



# **COIT11238 *Networked Infrastructure***

## **Foundations**

### **Term 1 - 2020**

Profile information current as at 17/05/2022 03:11 pm

All details in this unit profile for COIT11238 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.

## Corrections

### **Unit Profile Correction added on 15-05-20**

Due to Covid-19, the scheduled formal examination for 2020 Term 1 has been cancelled. In this unit, a 24-hour take-home examination will replace the final exam.

All students must submit their completed examination through the unit Moodle website. The learning outcomes assessed are unchanged. All take-home examination submissions will go through Moodle Turnitin for plagiarism detection before marking.

## General Information

### Overview

This unit will provide you with the foundation knowledge of computer and network infrastructure that underpins Information and Communication Technologies (ICT) in modern organisations. You will study the physical and logical components and concepts of ICT related to computer networking. Specifically, you will explore computer architecture components, operating systems, and network evolution, hardware, protocols and security. By the end of this unit, you will be able to install and configure basic networks. You will be able to troubleshoot basic network problems using network management software.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Anti-requisite: If students have undertaken COIT11233 Information and Communication Technology Foundations, then this unit should NOT be taken.

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
- Cairns
- Melbourne
- Online
- Rockhampton
- Sydney
- Townsville

### 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. **Online Quiz(zes)**

Weighting: 10%

#### 2. **Online Quiz(zes)**

Weighting: 10%

#### 3. **Written Assessment**

Weighting: 30%

#### 4. **Examination**

Weighting: 50%

### 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 Staff feedback and student evaluation feedback

**Feedback**

The time duration (2 hours) for the open-book exam is too short for the number of questions set in the exam paper.

**Recommendation**

The time duration for the open-book exam can be extended.

#### Feedback from Staff feedback

**Feedback**

The tutorial activities should include more hands-on practice.

**Recommendation**

Redesign the tutorial activities to provide additional hands-on practice.

## Unit Learning Outcomes

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

1. Describe the technologies used in Information and Communication Technology including computer and network hardware and software components
2. Discuss the elements of network security, including threats, attacks, vulnerabilities, policy and protection mechanisms
3. Identify solutions to the problems related to the economics, design, and management of computer networks
4. Compare and contrast the hardware and software standards and protocols within the layered structure of typical network architecture
5. Explain the underlying technologies and security mechanisms required for successful wired and wireless communication
6. Discuss the operation of TCP/IP protocols with respect to the encapsulation and delivery of data over the Internet.

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)
- IT Operations (ITOP)
- Problem Management (PBMG)

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Online Quiz(zes) - 10%				•		•
2 - Online Quiz(zes) - 10%		•			•	
3 - Written Assessment - 30%	•		•			
4 - Examination - 50%	•	•	•	•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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									
	1	2	3	4	5	6	7	8	9	10
1 - Online Quiz(zes) - 10%				•		•				
2 - Online Quiz(zes) - 10%	•					•				
3 - Written Assessment - 30%	•	•	•	•		•				
4 - Examination - 50%	•	•	•	•						

## Textbooks and Resources

### Textbooks

COIT11238

#### Prescribed

##### Guide to Networking Essentials

Edition: 8th (2019)

Authors: Greg Tomsho

Cengage

Boston , MA , USA

ISBN: 978-0-3571-1828-3

Binding: Paperback

#### Additional Textbook Information

This unit has an Open Book exam - order early. Copies can be purchased at 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)
- Cisco Packet Tracer
- Wireshark network protocol analyser

## Referencing Style

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

For further information, see the Assessment Tasks.

## Teaching Contacts

**Yufeng Lin** Unit Coordinator

[y.lin@cqu.edu.au](mailto:y.lin@cqu.edu.au)

## Schedule

### Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Network Infrastructure	Chapter 1 & 11	

### Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Fundamentals of Network Communication	Chapter 1 & 7	

### Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Network Hardware Essentials	Chapter 2	

### Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Network Topologies and Technologies Chapter 3

#### Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Network Media	Chapter 4	Online Quiz-1 due: Week 5 Friday 11:45 am AEST  <b>Quiz-1</b> Due: Week 5 Friday (10 Apr 2020) 11:45 pm AEST

#### Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
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#### Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Network Protocols	Chapter 5	

#### Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Internet Protocols	Chapter 6	

#### Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Network Hardware in Depth	Chapter 8	

#### Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Network Security	Chapter 9	

#### Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Wide Area Networking and Cloud Computing	Chapter 10	Online Quiz-2 due: Week 10 Friday 11:45 pm AEST  <b>Quiz 2</b> Due: Week 10 Friday (22 May 2020) 11:45 pm AEST

#### Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Network Management and Troubleshooting	Chapter 12 & 14	Written Assignment due: Week 11 Friday 11:45 pm AEST  <b>Short-Answer Questions</b> Due: Week 11 Friday (29 May 2020) 11:45 pm AEST

#### Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Internet of Things; Review and Preparation for The Final Exam	Chapter 13	

#### Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
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#### Exam Week - 15 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
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## Assessment Tasks

### 1 Quiz-1

**Assessment Type**

Online Quiz(zes)

**Task Description**

The quiz consists of a series of short questions (e.g. multiple-choice, short answers). Questions will be drawn from topics in weeks 1 - 4. Complete this Moodle online quiz by the due date.

The quiz automatically closes - if you have not submitted an attempt at the quiz by 11:45 PM (AEST) Friday of Week 5, you will receive zero. Quizzes that are open (or being attempted) at the time the quiz closes will not (and cannot) be submitted. Be aware that submitting a quiz renders any previous attempt obsolete and the score from the most recent submission will be your final quiz mark.

