



COIT20264 Network Design

Term 1 - 2017

Profile information current as at 27/04/2024 02:05 pm

All details in this unit profile for COIT20264 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 the students with the skills and knowledge required to design wired and wireless networks. The unit equips the students with the approaches used to gather business and user requirements, and analyse them together with the security policies of the organisation. It then engages students in a comprehensive design of the network using the Top-Down Network Design methodology. The unit includes campus, branch, WAN, wireless and Internet edge designs as well as testing and documentation.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisite: COIT20261 Network Routing and Switching Co-requisite: COIT20262 Advanced Network Security

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 [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

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 Postgraduate 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. **Presentation and Written Assessment**

Weighting: 40%

2. **Written Assessment**

Weighting: 60%

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 [University's Grades and Results Policy](#) 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 Email correspondences.

Feedback

Two tutors suggested to allocate some marks for weekly group discussions in order to increase class attendances.

Recommendation

Make some weekly group discussions a part of Assessment Item 1 and Assessment Item 2.

Action

Contributions to specified Weekly Discussion Questions were embedded in Assessment Item 1 and Assessment Item 2.

Unit Learning Outcomes

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

1. Prepare the user, business and security requirements of the organisation in relation to network design.
2. Analyse the user, business and security requirements.
3. Compare and contrast the possible alternative logical and physical network designs.
4. Design a network by applying the top-down network design methodology.
5. Create the final documentation of the designed network.
6. Justify that the designed network satisfy the requirements.

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 Planning (NTPL)
- Project management (PRMG)
- Network Design (NTDS)
- Availability Management (AVMT)
- Capacity Management (CPMG)

Textbooks and Resources

Textbooks

COIT20264

Prescribed

Top-Down Network Design

Edition: 3rd (2011)

Authors: Priscilla Oppenheimer

Cisco Press

Indianapolis , IN , USA

ISBN: 978-1-58720-283-4

Binding: Hardcover

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Rohan De Silva Unit Coordinator

r.desilva@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Unit Introduction; Analysing Business Goals and Constraints	1	Start of Weekly Group Discussions

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Technical Goals and Tradeoffs	2	Continuation of Weekly Group Discussions

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Characterising the Existing Network; Characterising Network Traffic	3 & 4	Continuation of Weekly Group Discussions

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Designing a Network Topology	5	Continuation of Weekly Group Discussions

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Designing Models for Addressing and Numbering; Designing Switching and Routing Protocols; Designing Security Strategies; Designing Network Management Strategies	6, 7, 8, & 9	Continuation of Weekly Group Discussions

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Selecting Technologies and Devices for Campus Networks	10	Continuation of Weekly Group Discussions

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Selecting Technologies and Devices for Enterprise Networks	11	Presentations Commence Continuation of Weekly Group Discussions

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Wireless Network Design - Part I	Online material	Presentations End Continuation of Weekly Group Discussions Presentation and Written Assessment Due: Week 8 Friday (5 May 2017) 11:30 pm AEST

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Wireless Network Design - Part II	Online material	Continuation of Weekly Group Discussions

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Testing Your Network Design	12	Continuation of Weekly Group Discussions

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Optimising Your Network Design; Documenting Your Network Design	13 & 14	Continuation of Weekly Group Discussions

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Reflection	1 - 14	End of Weekly Group Discussions Written Assessment Due: Week 12 Friday (2 June 2017) 11:30 pm AEST

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

Contact information for Dr Rohan de Silva:

Email: r.desilva@cqu.edu.au Telephone: (02) 9324 5748 Office: Level 6, 400 Kent Street, Sydney Campus. Please submit questions about the course through the 'Q&A' discussion forum in Moodle, so that everyone can benefit from the questions and answers. If you have any individual queries, please email me and I'll try to get back to you within a day or so. For an individual discussion, please phone during work hours (leave a message if I'm not in and I'll return your call as soon as I can).

Assessment Tasks

1 Presentation and Written Assessment

Assessment Type

Presentation and Written Assessment

Task Description

This assessment task can be undertaken in a group of up to 4 members or individually. The assessment task has two components; a presentation and a written report. Each student will analyse the given scenario and design a logical network through discussions and brainstorming with other students.

On campus students need to deliver a presentation of the designed logical network to the class. It should include the outcomes of specified Weekly Group Discussion Questions as well. The presentation component should be completed before submitting the written report. The purpose of the presentation is to receive feedback from the tutor and improve the logical design.

Distance students are also encouraged to form groups of up to 4 members and engage in discussion via the Discussion Forum in Moodle. They can upload their recorded presentation to Moodle and arrange a time for Q&A by contacting the Unit Coordinator.

Further details of this assessment task will be provided on the Moodle unit webpage.

Assessment Due Date

Week 8 Friday (5 May 2017) 11:30 pm AEST

Presentations have to be completed in weeks 7 to 8 after uploading the presentation slides to Moodle by each student. The written report should be uploaded to Moodle by each student by the above due date.

Return Date to Students

Week 10 Friday (19 May 2017)

Weighting

40%

Assessment Criteria

The two parts of this assessment task, the presentation and the written report carry the following weightings:

Presentation - 10%

Written Report - 30%

In both parts of this assessment task, the presentation and the written report, the students are assessed against their ability to analyse the given scenario, make the appropriate assumptions, and design & document the logical network using the top down network design methodology. Please see the unit website for more specific marking criteria.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Each student has to upload the presentation slides as well as the written report as a Microsoft Office Word file to Moodle.

Learning Outcomes Assessed

- Prepare the user, business and security requirements of the organisation in relation to network design.
- Analyse the user, business and security requirements.
- Compare and contrast the possible alternative logical and physical network designs.
- Design a network by applying the top-down network design methodology.
- Justify that the designed network satisfy the requirements.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

2 Written Assessment

Assessment Type

Written Assessment

Task Description

This assessment task can be undertaken in a group of up to 4 members or individually. Starting from the logical design prepared in the Presentation and Written Assessment task, the students need to complete the physical design of the network and prepare a detailed report of the designed network. The report should also contain a section of their justification as to how they have successfully achieved all 6 Unit Learning Outcomes supported by their responses to all Weekly Group Discussion Questions. Further details of this assessment task will be provided on the Moodle unit webpage.

Assessment Due Date

Week 12 Friday (2 June 2017) 11:30 pm AEST

Return Date to Students

On Certification Day

Weighting

60%

Assessment Criteria

The students are assessed against their ability to design and document the physical network for the given scenario using the top down network design methodology, and their ability to justify the satisfactory achievement of all 6 Unit Learning Outcomes.

Please see the unit website for more specific marking criteria.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Each student needs to upload the written report to Moodle as a Microsoft Office Word file.

Learning Outcomes Assessed

- Compare and contrast the possible alternative logical and physical network designs.
- Design a network by applying the top-down network design methodology.
- Create the final documentation of the designed network.
- Justify that the designed network satisfy the requirements.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

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 [Academic Learning Centre \(ALC\)](#) 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