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
Damian Jurd
damian.jurd@mq.edu.au

Credit points
10

Prerequisites
(COMP1000 or COMP115) or (COMP1350 or ISYS114)

Corequisites

Co-badged status

Unit description
This unit introduces basic data communication concepts, theory and practice within the context of the use of communication networks in organisations.

Topics include:

- protocols and standards, including the OSI model
- network switching and routing
- LAN and WAN topologies
- wireless networking
- network hardware, such as routers, modems, repeaters, switches and hubs
- public telecommunication-based data services
- the effect of telecommunications on society
- the role of telecommunications within organisations
- introduction to security and network management
- organisational management of telecommunications
- introduction to network design
- regulatory frameworks

Practical work includes basic network hardware set up and protocol performance in a specialised laboratory using dedicated switching and routing equipment.

This unit does not presume any knowledge of programming nor is there any programming work in the unit.
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:

ULO1: Explain the importance and the role of network protocols including why they are organised into protocol stacks and how protocol stacks function.
ULO2: Demonstrate an understanding of IP addressing, routing and subnetting by for example computing routing outcomes and determining effective and actual IP addresses.
ULO3: Differentiate among LAN components, and describe and, in particular instances calculate, how MAC addresses, address resolution and the ethernet protocol interact.
ULO4: Evaluate different network designs based on an awareness of different major network technologies including wireless, backbone, wide area networks, and the Internet
ULO5: Demonstrate technical networking proficiency including ability to configure, construct, and document, and in simple cases, design networks, as well as the ability to perform traffic analysis on local area networks.
ULO6: Develop plans for dealing with network security and management.

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.

Practical Workshops
Due: Weekly (starting week 1) Weighting: 20%

The practical work in this unit makes up 20% of your mark. The practical work is divided up into twelve practical classes.

To receive your marks you must attend the practical section and demonstrate your completion of the practical exercises to your practical supervisor. Earning the marks will require not only successful completion of the exercises, but submission of appropriate documentation, as
outlined in the question sheets. You must complete the practical session in the week it is allocated.

We will take the best ten out of your twelve submissions to calculate your final mark for this section.

Practical classes will commence during week 1 of the semester. Students must attend their enrolled practical session.

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 to new tools and devices thereby limiting the number of practical time slots available to experiment with technologies discussed in some lectures.

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.

Assignment 1
Due: Mid-semester break Weighting: 20%

The first assignment tests your understanding of network protocols, protocol stacks and layers, local area networks, and IP addressing.

Assignment 2
Due: Week 5 (last week of classes) Weighting: 20%

The second assignment tests your understanding of selected networking technologies.

Final Exams
Due: Final exam period (week 7) Weighting: 40%

The final examination ask students to apply what they have learned during the semester to a provided scenario, which may involve the analysis, design, and troubleshooting of a network. In the case a student cannot attend the final exam, a request for special consideration must be made.

If you receive special consideration for the final exam, a supplementary exam will be scheduled for a time in February 2022. By making a special consideration application for the final exam you are declaring yourself available to sit during the supplementary examination period and you will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. Approved applicants will receive an individual notification approximately one week prior to the exam with the exact date and time of the supplementary examination.
## Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical Workshops</td>
<td>20%</td>
<td>No</td>
<td>Weekly</td>
</tr>
<tr>
<td>Assignment 1</td>
<td>20%</td>
<td>No</td>
<td>Mid-semester break</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>20%</td>
<td>No</td>
<td>Week 5 (last week of classes)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
<td>No</td>
<td>Final Exam Period (week 7)</td>
</tr>
</tbody>
</table>

### Practical Workshops

Assessment Type 1: Demonstration  
Indicative Time on Task 2: 0 hours  
Due: Weekly  
Weighting: 20%

To receive marks students must attend the practical session and demonstrate completion of the exercises to their practical supervisor.

Earning the marks will require not only successful completion of the exercises, but presentation of appropriate documentation, as outlined in the questions.

You must complete the practical session in the week it is allocated.

