

Profile information current as at 14/12/2025 05:24 pm

All details in this unit profile for COIT13146 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## **General Information**

### Overview

This unit provides a practical introduction to system and network service management and administration. You are provided with the skills necessary to configure and manage secure server environments and deliver network services. Topics covered in the unit include managing computer systems and users, managing network services, configuring and managing system and network software, security, ethics and developing administration policies and procedures. A LINUX operating system environment is used to provide a practical platform for students to apply and demonstrate knowledge. You will need access to I.T. resources not provided by CQU, including the use of your own laptop. See Unit Profile for details or contact staff.

#### **Details**

Career Level: Undergraduate

Unit Level: *Level 3* Credit Points: *6* 

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

## Pre-requisites or Co-requisites

Prerequisite:- COIT12206 OR COIT13147

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the <a href="Assessment Policy and Procedure">Assessment Policy and Procedure</a> (Higher Education Coursework).

## Offerings For Term 1 - 2017

- Brisbane
- Distance
- Melbourne
- Rockhampton
- Sydney

## Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

## Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

## Class and Assessment Overview

### Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

## Class Timetable

#### **Regional Campuses**

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

#### **Metropolitan Campuses**

Adelaide, Brisbane, Melbourne, Perth, Sydney

#### **Assessment Overview**

1. Practical and Written Assessment

Weighting: 3%

2. Practical and Written Assessment

Weighting: 3%

3. Practical and Written Assessment

Weighting: 4%

4. Practical and Written Assessment

Weighting: 3%

5. Practical and Written Assessment

Weighting: 4%

6. Practical and Written Assessment

Weighting: 3%

7. Practical and Written Assessment

Weighting: 4%

8. Practical and Written Assessment

Weighting: 3%

9. Practical and Written Assessment

Weighting: 3%

10. Practical and Written Assessment

Weighting: 70%

## Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the <u>University's Grades and Results Policy</u> for more details of interim results and final grades.

## **CQUniversity Policies**

### All University policies are available on the CQUniversity Policy site.

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

## Previous Student Feedback

## Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Student email

#### **Feedback**

We have never been told that we would need to bring a laptop to class to do the work.

#### Recommendation

This requirement will be added to course profile section "IT requirements"

#### Action

Information about the requirement to bring and use one's own laptop for the purposes of this unit was placed in the General Information and Textbook and Resources sections of the unit profile (affective T1/17), and was re-iterated in the moodle website.

## **Unit Learning Outcomes**

## On successful completion of this unit, you will be able to:

- 1. Use administration commands and utilities to manage and secure hosts and networks
- 2. Configure and deploy common system and network services
- 3. Demonstrate the ability to perform user management and maintenance tasks
- 4. Describe how the elements of the Systems Administrators Guild of Australia (SAGE-AU) code of ethics informs professional practice
- 5. Design and document configuration and change control procedures
- 6. Develop and deploy security policy and rules
- 7. Evaluate system and network security effectiveness

Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is in use in over 100 countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.

ACS members can use the tool MySFIA to build a skills profile at

https://www.acs.org.au/professionalrecognition/mysfia-b2c.html

This unit contributes to the following workplace skills as defined by SFIA. The SFIA code is included:

- Network Support (NTAS)
- Problem Management (PBMG)

Introductory

- Data Analysis (DTAN)
- System Design (DESN)
- Service Desk and Incident Management (USUP)

# Alignment of Learning Outcomes, Assessment and Graduate Attributes

Intermediate Graduate .

