COMP6265

Cisco Networking II

Session 2, In person-scheduled-weekday, North Ryde 2024

School of Computing

Contents

General Information

Unit convenor and teaching staff
Convenor and Lecturer
Frances Louise
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Lecturer
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Credit points
10

Prerequisites
COMP6250 and COMP6260

Corequisites

Co-badged status
COMP3265

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://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

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

Assignments

Assignment work must be written clearly, with good grammar, correct word usage, correct punctuation, and lack of spelling errors. Poor or bad expression will be penalised, Wherever required, all written work must be properly referenced and conform to standard stylistic conventions.

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.

Requirements to Pass this Unit

Whilst there are a number of learning activities and assessments that make up the unit, to pass the unit the only requirement is that you achieve a total mark equal to or greater than 50%.

There are no hurdle requirements for the unit.

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.

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 ask.mq.edu.au.

If you miss a weekly practical class due to a serious, unavoidable and significant disruption, contact your 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.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly Practical	10%	No	Weeks 1-10
Module Exams	10%	No	Weeks 2, 4, 6, 11, and 13
Assignment 1	10%	No	08/09/2024 at 23:55 pm
Assignment 2	20%	No	27/10/2024 at 23:55 pm
Lab Examination	30%	No	Week 11
Final Examination	20%	No	Week 13

Weekly Practical

Assessment Type [1]: Design Implementation
Indicative Time on Task [2]: 24 hours
Due: **Weeks 1-10**
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:

- 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: **Weeks 2, 4, 6, 11, and 13**
Weighting: **10%**

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:

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- Conduct professional work ethically with a high level of integrity, autonomy, and accountability.

Assignment 1

Assessment Type [1]: Report
Indicative Time on Task [2]: 16 hours
Due: **08/09/2024 at 23:55 pm**
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.

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Assignment 2

Assessment Type [1]: Report
Indicative Time on Task [2]: 22 hours
Due: **27/10/2024 at 23:55 pm**
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:

- Demonstrate a detailed knowledge of wireless LANs and design, implement and troubleshoot 802.11 Wireless LAN technologies
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- Understand and design core IP services.
- Analyze, design and implement network architectures
- Use network automation tools to configure, provisions, manage and test network devices.
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Lab Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 2 hours
Due: **Week 11**
Weighting: **30%**

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

On successful completion you will be able to:

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Final Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 2 hours
Due: **Week 13**
Weighting: **20%**

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
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[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
- the Writing Centre 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

Delivery and Resources

Classes

Each week, you have a one-hour lecture and a two-hour practical class. For details of scheduled classes, consult eStudent.

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

You must participate in the practical class 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

Unit Websites

Comp3260 / Comp6260 is administered via iLearn (http://ilearn.mq.edu.au/).

This unit outline can be found in the university's unit guides

Course material will be available via the Cisco Networking Academy site - details will be provided in the practical class.

Lecture Recordings

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.

Methods Communication

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

Students are encouraged to use the iLearn forums to ask questions about unit content and concepts. Questions about specific details in an assessment submission may need to be sent via a private forum post in the first instance (details are provided in iLearn about how this is set up) so as not to be at risk of breaching the university's academic integrity policy.

Students should use the appropriate iLearn forums 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 ensure they check their official university email regularly for communications from the university staff.

General Notes

In this unit, you should do the following:

- Review lectures and unit contents, take notes and ask questions.
- Complete your weekly tasks within the practical session.
- Ensure that you complete module exams at the end of each week to ensure that you are staying on top of the course materials.
- Read appropriate sections of the text, add to your notes and prepare questions for your teaching staff.
- 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.

COVID Information

For the latest information on the University’s response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: https://www.mq.edu.au/about/coronavirus-faqs. Remember to check this page regularly in case the information and requirements change during the session. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

Unit Schedule

Complete schedule will be available on iLearn.

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). 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). 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) 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/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- 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 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.

Changes from Previous Offering

The weight of the Lab Examination has been increased to 30%, while the weight of the Final Examination has been decreased to 20% per industry partners' suggestion to emphasise the importance of practical skills for employability.

We value student feedback to be able to continually improve the way we offer our units. As such, we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page.

Unit information based on version 2024.03 of the Handbook