Unit Outline

CNCO2000 Computer Communications

Semester 2, 2021

Unit study package code:	CNCO2000	
Mode of study:	Internal	
Tuition pattern summary:	Note: For any specific variations to this tuition pattern and for precise information refer to the Learning Activities section. Lecture: 1 x 2 Hours Weekly Workshop: 1 x 2 Hours Weekly This unit does not have a fieldwork component.	
Credit Value:	25.0	
Pre-requisite units:	COMP1000 (v.0) Unix and C Programming or any previous version	
Co-requisite units:	Nil	
Anti-requisite units:	CMPE2000 (v.0) Data Communications and Network Management or any previous version	
Result type:	Grade/Mark	
Approved incidental fees:	Information about approved incidental fees can be obtained from our website. Visit fees.curtin.edu.au/incidental_fees.cfm for details.	
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Learning Management System:	Blackboard (lms.curtin.edu.au)	

Acknowledgement of Country

We respectfully acknowledge the Indigenous Elders, custodians, their descendants and kin of this land past and present. The Centre for Aboriginal Studies aspires to contribute to positive social change for Indigenous Australians through higher education and research.

Syllabus

This unit is an introduction to computer communications and networks technology. It covers fundamental knowledge on the design and implementation of networks and network protocols. The contents of the unit are listed as below: Introduction to Computer Communications. Physical Layer. Data Link Layer I. Data Link Layer II. Network Layer I. Network Layer II. Transport Layer I. Transport Layer II. Application Layer I. Application Layer II. Security.

Introduction

This is an introductory unit on computer communications and networks technology. It covers fundamental knowledge on the design and implementation of networks and network protocols. The contents of the unit are listed as below: Introduction to Networks, Physical Layer, Data Link Layer I, Data Link Layer II, Network Layer I, Network Layer II, Transport Layer I, Transport Layer II, Application Layer I, Application Layer II, Emerging Networking Technologies.

Unit Learning Outcomes

All graduates of Curtin University achieve a set of six Graduate Capabilities during their course of study. These inform an employer that, through your studies, you have acquired discipline knowledge and a range of other skills and capabilities which employers would value in a professional setting. Each unit in your course addresses the Graduate Capabilities through a clearly identified set of learning outcomes. They form a vital part in the process referred to as assurance of learning. The learning outcomes notify you of what you are expected to know, understand or be able to do in order to be successful in this unit. Each assessment for this unit is carefully designed to test your knowledge of one or more of the unit learning outcomes. On successfully completing all of the assessments you will have achieved all of these learning outcomes.

Your course has been designed so that on graduating you will have achieved all of Curtin's Graduate Capabilities through the assurance of learning processes in each unit.

	On successful completion of this unit students can:	Graduate Capabilities addressed
1	Relate the way network application programs communicate to the network protocol stack - from the application layer to physical layer	
2	List and order the TCP/IP and OSI network protocol stack, analyse the functionality of each layer, and the relationship between the layers	
3	Interpret and implement simple network protocols in a simulation environment	
4	Perform simple evaluation and/or comparison of the network protocols	
5	Access, evaluate and communicate relevant computing information in written and oral forms	

Curtin's Graduate Capabilities

	Apply discipline knowledge, principles and concepts		Innovative, creative and entrepreneurial		Effective communicators with digital competency
	Globally engaged and responsive		Culturally competent to engage respectfully with local First Peoples and other diverse cultures		Industry connected and career capable
Find out more about Curtin's Graduate Capabilities at the Curtin Learning and Teaching website: clt.curtin.edu.au					

Learning Activities

There is a great deal of material to cover in this unit.
Each week:
• There is a 2-hour lecture during which theories relevant to the lecture topic will be discussed in details.
• There is a 2-hour workshop/tutorial (supervised) during which theoretical questions based on the previous week's lecture topics will be discussed. The students are expected to attempt the given questions BEFORE attending the tutorial classes.
• There is a 2-hour practical session (unsupervised) during which the students will attempt the practical aspects of networking with simulation tools (Cisco packet tracer, Wireshark, etc.) following the detailed instructions given in the lab sheets. It is essential for the students to complete this component in a timely manner every week since the unit assignments are strictly based on the content of the practical sessions.
There are no tutorials in the first week of semester.
Ensure you attend your weekly tutorial classes as it is mandatory. Spend a few hours a week reading reference materials published in Blackboard to understand the concepts taught in the lecture thoroughly. The final exam will be based on the materials covered in the lectures and tutorials.
Overall, it is recommended that you spend approximately ten hours of study per week on this unit including any supervised contact period.