On successful completion you will be able to:

- Explain the importance and the role of network protocols including why they are organised into protocol stacks and how protocol stacks function.
- Demonstrate an understanding of IP addressing, routing and subnetting by for example computing routing outcomes and determining effective and actual IP addresses.
- Differentiate among LAN components, and describe and, in particular instances calculate, how MAC addresses, address resolution and the ethernet protocol interact.
- Demonstrate technical networking proficiency including ability to configure, construct, and document, and in simple cases, design networks, as well as the ability to perform traffic analysis on local area networks.

### Assignment 1

Assessment Type 1: Report  
Indicative Time on Task 2: 30 hours
Due: **Mid-semester break**  
Weighting: **20%**

The first assignment tests students understanding of network stacks, layering, and addressing techniques.

On successful completion you will be able to:

- Explain the importance and the role of network protocols including why they are organised into protocol stacks and how protocol stacks function.
- Demonstrate an understanding of IP addressing, routing and subnetting by for example computing routing outcomes and determining effective and actual IP addresses.
- Differentiate among LAN components, and describe and, in particular instances calculate, how MAC addresses, address resolution and the ethernet protocol interact.

**Assignment 2**

Assessment Type 1: Report  
Indicative Time on Task 2: 30 hours  
Due: **Week 5 (last week of classes)**  
Weighting: **20%**

The second assignment tests your understanding of selected networking technologies.

On successful completion you will be able to:

- Demonstrate an understanding of IP addressing, routing and subnetting by for example computing routing outcomes and determining effective and actual IP addresses.
- Differentiate among LAN components, and describe and, in particular instances calculate, how MAC addresses, address resolution and the ethernet protocol interact.
- Evaluate different network designs based on an awareness of different major network technologies including wireless, backbone, wide area networks, and the Internet
- Develop plans for dealing with network security and management.

**Final Exam**

Assessment Type 1: Examination  
Indicative Time on Task 2: 15 hours  
Due: **Final Exam Period (week 7)**
Weighting: 40%

The final exam asks students to apply the knowledge they have gained through the semester to one or more given network scenarios. Tasks to be completed may include elements of network design, troubleshooting, and the appropriate application of security controls.

On successful completion you will be able to:

• Explain the importance and the role of network protocols including why they are organised into protocol stacks and how protocol stacks function.
• Demonstrate an understanding of IP addressing, routing and subnetting by for example computing routing outcomes and determining effective and actual IP addresses.
• Differentiate among LAN components, and describe and, in particular instances calculate, how MAC addresses, address resolution and the ethernet protocol interact.
• Evaluate different network designs based on an awareness of different major network technologies including wireless, backbone, wide area networks, and the Internet
• Develop plans for dealing with network security and management.

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 Learning Skills Unit 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

As the summer session is only five weeks in length the unit content is covered more rapidly than would be the case for a session 1 or session 2 offering. This means that each week you should attend three two hour lectures, and three two hour practical workshops. For details of scheduled classes consult the timetables webpage.

Note that practicals workshops (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 textbooks for this semester are:


Additional reading that you may find useful for this unit:


  
  BE CAREFUL to buy correct Comer book!


Web Resources

Unit Websites

Comp2250 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.

General Notes

In this unit, you should do the following:
Unit guide COMP2250 Data Communications

- Attend lectures, take notes, ask questions.
- Attend your weekly Practical session.
- Ensure that you attend module exams during the first hour of your practical session.
- 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:

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Class</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29/11/2021</td>
<td>Lecture_1</td>
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<td>Ch 1 &amp; Ch 7</td>
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<td>Network Layer</td>
<td>Ch 5</td>
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<td>Network Layer</td>
<td>Ch 5</td>
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<td>Application Layer, Transport Layer - UDP</td>
<td>Ch 2 &amp; Ch 5</td>
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<td>Transport Layer - TCP</td>
<td>Ch 5</td>
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<td>Security</td>
<td>Ch 11</td>
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## 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](#)

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<th>Date</th>
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<td>14/01/2022</td>
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<td>Assignment 2</td>
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<tr>
<td><strong>7</strong></td>
<td>24/01/2022</td>
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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](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/](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

If you are a Global MBA student contact 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/.

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 unit has been reconfigured for 100% online delivery.