



COMP6265

Cisco Networking II

Session 2, In person-scheduled-weekday, North Ryde 2026

School of Computing

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	8
<u>Delivery and Resources</u>	12
<u>Unit Schedule</u>	13
<u>Policies and Procedures</u>	14

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General Information

Unit convenor and teaching staff

Lecturer

Nathan Lin

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Credit points

10

Prerequisites

COMP6250 and COMP6260

Corequisites

Co-badged status

COPM6260

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.

Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals ([UNSDGs](#)) Industry, Innovation and Infrastructure

Important Academic Dates

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

Learning Outcomes

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

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

ULO2: Understand, design, implement and troubleshoot security services and

technologies that underpin networks and systems.

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

Requirements to Pass this Unit

To pass this unit, you must:

- Achieve a total mark equal to or greater than 50%

There are no hurdle requirements for the unit.

Assessment Information

All assessments in this unit are individual assessments.

- Weekly Practical
 - To be completed and checked by the teaching staff during the practical class for which you are registered on eStudent.
- Module Exams
 - To be completed outside of class on the Cisco Networking Academy platform
 - While the due date is set for late in the session, we strongly advise you to complete one fortnightly
- Project
 - To be submitted on iLearn and will be checked for plagiarism via Turnitin.
- Lab Examination
 - To be completed in your practical class as registered on eStudent on the Cisco Networking Academy platform
- Final examination
 - This is a formal examination that will be conducted on campus and invigilated. The time and place will be published on <https://iexams.mq.edu.au/> closer to the date.

Release

- Weekly Practical
 - The practical activity schedule will be made available no later than 31st of July 2026.
- Module Exams
 - All module exams will be made available no later than 7th August 2026.
- Project
 - Specifications will be made available no later than 13th September 2026.
- Lab Examination
 - The practice will be made available from 11th October 2026.
- Final examination
 - The practice will be made available from 25th October 2026.

Submission of assessable work

For all your assignments and 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 Submissions

Late assessments are not accepted in this unit unless a Special Consideration has been submitted and approved.

Special Consideration

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please submit a Special Consideration request through the [Service Connect Portal](#).

Written Assessments: If you experience circumstances or events that affect your ability to complete the written assessments in this unit on time, please inform the convenor and submit a Special Consideration request through <http://connect.mq.edu.au/>.

If you miss a weekly practical class due to a serious, unavoidable and significant disruption, contact your unit convenor ASAP, as you may be able to attend another class that week. If it is not possible to attend another class, you should still contact your convenor for access to class material to review in your own time.

Generative AI Usage

The university has taken a 'two lane' approach with GenAI: assessments can be AI Open (meaning students complete the assessment in their own time and may use GenAI) and AI Observed (students complete assessments in supervised environments, where use of AI is controlled or not permitted). More information on the use of GenAI in Assessment can be found [here](#).

In this unit the assessments fall into the two lanes as follows:

- Weekly Practical- AI Open.
 - Module Exams- AI Open.
 - Project - AI Open.
 - Lab Examination- AI Observed (this is an invigilated in-class assessment).
 - Final Examination- AI Observed (this is an invigilated in-class assessment).
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Weekly Practical

Assessment Type ¹: Practice-based task Indicative Time on Task ²: 24 hours Due: **Weeks 1-10 during registered practical** Weighting: **10%** Groupwork/Individual: Short extension ³: No AI Approach:

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:

- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- 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 ¹: Quiz/Test Indicative Time on Task ²: 8 hours Due: **Sunday, 8th November 2026, 23:55** Weighting: **10%** Groupwork/Individual: Short extension ³: No AI Approach:

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

On successful completion you will be able to:

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

Project

Assessment Type ¹: Project Indicative Time on Task ²: 38 hours Due: **Sunday, 8th November 2026, 23:55** Weighting: **30%** Groupwork/Individual: Short extension ³: No AI Approach:

The project tests student's understanding of selected networking technologies, analysing, and performing problem solving on real-world networking scenarios including issues relating to security. Some aspects may require in-depth research. Students will need to explain and support their proposed solutions and be able to explain how the changes that are suggested will be of benefit to the organisation including describing how the changes will be managed and implemented.

On successful completion you will be able to:

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

Lab Examination

Assessment Type ¹: Examination Indicative Time on Task ²: 2 hours Due: **In week 11, during registered practical** Weighting: **30%** Groupwork/Individual: Short extension ³: No AI Approach:

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

On successful completion you will be able to:

- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- 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 ¹: Examination Indicative Time on Task ²: 2 hours Due: **Exam Period** Weighting: **20%** Groupwork/Individual: Short extension ³: No AI Approach:

Exam to be held at the end of teaching period during the examination period

On successful completion you will be able to:

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

- 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.

