COIT20264 *Network Design*
Term 1 - 2020

Profile information current as at 28/04/2024 03:28 am

General Information

Overview
This unit provides you with the skills and knowledge required to design wired and wireless networks using the Top-Down Network Design methodology. The unit equips you with the approaches used to gather business and technical requirements, and analyse them together with the security policies of the organisation. 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 - 2020

- Brisbane
- Melbourne
- Online
- 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. **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 Feedback from one student and self-reflection.

Feedback

The drop of the number of students attending the workshops because they could submit recorded individual presentations, rather than in class group presentations, for Part A of Assessment 1, may have reduced the effectiveness of group discussions.

Recommendation

Consider making Part A of Assessment 1 (Presentation) a group assignment while allocating some marks based on peer-assessment by the group members.

Unit Learning Outcomes

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

1. Prepare the business and technical requirements of the organisation in relation to network design
2. Analyse the business and technical 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. Justify that the designed network satisfies 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)

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level | • Introductory Level | • Intermediate Level | • Graduate Level | ◦ Professional Level | ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 40%	•	•	•	•	•
2 - Written Assessment - 60%			•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	◦	◦	◦	◦	◦
2 - Communication	◦	◦	◦	◦	◦
3 - Cognitive, technical and creative skills	◦	◦	◦	◦	◦
4 - Research	◦	◦		◦	
5 - Self-management	◦	◦	◦	◦	◦
6 - Ethical and Professional Responsibility	◦	◦	◦	◦	
7 - Leadership					
8 - Aboriginal and Torres Strait Islander Cultures					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Written Assessment - 40%	◦	◦	◦	◦	◦	◦	◦	
2 - Written Assessment - 60%	◦	◦	◦	◦	◦	◦		

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

Additional Textbook Information
Copies can be purchased from the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft Office Suite
- Microsoft Visio

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 - 09 Mar 2020

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

Week 2 - 16 Mar 2020

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

Week 3 - 23 Mar 2020

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

Week 4 - 30 Mar 2020

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

Week 5 - 06 Apr 2020

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

MID-TERM BREAK - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 20 Apr 2020

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

Week 7 - 27 Apr 2020

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

Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Wireless Network Design – Part I	Online materials	Continuation of Weekly Group Discussions

Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Wireless Network Design – Part II	Online materials	Continuation of Weekly Group Discussions **Assessment Item 1** Due: Week 9 Monday (11 May 2020) 8:00 pm AEST

Week 10 - 18 May 2020

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

Week 11 - 25 May 2020

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

Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
Reflection	1 - 14	End of Weekly Group Discussions

Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment Item 2 Due: Review/Exam Week Monday (8 June 2020) 8:00 pm AEST

Exam Week - 15 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

Contact information for Dr Rohan de Silva:
Email: r.desilva@cqu.edu.au; Telephone: (02) 9324 5748; Office: Room 2.08, 400 Kent Street, Sydney Campus. 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 Assessment Item 1

Assessment Type
Written Assessment

Task Description
This assessment task relates to Unit Learning Outcomes 1 to 5. In this assessment task, you will analyse the given scenario in the assessment item and design a logical network using top-down network design methodology through discussions, brainstorming and contributing to Weekly Group Discussion Questions via your Group Discussion Forum. This assessment task has two parts; a presentation (Part A) and a written report (Part B).
In Part A of the assessment task, you will prepare the presentation slides and a video presentation on your logical network design.
In Part B of the assessment task, you will produce a written report of your logical network design.
Distance students are also encouraged to form groups of up to 4 members and engage in discussion via the Group Discussion Forum in Moodle.
Further details of this assessment task will be provided in the Assessment Item 1 document on the Moodle unit website.

Assessment Due Date
Week 9 Monday (11 May 2020) 8:00 pm AEST
Each one of you must upload the video presentation to YouTube and your presentation slides to Moodle by the above due date. The link to your video should be provided in the presentation slides. Each one of you in the group should also upload the same written report (Part B) to Moodle by the above due date.

Return Date to Students
Week 11 Monday (25 May 2020)
Two weeks after the due date or two weeks after submission, whichever is later.

Weighting
40%

Assessment Criteria
The two parts of this assessment task carry the following weightings:
Presentation (Part A) – 12%
Written Report (Part B) – 28%
In this assessment task, you are assessed mainly on your ability to analyse the given scenario and, using the top-down network design methodology, design & document your logical network. You are also assessed on your ability to present your logical network design. Further details of the assessment criteria will be available in the Assessment Item 1 document on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Each one of you must upload your video presentation to YouTube and your presentation slides to Moodle by the above due date. The link to your video should be provided in the presentation slides. Each one of you in the group should also upload the same written report (Part B) to Moodle by the above due date.

Learning Outcomes Assessed

- Prepare the business and technical requirements of the organisation in relation to network design
- Analyse the business and technical 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 satisfies the requirements.

Graduate Attributes

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

2 Assessment Item 2

Assessment Type
Written Assessment

Task Description
This assessment task can be undertaken individually or in a group of up to 4 students.
In this assessment task, starting from your logical network design that you completed in Assessment Item 1, you will undertake the physical network design using the top-down network design methodology, and prepare a complete report containing the logical and physical designs of the network.
Further details of this assessment task will be provided in the Assessment Item 2 document on the Moodle unit website.

Assessment Due Date
Review/Exam Week Monday (8 June 2020) 8:00 pm AEST
Each one of you in the group must upload the same written report to Moodle by the above due date.

Return Date to Students

On Certification Day

Weighting
60%

Assessment Criteria
You are assessed on your ability to undertake the design of a network containing logical and physical network designs for the given scenario using the top-down network design methodology, and prepare a complete report of your design.
Further details of the assessment criteria will be available in the Assessment Item 2 document on the Moodle unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Each one of you in the group must upload the same written report to Moodle.

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
- Justify that the designed network satisfies 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