



# COMP3265

## Cisco Networking II

Session 2, Special circumstances, North Ryde 2021

*Department of Computing*

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#### **Session 2 Learning and Teaching Update**

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

## General Information

Unit convenor and teaching staff

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Credit points

10

Prerequisites

COMP2250 and COMP3260

Corequisites

Co-badged status

Comp6265

Unit description

This unit is designed to impart practical skills in designing, configuring, installing, and troubleshooting computer internetworks using Cisco equipment such as routers and switches. It provides an integrated and comprehensive coverage of networking topics including: wireless local area networks, network security and services, network architecture and design, and automation while providing students opportunities for hands-on practical experience and career skills development. Using various assessment tasks, this unit also aims to enhance students' skills in critical thinking and problem solving.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://students.mq.edu.au/important-dates>

## Learning Outcomes

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

**ULO2:** Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.

**ULO1:** Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies

**ULO3:** Understand and design core IP services.

**ULO4:** Analyze, design and implement network architectures

**ULO5:** Use network automation tools to configure, provisions, manage and test network devices.

**ULO6:** Collaborate and communicate with others in a professional setting.

**ULO7:** Conduct professional work ethically with a high level of integrity, autonomy, and accountability.

## General Assessment Information

### Submission of assessable work

For all your assignments, and for your professional life in the future, you are encouraged to

- set your personal deadline earlier than the official deadline
- keep backups of all your important files
- make sure that no-one else has access to your files or documents

**Late work will not be accepted.** Develop good working habits and manage your time well. If your contributions are seriously affected by illness or misadventure you do your utmost to submit a request for special consideration **before** the due date, do not email the unit convenor directly.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#"><u>Weekly Practical</u></a>	10%	No	Weekly
<a href="#"><u>Module Exams</u></a>	10%	No	Most weeks
<a href="#"><u>Assignment 1</u></a>	10%	No	Week 6
<a href="#"><u>Lab Examination</u></a>	20%	No	Week 11
<a href="#"><u>Assignment 2</u></a>	20%	No	Week 12
<a href="#"><u>Final examination</u></a>	30%	No	Week 13

### Weekly Practical

Assessment Type <sup>1</sup>: Design Implementation

Indicative Time on Task <sup>2</sup>: 24 hours

Due: **Weekly**

Weighting: **10%**

Practical marks are obtained by attendance of practical sessions and making a suitable attempt

at the practical work during the session. The practical work in this unit makes up **10%** of the mark. To receive marks student must attend the practical section and demonstrate completion of the section to the practical supervisor. Earning the marks will require not only successful completion of the exercises, but presentation of appropriate documentation, as outlined in the question sheets. Student should complete the practical session in the week it is allocated.

On successful completion you will be able to:

- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand and design core IP services.
- Analyze, design and implement network architectures
- Use network automation tools to configure, provisions, manage and test network devices.
- Collaborate and communicate with others in a professional setting.

## Module Exams

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 8 hours

Due: **Most weeks**

Weighting: **10%**

The module examinations ask students to answer conceptual questions about the course material as well as solve simple networking problems.

On successful completion you will be able to:

- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand and design core IP services.
- Analyze, design and implement network architectures
- Collaborate and communicate with others in a professional setting.
- Conduct professional work ethically with a high level of integrity, autonomy, and

accountability.

## Assignment 1

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 16 hours

Due: **Week 6**

Weighting: **10%**

The purpose of this assignment is to help students understand how network security issues can manifest within networks, what controls exist to mitigate these issues, and how to deploy these controls.

On successful completion you will be able to:

- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand and design core IP services.
- Conduct professional work ethically with a high level of integrity, autonomy, and accountability.

## Lab Examination

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 2 hours

Due: **Week 11**

Weighting: **20%**

'Closed book' Practical exam to be held at the end of the teaching period during the examination period.