Assessment Tasks	Learning Outcomes		nes				
	1	2	3	4	5	6	7
1 - Practical and Written Assessment - 3%	•	•		•	•		
2 - Practical and Written Assessment - 3%	•	•			•		
3 - Practical and Written Assessment - 4%	•	•			•		
4 - Practical and Written Assessment - 3%	•	•	•	•	•	•	
5 - Practical and Written Assessment - 4%	•	•	•		•		
6 - Practical and Written Assessment - 3%	•	•			•	•	•
7 - Practical and Written Assessment - 4%	•	•			•	•	•
8 - Practical and Written Assessment - 3%	•	•			•	•	•
9 - Practical and Written Assessment - 3%	•	•			•	•	•

Professional

Level

Advanced

# Alignment of Graduate Attributes to Learning Outcomes **Graduate Attributes Learning Outcomes** 2 3 5 6 7 1 - Communication 2 - Problem Solving 3 - Critical Thinking 4 - Information Literacy 5 - Team Work 6 - Information Technology Competence 7 - Cross Cultural Competence 8 - Ethical practice 9 - Social Innovation 10 - Aboriginal and Torres Strait Islander Cultures Alignment of Assessment Tasks to Graduate Attributes **Assessment Tasks Graduate Attributes** 2 3 4 5 6 7 10 1 - Practical and Written Assessment - 3% 2 - Practical and Written Assessment - 3% 3 - Practical and Written Assessment - 4% 4 - Practical and Written Assessment - 3% 5 - Practical and Written Assessment - 4% 6 - Practical and Written Assessment - 3% 7 - Practical and Written Assessment - 4% 8 - Practical and Written Assessment - 3% 9 - Practical and Written Assessment - 3% 10 - Practical and Written Assessment - 70%

## Textbooks and Resources

## **Textbooks**

COIT13146

#### **Prescribed**

#### **UNIX and LINUX System Administration Handbook**

Edition: 4th (2011)

Authors: Nemeth E., Snyder G., Hein T.R., & Whaley B.

Prentice Hall

Upper Saddle River, NJ, USA

Binding: Paperback

#### View textbooks at the CQUniversity Bookshop

#### IT Resources

#### You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- You must bring your own laptop to classes for setting up systems activities
- You must have a connection to a small home private network
- You must have a home computer running an Operating System capable of hosting VirtualBox (www.virtualbox.org) with 20GB of spare disk space
- You must have a home Internet connection with a minimum 10GB data plan

## Referencing Style

All submissions for this unit must use the referencing style: <u>Harvard (author-date)</u> For further information, see the Assessment Tasks.

# **Teaching Contacts**

Kenneth Howah Unit Coordinator

k.howah@cgu.edu.au

## Schedule

Week	1 -	06	Mar	2017	
------	-----	----	-----	------	--

Module/Topic Chapter Events and Submissions/Topic

Chapter 1 Where to Start

Virtualisation, Installation and Documentation

Chapter 3 Booting and Shutting Down Chapter 12 Software Installation and

Management

Chapter 24 Virtualisation

Week 2 - 13 Mar 2017

Module/Topic Chapter Events and Submissions/Topic

Installation, Updating and Chapter 8 Storage

Configuration Chapter 13 Drivers and the Kernel

Week 3 - 20 Mar 2017

Module/Topic Chapter Events and Submissions/Topic

Command Line	Chapter 2 Scripting and the Shell Chapter 5 Controlling Processes Chapter 6 The Filesystem	Week 1 - Practical and Written Assessment Due: Week 3 Monday (20 Mar 2017) 12:00 am AEST
Week 4 - 27 Mar 2017		
Module/Topic	Chapter	<b>Events and Submissions/Topic</b>
Users and Security	Chapter 4 Access Control and Rootly Powers Chapter 7 Adding New Users Chapter 30 Cooperating with Windows	
Week 5 - 03 Apr 2017		
Module/Topic	Chapter	<b>Events and Submissions/Topic</b>
Backup, Automation, Email and the Internet	Chapter 9 Periodic Processes Chapter 10 Backups Chapter 11 Syslog and Log Files Chapter 20 Electronic Mail Chapter 23 Web Hosting	
Vacation Week - 10 Apr 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Week 6 - 17 Apr 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Network and Firewall Basics	Chapter 15 Routing Chapter 16 Network Hardware Chapter 17 DNS: The Domain Name System Chapter 18 The Network File System Chapter 19 Sharing System Files	Week 2 - Practical and Written Assessment Due: Week 6 Monday (17 Apr 2017) 12:00 am AEST Week 3 - Practical and Written Assessment Due: Week 6 Monday (17 Apr 2017) 12:00 am AEST Week 4 - Practical and Written Assessment Due: Week 6 Monday (17 Apr 2017) 12:00 am AEST Week 5 - Practical and Written Assessment Due: Week 6 Monday (17 Apr 2017) 12:00 am AEST
Week 7 - 24 Apr 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Firewall	Chapter 22 Security	
Week 8 - 01 May 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Intrusion Detection System	Chapter 22 Security (continued)	
Week 9 - 08 May 2017		
Module/Topic	Chapter	<b>Events and Submissions/Topic</b>
Intrusion Prevention System	Chapter 22 Security (continued) Reading: Systems Administrators Guild of Australia (SAGE-AU) Code of Ethics	
Week 10 - 15 May 2017		
Module/Topic	Chapter	Events and Submissions/Topic