Learning Resources

Other resources

Course notes, practical worksheets, assignment criteria and other critical information are available via Blackboard. No allowance will be made to compensate the result of a student being unaware of this information.

Assessment

Assessment policy exemptions

- There are no exemptions to the assessment policy

Assessment schedule

	Task	Value %	Date Due	Unit Learning Outcome(s) Assessed	Late Assessments Accepted?*	Assessment Extensions Considered?*
1	Practical Incremental Assessments	50%	**Week:** 5, 8, Study Week **Day:** Monday **Time:** 9am	2,3,4,5	Yes	Yes
2	Final Exam	50%	TBA	1,2,3	No	Yes

*Please refer to the Late Assessment and the Assessment Extension sections below for specific details and conditions.

Detailed information on assessment tasks

1. There will be 3 incremental practical tasks which will be announced at the beginning of Teaching Week 1, Teaching Week 5, Teaching Week 8 and due in the Beginning of Teaching Week 5, Teaching Week 8, and the Study Week. The three tasks carry 15%, 15% and 20% of the final mark for this unit.

   The Practical components are to implement networking protocols in a simulated environment and build small-to-large scale networks (both home and enterprise networks). It assesses unit learning outcome 2, 3, 4, 5.
2. Held in the scheduled examination period at the end of semester. It assesses unit learning outcomes 1, 2 & 3.

Pass requirements

1. Minimum mark of **40%** in the **Final Examination**
2. Minimum **overall mark** of **50%**
3. **Must Fulfill all assessment components.**

Assessment Moderation

Fair assessment through moderation

Moderation describes a quality assurance process to ensure that assessments are appropriate to the learning outcomes, and that students work is evaluated consistently by assessors. Minimum standards for the moderation of assessments are described in the Assessment and Student Progression Manual, available from policies.curtin.edu.au/findapolicy/

Pre-marking moderation

This unit complies with moderation of assessments as described in the Assessment and Student Progression Manual, available from policies.curtin.edu.au/findapolicy/

Intra-marking / Post-marking moderation

This unit complies with moderation of assessments as described in the Assessment and Student Progression Manual, available from policies.curtin.edu.au/findapolicy/

Late assessment

Where the submission of a late assessment is permitted, late penalties will be consistently applied in this unit.

Where a late assessment **is** permitted for an assessment item or the entirety of the unit (refer to the Assessment Schedule table in this Unit Outline) and the student does not have an approved assessment extension:

1. For assessment items submitted within the first 24 hours after the due date/time, students will be penalised by a deduction of 5% of the total marks allocated for the assessment task;
2. For each additional 24 hour period commenced an additional penalty of 10% of the total marks allocated for the assessment item will be deducted; and
3. Assessment items submitted more than 168 hours late (7 calendar days) will receive a mark of zero.

Where late assessment **is NOT** permitted for an assessment item or the entirety of the unit (refer to the Assessment Schedule table in this Unit Outline) and the student does not have an approved assessment extension:

1. All assessment items submitted after the due date/time will receive a mark of zero.

Assessment extension

Where an application for an assessment extension **is** permitted for an assessment item(s) within this unit (refer to the Assessment Schedule table in this Unit Outline):

1. A student who is unable to complete an assessment item by/on the due date/time as a result of exceptional circumstances beyond the student's control, may apply for an assessment extension on the Assessment Extension Application Form as prescribed by the Academic Registrar. The form is available on the Forms page at https://students.curtin.edu.au/essentials/forms-documents/forms/ and also within the student's OASIS (My Studies tab – Quick Forms) account.
2. The student will be expected to submit their application for an Assessment Extension with supporting documentation via the online form.
3. Timely submission of this information supports the assessment process. For applications that are declined, delayed submission may have significant ramifications on the possible marks awarded.
4. An application may be accepted up to five working days after the due date/time of the assessment item where the student is able to provide a verifiable explanation as to why they were not able to submit the application prior to the assessment due date/time

Where an application for an assessment extension **is NOT** permitted for an assessment item(s) within this unit (refer to the Assessment Schedule table in this Unit Outline):

1. All assessment items submitted after the due date/time will be subject to late penalties or receive a mark of zero depending on the unit permitting late assessment submissions.

Deferred assessments

If your results show that you have been granted a deferred assessment you should immediately check OASIS for details.

Deferred examinations/tests will be held from 08/12/2021 to 17/12/2021 . Notification to students will be made after the Board of Examiners' meeting via the Official Communications Channel (OCC) in OASIS.