You are allowed to attempt the quiz as many times as you want, however, the result of your last submission will be your final mark of the quiz.

Please ensure that you record any details of your submission in case you have a problem, i.e. the date and time of your submission.

Please note that the questions are selected randomly from a pool, so you are unlikely to be asked the same questions each time you attempt the quiz.

You will not be able to see your detailed results until after the quiz has closed. To attempt and submit the quiz you must be connected to the Internet, although it is possible to save and resume the quiz at a later point in time.

Extensions are not possible for quizzes. If you miss the quiz, you cannot do it later.

**Number of Quizzes****Frequency of Quizzes**

Other

**Assessment Due Date**

Week 5 Friday (10 Apr 2020) 11:45 pm AEST

Warning: the Quiz closes after this time and no further attempts are allowed.

**Return Date to Students**

Week 5 Friday (10 Apr 2020)

Immediately after the quiz closes.

**Weighting**

10%

**Assessment Criteria**

It consists of a set of questions. These questions count towards 10% of the final grade in this course. Each attempt will be marked after you submit your answers.

The quiz is automatically graded by the system based on the selection of correct or incorrect answers. Detailed results of your submission will be generated after the quiz closes.

Remember - you are allowed to attempt the quiz as many times as you want, however, the result of your last submission will be your final mark of the quiz.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

Moodle quiz online submission.

**Learning Outcomes Assessed**

- Compare and contrast the hardware and software standards and protocols within the layered structure of typical network architecture
- Discuss the operation of TCP/IP protocols with respect to the encapsulation and delivery of data over the Internet.



## Graduate Attributes

- Information Literacy
- Information Technology Competence

## 2 Quiz 2

### Assessment Type

Online Quiz(zes)

### Task Description

The quiz consists of a series of short questions (e.g. multiple-choice, short answers). Questions will be drawn from topics in weeks 5 - 9. Complete this Moodle online quiz by the due date.

The quiz automatically closes - if you have not submitted an attempt at the quiz by 11:45 PM (AEST) Friday of Week 10, you will receive zero. Quizzes that are open (or being attempted) at the time the quiz closes will not (and cannot) be submitted. Be aware that submitting a quiz renders any previous attempt obsolete and the score from the most recent submission will be your final quiz mark.

Remember - you are allowed to attempt the quiz as many times as you want, however, the result of your last submission will be your final mark for the quiz.

Please ensure that you record any details of your submission in case you have a problem, i.e. the date and time of your submission.

Please note that the questions are selected randomly from a pool, so you are unlikely to be asked the same questions each time you attempt the quiz.

You will not be able to see your detailed results until after the quiz has closed. To attempt and submit the quiz you must be connected to the Internet, although it is possible to save and resume the quiz at a later point in time.

Extensions are not possible for quizzes. If you miss the quiz, you cannot do it later.

### Number of Quizzes

### Frequency of Quizzes

Other

### Assessment Due Date

Week 10 Friday (22 May 2020) 11:45 pm AEST

Warning: the Quiz closes after this time and no further attempts are allowed.

### Return Date to Students

Week 10 Friday (22 May 2020)

Immediately after the quiz closes.

### Weighting

10%

### Assessment Criteria

The quiz consists of a set of questions. These questions count towards 10% of the final grade in this course. Each attempt will be marked after you submit your answers. The quiz is automatically graded by the system based on the selection of correct or incorrect answers. Detailed results of your submission will be generated after the quiz closes.

Remember - you are allowed to attempt the quiz as many times as you want, however, the result of your last submission will be your final mark of the quiz.

### Referencing Style

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

### Submission

Online

### Submission Instructions

Moodle quiz online submission.

### Learning Outcomes Assessed

- Discuss the elements of network security, including threats, attacks, vulnerabilities, policy and protection mechanisms
- Explain the underlying technologies and security mechanisms required for successful wired and wireless

communication

### Graduate Attributes

- Communication
- Information Technology Competence

## 3 Short-Answer Questions

### Assessment Type

Written Assessment

### Task Description

The purpose of this assignment is to respond in your own words to a series of short-answer questions relating to content in weeks 1 - 10.

You will also be required to develop a set of your own questions and responses relating to content in weeks 1 - 10. Details of the task and what you are required to submit will be available on the Moodle unit website.

Note that late penalties apply (5% of the total available marks per calendar day late or part thereof). Assignments received 14 days or more after the due date will not be marked and will receive zero.

Students may apply for extensions but must provide documentary evidence to support their request. See the unit website for details.

### Assessment Due Date

Week 11 Friday (29 May 2020) 11:45 pm AEST

Your assignment must be submitted in doc/docx format. See Moodle unit website for details.

### Return Date to Students

Review/Exam Week Friday (12 June 2020)

Assessments will be returned through Moodle. Late submissions with or without extension approvals will be returned after the above date.

### Weighting

30%

### Assessment Criteria

A detailed tabular marking criterion is provided as part of your submission template. Please ensure you read it before attempting the assignment. You will be assessed on your responses in regards to their clarity and detail. You will be assessed on your questions with respect to how challenging they are and the level of detail you provide in your sample answers.

### Referencing Style

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

### Submission

Online

### Submission Instructions

Your assignment must be submitted in doc/docx format. See moodle unit website for details.

### Learning Outcomes Assessed

- Describe the technologies used in Information and Communication Technology including computer and network hardware and software components
- Identify solutions to the problems related to the economics, design, and management of computer networks

### Graduate Attributes

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

## Examination

### Outline

Complete an invigilated examination

**Date**

During the examination period, at a CQUniversity examination centre

**Weighting**

50%

**Length**

150 minutes

**Details**

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).  
Open Book

## 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