¹ 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
- [Academic Success](#) for academic skills support.

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

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Weekly Practical	10%	No	Weeks 1-10 during registered practical	Individual	No	Observed
Module Exams	10%	No	08/11/2026	Individual	No	Observed
Project	30%	No	08/11/2026	Individual	Yes	Open
Lab Examination	30%	No	In week 11, during registered practical	Individual	No	Observed
Final Exam	20%	No	Exam Period	Individual	No	Observed

Weekly Practical

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 24 hours

Due: **Weeks 1-10 during registered practical**

Weighting: **10%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

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:

- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
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- 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 ¹: Examination

Indicative Time on Task ²: 8 hours

Due: **08/11/2026**

Weighting: **10%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

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

On successful completion you will be able to:

- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
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- Collaborate and communicate with others in a professional setting.
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Project

Assessment Type ¹: Problem-based task

Indicative Time on Task ²: 38 hours

Due: **08/11/2026**

Weighting: **30%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

The project tests student's understanding of selected networking technologies, analysing, and performing problem-solving on real-world networking scenarios including issues relating to security. Some aspects may require in-depth research. Students will need to explain and support their proposed solutions and be able to explain how the changes that are suggested will be of benefit to the organisation including describing how the changes will be managed and implemented.

On successful completion you will be able to:

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

Lab Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 2 hours

Due: **In week 11, during registered practical**

Weighting: **30%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

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

On successful completion you will be able to:

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

Assessment Type ¹: Examination

Indicative Time on Task ²: 2 hours

Due: **Exam Period**

Weighting: **20%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will undertake a final examination during the formal examination period.

On successful completion you will be able to:

- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
- Understand, design, implement and troubleshoot security services and technologies that underpin networks and systems.
- Understand and design core IP services.
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- [Academic Success](#) for academic skills support.

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³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

Classes

Each week, you have a one-hour lecture and a two-hour practical class. For details of scheduled classes, consult the Classfinder tool on [eStudent](#).

Please note that **lectures begin in week 1**, while the practical classes (lab sessions) start in **week 2**. The week-by-week details of the practical (lab) classes will be available from iLearn.

You must attend the practical class for which you are registered on eStudent.

Practicals

Note that while the practical material is structured against the lecture material, you need to keep in mind that there will not always be a one-to-one mapping between the practical exercises and the lecture topics. This is because you need some practical sessions to get acquainted with new tools and devices, thereby limiting the number of practical time slots available to experiment with technologies discussed in some lectures.

Textbook and Reading Materials

The textbooks for this semester are:

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

Unit Websites

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

Course material will be available on the Cisco Networking Academy site; details will be provided in class.

Lecture Recordings

Digital recordings of lectures are available on Echo360 via iLearn link.

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 the Q&A session to clarify any questions you may have.
- Attend your weekly Practical session.
- Ensure that you complete module exams on a fortnightly basis to stay on top of the course materials.
- Read the relevant sections of the text, add your notes, and prepare questions for the teaching staff.
- Work on any assessments 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.

Communication Methods

All announcements about unit-related matters will be communicated through iLearn. It is the student's responsibility to check iLearn announcements, forums, and FAQ sections regularly.

Students are encouraged to use the iLearn forums for asking questions about unit content and concepts. When questions concern specific details in an assessment submission, they should be sent via email to the teaching staff to avoid breaching the university's academic integrity policy.

Students should use the appropriate iLearn forms for contacting staff. There may be occasions where unit staff will email a student directly to their @students.mq.edu.au email address. It is the student's responsibility to check their official university email regularly for communications from university staff.

Unit Schedule

List of Topics:

- Single-Area OSPFv2 Concepts
- Single-Area OSPFv2 Configuration
- Network Security Concepts
- ACL Concepts
- ACLs for IPv4 Configuration
- NAT for IPv4
- WAN Concepts
- VPN and IPsec Concepts

- QoS Concepts
- Network Management
- Network Design
- Network Troubleshooting
- Network Virtualisation
- Network Automation

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](#)
- [Assessment Procedure](#)
- [Complaints Resolution 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 connect.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the

expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

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

Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Ask a Study Coach](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the 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 Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

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.

Unit information based on version 2026.01R of the [Handbook](#)