Further assessment

Further assessments, if granted by the Board of Examiners, will be held between 08/12/2021 and 17/12/2021 . Notification to students will be made after the Board of Examiners meeting via the Official Communications Channel in OASIS.

It is the responsibility of the student to be available to complete the requirements of a further assessment. If your results show that you have been granted a further assessment you should immediately check OASIS for details.

Reasonable adjustments for students with disabilities/health circumstances likely to impact on studies

A Curtin Access Plan (CAP) is a document that outlines the type and level of support required by a student with a disability or health condition to have equitable access to their studies at Curtin. Carers for people with disability may also be eligible for support. This support can include alternative exam or test arrangements, study materials in accessible formats, access to Curtin's facilities and services or other support as discussed with an advisor from AccessAbility Services.

Documentation is required from your treating Health Professional to confirm your health circumstances or carer responsibilities.

If you think you may be eligible for a CAP, please contact AccessAbility Services. If you already have a CAP please provide it to the Unit Coordinator in week 1 of each study period.

Referencing style

The referencing style for this unit is Chicago 17th B.

More information can be found on this style from the Library web site:
https://libguides.library.curtin.edu.au/uniskills/referencing/chicago17.

Privacy

As part of a learning or assessment activity, or class participation, your image or voice may be recorded or transmitted by equipment and systems operated by Curtin University. Transmission may be to other venues on campus or to others both in Australia and overseas.

Your image or voice may also be recorded by students on personal equipment for individual or group study or assessment purposes. Such recordings may not be reproduced or uploaded to a publicly accessible web environment. If you wish to make such recordings for study purposes as a courtesy you should always seek the permission of those who are impacted by the recording.

Recording of classes or course materials may not be exchanged or distributed for commercial purposes, for compensation, or for any other purpose other than personal study for the enrolled students in the unit. Breach of this may subject a student to disciplinary action under Statute No 10 – Student Disciplinary Statute.

If you wish to discuss this please talk to your Unit Coordinator.

Copyright

The course material for this unit is provided to you for your own research and study only. It is subject to copyright. It is a copyright infringement to make this material available on third party websites.

Academic Integrity (including plagiarism and cheating)

Academic Integrity

Curtin's Student Charter, Academic Integrity Program (AIP), and core Values guide expectations regarding student behaviour and responsibilities. Information on these topics can be found on the Student Essentials Website or the Academic Integrity tab in Blackboard.

Academic Integrity Warnings

An Academic Integrity Warning may be issued to a New-to-Curtin student if they have inadequately acknowledged sources or collaborated inappropriately. The Management of Academic Integrity Warnings for New to Curtin Students Procedures provide further information and explain who is considered to be New-to-Curtin.

Academic Misconduct

Students with an academic breach that do not meet the New-to-Curtin criteria will be managed through the misconduct process. Academic Misconduct means conduct by a student that is dishonest or unfair in connection with any academic work. This includes all types of plagiarism, cheating, collusion, falsification or fabrication of data or other content, and Academic Misconduct Other, such as falsifying medical certificates for extension. More details can be found on the Student Essentials Website or on the Academic Integrity Website.

Staff members are required to report suspected misconduct and an inquiry may take place. If misconduct is determined it will result in penalties, which may include a warning, a reduced or nil grade, a requirement to repeat the assessment, an annulled grade (ANN) or termination from the course. Some penalties may impact on future enrolment.

Academic work under inquiry will not be graded until the process has concluded. If your work is the subject of an inquiry you will be notified by email and Official Communication with an opportunity to respond. Appropriate support will be provided. For more information refer to Statute No.10 Student Discipline and Academic Misconduct Rules.

Information and Communications Technology (ICT) Expectations

Curtin students are expected to have reliable internet access in order to connect to OASIS email and learning systems such as Blackboard and Library Services.

You may also require a computer or mobile device for preparing and submitting your work.

For general ICT assistance, in the first instance please contact OASIS Student Support:
oasisapps.curtin.edu.au/help/general/support.cfm

For specific assistance with any of the items listed below, please contact The Learning Centre:
life.curtin.edu.au/learning-support/learning_centre.htm

- Using Blackboard, the I Drive and Back-Up files
- Introduction to PowerPoint, Word and Excel

Additional information

It is your responsibility to ensure that your enrolment is correct - you can check your enrolment through the eStudent option on OASIS, where you can also print an Enrolment Advice.

It is also your responsiblity to ensure that you have proper access to the unit area on Blackboard and read all anoouncements made for the unit.