The X Window System and Printing

Chapter 25 The X Window system

Chapter 26 Printing

Chapter 26 Printing

Week 6 - Practical and Written Assessment Due: Week 10 Monday (15 May 2017) 12:00 am AEST Week 7 - Practical and Written Assessment Due: Week 10 Monday (15 May 2017) 12:00 am AEST Week 8 - Practical and Written Assessment Due: Week 10 Monday (15 May 2017) 12:00 am AEST Week 9 - Practical and Written Assessment Due: Week 10 Monday (15 May 2017) 12:00 am AEST

Week 11 - 22 May 2017

Module/Topic Chapter Events and Submissions/Topic

Data Centres Chapter 27 Data Centre Basics

Week 12 - 29 May 2017

Module/Topic Chapter Events and Submissions/Topic

Course Review and Project Completion

Review/Exam Week - 05 Jun 2017

Module/Topic Chapter Events and Submissions/Topic

Final Project Due: Review/Exam Week Friday (9 June 2017) 12:00 am

AEST

Exam Week - 12 Jun 2017

Module/Topic Chapter Events and Submissions/Topic

#### **Assessment Tasks**

## 1 Week 1 - Practical and Written Assessment

#### **Assessment Type**

Practical and Written Assessment

## **Task Description**

Perform the Base Server Installation and submit written documentation according to the instructions posted in the Moodle course Website.

#### **Assessment Due Date**

Week 3 Monday (20 Mar 2017) 12:00 am AEST

## **Return Date to Students**

Monday (3 Apr 2017)

#### Weighting

3%

#### **Assessment Criteria**

Please see Moodle course website for specific marking criteria.

#### **Referencing Style**

• Harvard (author-date)

### Submission

Online

#### **Submission Instructions**

Submission details are provided on the course website.

#### **Learning Outcomes Assessed**

Use administration commands and utilities to manage and secure hosts and networks

- Configure and deploy common system and network services
- Describe how the elements of the Systems Administrators Guild of Australia (SAGE-AU) code of ethics informs professional practice
- Design and document configuration and change control procedures

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 2 Week 2 - Practical and Written Assessment

## **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 6 Monday (17 Apr 2017) 12:00 am AEST

#### **Return Date to Students**

Monday (1 May 2017)

## Weighting

3%

#### **Assessment Criteria**

No Assessment Criteria

#### **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

#### **Learning Outcomes Assessed**

- · Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Design and document configuration and change control procedures

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 3 Week 3 - Practical and Written Assessment

#### **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 6 Monday (17 Apr 2017) 12:00 am AEST

## **Return Date to Students**

Monday (1 May 2017)

#### Weighting

4%

#### **Assessment Criteria**

No Assessment Criteria

#### **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

#### **Learning Outcomes Assessed**

- · Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Design and document configuration and change control procedures

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 4 Week 4 - Practical and Written Assessment

#### **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 6 Monday (17 Apr 2017) 12:00 am AEST

## **Return Date to Students**

Monday (1 May 2017)

## Weighting

3%

#### **Assessment Criteria**

No Assessment Criteria

## **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

## **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Demonstrate the ability to perform user management and maintenance tasks
- Describe how the elements of the Systems Administrators Guild of Australia (SAGE-AU) code of ethics informs professional practice
- Design and document configuration and change control procedures
- Develop and deploy security policy and rules

