1 | Server operating systems are installed, upgraded and configured in accordance with developer instructions and network requirements |
| | 2.2 | Devices and drivers, desktop environment, network protocols, and services and system security are implemented in accordance with requirements |
| | 2.3 | Access to resources is configured within the limitations specified for each user |
| | 2.4 | Network malfunctions are identified and rectified using logical techniques and knowledge of devices and driver storage network protocols, connections and services and system security configuration processes |
| | 2.5 | Network performance and reliability is monitored and optimised in accordance with established procedures |
| | 2.6 | Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes |
| | 2.7 | Network administration is carried out efficiently without waste of materials and energy or damage to apparatus, the surrounding environment or other services |
| | 2.8 | Written justification is produced for network maintenance and upgrade and appropriate person/s notified in accordance with established procedures |
| | 2.9 | Network administration and documentation are maintained in accordance with established procedures |

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.

Unit Mapping Information

This unit replaces and is equivalent to UEENEED115A Administer computer networks.

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 UEECS0001 Administer computer networks

Modification History

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Performance Evidence

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

- applying relevant work health and safety /occupational health and safety (WHS/OHS) requirements, including using risk control measures
- carrying out network administration without waste of materials and energy or damage to apparatus, the surrounding environment or other services
- dealing with unplanned events
- determining network requirements and operating system versions and updates
- documenting network administration activities
- identifying and rectifying network malfunctions
- implementing devices and drivers, desktop environment, network protocols, services and system security
- installing, upgrading and maintaining network operations
- installing, upgrading and configuring server operating system in accordance with network requirements
- monitoring and maintaining server performance evaluation and optimisation, and monitoring and maintaining security and policies
- obtaining network operating system versions and updates required to maintain the network
- preparing to install, upgrade and maintain network operations
- optimising network performance, including implementing a patch management strategy, monitoring servers for performance evaluation and optimisation, removing redundant components and maintaining storage capacity, and monitoring and maintaining security and policies
- installing and configuring domain name system (DNS) servers, creating and configuring DNS zones and records
- installing and configuring dynamic host configuration protocol (DHCP) and managing and maintaining DHCP
- implementing network connectivity solutions, implementing network address translation (NAT), configuring routing and implementing virtual private network (VPN)
- implementing network policy server; configuring a RADIUS server, including RADIUS proxy; and configuring RADIUS clients
- implementing IPv4 and IPv6 addressing

- implementing high performance network solutions.

Knowledge Evidence

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

- application and data provisioning
- business continuity and high availability
- network operating system versions and updates
- new deployment, complete version upgrade, incremental updates, and security and bug patches
- problem-solving techniques
- relevant devices and drivers, desktop environment, network protocols, services and system security
- relevant industry standards
- relevant manufacturer specifications and installation instructions
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- server deployment
- server management.

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 administering user networks
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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