On successful completion you will be able to:

- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies

- Understand and design core IP services.
- Analyze, design and implement network architectures
- Use network automation tools to configure, provisions, manage and test network devices.
- Conduct professional work ethically with a high level of integrity, autonomy, and accountability.

## Assignment 2

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 22 hours

Due: **Week 12**

Weighting: **20%**

The purpose of this assignment is to help students obtain a deeper understanding of the relationship between network protocols and network architecture and design.

On successful completion you will be able to:

- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand and design core IP services.
- Analyze, design and implement network architectures
- Use network automation tools to configure, provisions, manage and test network devices.
- Conduct professional work ethically with a high level of integrity, autonomy, and accountability.

## Final examination

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 2 hours

Due: **Week 13**

Weighting: **30%**

Two hour, 'closed book' exam to be held at the end of teaching period during the examination period

On successful completion you will be able to:

- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand and design core IP services.
- Analyze, design and implement network architectures
- Use network automation tools to configure, provisions, manage and test network devices.
- Conduct professional work ethically with a high level of integrity, autonomy, and accountability.

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Learning Skills Unit](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

### Classes

Each week you should attend two hours of lectures, and a two hour practical. For details of scheduled classes consult the [timetables webpage](#).

**Note** that practicals (lab sessions) commence in **week 1**. The week-by-week details of the practical (lab) classes will be available from iLearn.

**You must attend the practical that you are enrolled in.**

### Textbook and Reading Materials

The textbook for this semester is:

- Cisco Networking Academy, [Enterprise Networking, Security, and Automation Companion Guide \(CCNAv7\)](#), Cisco Press, 2020. ISBN 978-0-13-663432-4

Web Resources

**Unit Websites**

Comp3267 is administered via [iLearn \(http://ilearn.mq.edu.au/\)](http://ilearn.mq.edu.au/).

This unit outline can be found in the university's [unit guides](#)

## Live Streaming

Digital recordings of lectures may be available. They will be linked from iLearn.

## Technologies Used and Required

In this unit you will be exposed to the following technology and tools:

- Cisco Packet Tracer software.
- Wireshark Packet Analyzer software.
- Cisco Ethernet Switches and Routers.

## General Notes

In this unit, you should do the following:

- Attend lectures, take notes, ask questions.
- Attend your weekly Practical session.
- Ensure that you attend module exams during the second hour of the scheduled lecture time slot.
- Read appropriate sections of the text, add to your notes and prepare questions for your lecturer/tutor.
- Work on any assignments that have been released.

Lecture notes will be made available each week but these notes are intended as an outline of the lecture only and are not a substitute for your own notes or the recommended reading list.

## Unit Schedule

Tentative teaching schedule, subject to change:		Assessment		Practicals	Module Exams
Week	Lecture topic	Due	Weight	Practical activity	During second hour of lecture
1	OSPF	Practicals (every week)	10%	OSPF, part 1	
2	Network Security Concepts			OSPF, part 2	
3	Access Control Lists	Module Exams (most weeks)	10%	Standard ACLs	OSPF, attempt #1
4	Network Address Translation			Extended ACLs	Security, attempt #1



5	Wide Area Networks			NAT	OSPF, attempt #2
6	QoS Concepts	Assignment 1	10%	WAN	WANs, attempt #1
7	Network Management			Network Management	Security, attempt #2
	Teaching recess				
8	Network Design			Device Management	WANs, attempt #2
9	Network Troubleshooting			Device comparison	
10	Network Virtualisation			Troubleshooting	Troubleshooting, attempt #1
11	Network Automation	Lab Exam	20%	Lab Exam, attempt #1	Troubleshooting, attempt #2
12	Review	Assignment 2	20%	Lab Exam, attempt #2	Emerging Technologies, attempt #1
13	Review	Final Exam	30%	Final Exam, attempt #1	Emerging Technologies, attempt #2
14-16	Formal exam period			Final Exam, attempt #2	

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Enquiry Service

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Equity Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.