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 5 Week 5 - Practical and Written Assessment

### **Assessment Type**

Practical and Written Assessment

## **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 6 Monday (17 Apr 2017) 12:00 am AEST

#### **Return Date to Students**

Monday (1 May 2017)

#### Weighting

4%

#### **Assessment Criteria**

No Assessment Criteria

#### **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

### **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Demonstrate the ability to perform user management and maintenance tasks
- Design and document configuration and change control procedures

### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 6 Week 6 - Practical and Written Assessment

#### **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

### **Assessment Due Date**

Week 10 Monday (15 May 2017) 12:00 am AEST

#### **Return Date to Students**

Monday (29 May 2017)

#### Weighting

3%

#### **Assessment Criteria**

No Assessment Criteria

## **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

#### **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Design and document configuration and change control procedures
- Develop and deploy security policy and rules
- Evaluate system and network security effectiveness

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 7 Week 7 - Practical and Written Assessment

### **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 10 Monday (15 May 2017) 12:00 am AEST

#### **Return Date to Students**

Monday (29 May 2017)

#### Weighting

4%

#### **Assessment Criteria**

No Assessment Criteria

## **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

#### **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Design and document configuration and change control procedures
- Develop and deploy security policy and rules
- Evaluate system and network security effectiveness

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 8 Week 8 - Practical and Written Assessment

## **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 10 Monday (15 May 2017) 12:00 am AEST

#### **Return Date to Students**

Monday (29 May 2017)

#### Weighting

3%

#### **Assessment Criteria**

No Assessment Criteria

#### **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

#### **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Design and document configuration and change control procedures
- Develop and deploy security policy and rules
- Evaluate system and network security effectiveness

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 9 Week 9 - Practical and Written Assessment

#### **Assessment Type**

Practical and Written Assessment

### **Task Description**

Perform required practical tasks and submit written documentation as outlined on the course website.

#### **Assessment Due Date**

Week 10 Monday (15 May 2017) 12:00 am AEST

#### **Return Date to Students**

Monday (29 May 2017)

#### Weighting

3%

#### **Assessment Criteria**

No Assessment Criteria

#### **Referencing Style**

• Harvard (author-date)

## **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

## **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Design and document configuration and change control procedures
- Develop and deploy security policy and rules
- Evaluate system and network security effectiveness

#### **Graduate Attributes**

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 10 Final Project

## **Assessment Type**

Practical and Written Assessment

#### **Task Description**

Development of a complete System, with associated documentation, configured to meet the specified security and service profile provided.

The full requirement specification is outlined on the course website.

#### **Assessment Due Date**

Review/Exam Week Friday (9 June 2017) 12:00 am AEST

#### **Return Date to Students**

Return date to students on Certification Day (10 July 2015)

#### Weighting

70%

#### **Assessment Criteria**

The project documentation will be assessed upon the quality of content. This includes the presentation layout and the depth and breadth of project recommendations adhering to implementation of the secured computer network. Please see the Moodle course website for specific marking criteria for each part of the assessment.

#### **Referencing Style**

• Harvard (author-date)

#### **Submission**

Online

#### **Submission Instructions**

Submission details are provided on the course website.

## **Learning Outcomes Assessed**

- Use administration commands and utilities to manage and secure hosts and networks
- Configure and deploy common system and network services
- Demonstrate the ability to perform user management and maintenance tasks
- Describe how the elements of the Systems Administrators Guild of Australia (SAGE-AU) code of ethics informs professional practice
- Design and document configuration and change control procedures
- Develop and deploy security policy and rules
- Evaluate system and network security effectiveness

### **Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

## **Academic Integrity Statement**

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

#### What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

#### Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

#### Where can I get assistance?

For academic advice and guidance, the <u>Academic Learning Centre (ALC)</u> can support you in becoming confident in completing assessments with integrity and of high standard.

#### What can you do to act with integrity?



#### **Be Honest**

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



#### Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



#### **Produce Original Work**

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem