COMP3265

Cisco Networking II

Session 2, In person-scheduled-weekday, North Ryde 2023

School of Computing

Contents

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General Information

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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://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:

- Attempt all assessments, and
- Achieve a total mark equal to or greater than 50%

Late Assessment Submission

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

Special Considerations

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 inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly Practical	10%	No	Weekly
Module Exams	10%	No	Weeks 2, 4, 6, 11, and 13
Assignment 1	10%	No	Week 6
Lab Examination	20%	No	Week 11

Name	Weighting	Hurdle	Due
Assignment 2	20%	No	Week 12
Final examination	30%	No	Week 13

Weekly Practical

Assessment Type [1]: Practice-based task
Indicative Time on Task [2]: 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:
- 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 course material as well as solve simple networking problems.

On successful completion you will be able to:
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- 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 [1]: Report
Indicative Time on Task [2]: 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:
- 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.
- 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: **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:

- 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.
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Assignment 2

Assessment Type [1]: Report
Indicative Time on Task [2]: 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:

- 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: **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:

  - 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
  - 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 should attend one hour of lecture and a two-hour practical. For details of scheduled classes, consult the timetables webpage.

Note that both the lectures and 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

COMP3265 is administered via iLearn (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.

Methods of Communication

We will communicate with you via your university email and through announcements on iLearn. Queries can either be placed on the iLearn general forum or the private forum on iLearn.

General Notes

In this unit, you should do the following:

- Attend lectures, take notes, and 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 content materials, add to your notes, and prepare questions for your lecturer or other 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 semester. If there are any changes to this unit about COVID, these will be communicated via iLearn.

Unit Schedule

Tentative teaching schedule, subject to change.

Week	Lecture	Assessment Due	Weight	In-class practical exercise
1	Module 1 - Single-Area OSPFv2 Concepts Module 2 - Single-Area OSPFv2 Configuration	Weekly Practicals (Week 1 onwards)	10%	Packet Tracer - Point-to-Point Single-Area OSPFv2 Configuration (2.2.13) Packet Tracer - Determine the DR and BDR (2.3.11)
2	Module 3 - Network Security Concepts	Module Exams (Week 2 onwards)	10%	Packet Tracer - Single-Area OSPFv2 Configuration (2.7.1) Packet Tracer - Multiarea OSPF Exploration (2.7.3)
3	Module 4 - ACL Concepts Module 5 - ACLs for IPv4 Configuration			Packet Tracer - Configure and Modify Standard IPv4 ACLs (5.2.7)
4	Module 6 - NAT for IPv4			Packet Tracer - IPv4 ACL Implementation Challenge (5.5.1) Lab - Configure and Verify Extended IPv4 ACLs (5.5.2)
5	Module 7 - WAN Concepts Module 8 - VPN and IPsec Concepts			Lab - Configure NAT for IPv4 (6.8.2)
6	Module 10 - Network Management	Assignment 1	10%	Packet Tracer - WAN Concepts (7.6.1)
7	Module 9 - QoS Concepts			Lab - Configure CDP, LLDP, and NTP (10.8.2)
Session 2 Recess				
8	Module 11 - Network Design			Lab - Use Tera Term to Manage Router Configuration Files (10.6.11) Lab - Research Password Recovery Procedures (10.6.13)
9				Packet Tracer - Compare Layer 2 and Layer 3 Devices (11.5.1)

10	Module 12 - Network Troubleshooting			Packet Tracer - Troubleshooting Challenge - Use Documentation to Solve Issues (12.6.2)
11	Module 13 - Network Virtualization	PT Exam, Attempt #1	20%	ENSA Hands On Skills Exam, Attempt #1
12	Module 14 - Network Automation	PT Exam, Attempt #2 Assignment 2	20%	ENSA Hands On Skills Exam, Attempt #2
13	Review	Final Exam, Attempt #1	30%	ENSA Final Exam, Attempt #1
14-16	Formal Exam Period	Final Exam, Attempt #2		ENSA Final Exam, Attempt #2

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 ask.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 AskMQ, 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

No changes were made from previous offering.

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.

Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity around assessment requirements and the level of support from teaching staff. As such, no change to the delivery of the unit is planned, however we will continue to strive to improve the level of support and the level of student engagement.

Changes since First Published

Date	Description
04/10/2023	"tutor" replaced by "teaching staff"

Unit information based on version 2023.03 of the Handbook