Enrolment

It is your responsibility to ensure that your enrolment is correct - you can check your enrolment through the eStudent option on OASIS, where you can also print an Enrolment Advice.

Student Rights and Responsibilities

It is the responsibility of every student to be aware of all relevant legislation, policies and procedures relating to their rights and responsibilities as a student. These include:

- the Student Charter
- Values and Signature Behaviours
- the University's policy and statements on plagiarism and academic integrity
- copyright principles and responsibilities
- the University's policies on appropriate use of software and computer facilities

Information on all of the above is available through the University's "Student Rights and Responsibilities" website at: students.curtin.edu.au/rights.

Student Equity

There are a number of factors that might disadvantage some students from participating in their studies or assessments to the best of their ability, under standard conditions. These factors may include a disability or medical condition (e.g. mental illness, chronic illness, physical or sensory disability, learning disability), significant caring responsibilities, pregnancy, religious practices, living in a remote location,or another reason. If you believe you may be unfairly disadvantaged on these or other grounds please contact the appropriate service below. It is important to note that the staff of the University may not be able to meet your needs if they are not informed of your individual circumstances, so please get in touch with the appropriate service if you require assistance.

To discuss your needs in relation to:

- Disability or medical conditions, contact AccessAbility Services: https://students.curtin.edu.au/personal-support/disability/
- Elite athletes, contact Elite Athlete Coordinator: https://stadium.curtin.edu.au/sport/academy/elite-athlete-program/
- All other grounds, contact the Student Wellbeing Advisory Service: https://students.curtin.edu.au/personal-support/counselling-guidance/wellbeing/

Recent unit changes

Students are encouraged to provide unit feedback through ***e*VALUate**, Curtin's online student feedback system. For more information about ***e*VALUate**, please refer to evaluate.curtin.edu.au/info/.

eVALUate NOW! Give feedback on the My Studies tab and you could win prizes eVALUate	To view previous student feedback about this unit, search for the Unit Summary Report at https://evaluate.curtin.edu.au/student/unit_search.cfm. See https://evaluate.curtin.edu.au/info/dates.cfm to find out when you can ***e*VALUate** this unit.

Recent changes to this unit include:

Lectures: Lecture slides are revised and redesigned with infographics, colors and relevant images to aid the student to visualize core concepts of networking. We have also updated the lecture contents to provide insights on the latest networking trends and technologies used in the industry.

Tutorials: Tutorials run **every week for 2** hours. Theoretical questions based on the contents covered in the lectures will be discussed in tutorial classes. These classes will be much smaller than a lecture so will give you a chance to interact with the teaching staff and hopefully improve your learning experience.

Labs: We have compiled the practical aspects of networking into a set of comprehensive lab sheets which will enhance understanding of core networking concepts taught in the lecture. Students are now able to try and experience the mechanics of networking/networking devices to better understand the learning objectives of the unit. Labs are conducted on simulation tools and can be completed at home with convenience.

Other: **A comprehensive set of reference materials** (short explanatory videos, web links, text) that are closely related to the learning objectives are published on Blackboard for better understanding of difficult concepts. Reference materials will cover almost every sub-section of each lecture to help the students to learn actively with graphical explanations. Furthermore, we have created a **Glossary** and a **Wiki** for the unit along with a **Discussion Board (Forum)** to provide help and aid the students who face difficulties in following the unit. We hope that students will make the maximum use of these opportunities to enjoy a pleasant learning experience.

Any feedback and comments any time during the semester would be highly appreciated.

Program calendar

Semester Week	Teaching Week	Lecture Name	Tutorial	Lab Sheet	Practical Imcremental Tasks	
1	1 (July 26)	**01 Introduction to Networks**	***No Tutorial in Week 1***	**P0** Packet Tracer Basics	**Task No.1 Announced**	
2	2 (Aug 02)	**02 Physical Layer**	**T1** Introduction to Networks	**P1** Working with Physical Workspace		
3	3 (Aug 09)	**03 Data Link I**	**T2** Physical Layer	**P2** Working with Logical Workspace		
4	4 (Aug 16)	**04 Data Link II**	**T3** Data Link I	**P3** Networking with Layer 1 Devices, Simulating Internet		
5	5 (Aug 23)	**05 Network Layer I**	**T4** Data Link II	**P4** Networking with Layer 2 Devices, VLAN I	**Task No.1 due**	**Task No.2 announced**
6	6 (Aug 30)	**06 Network Layer II**	**T5** Network Layer I	**P5** Networking with Routers (IPv4, IPv6, VLAN II, VOIP)		
7	(Sep 06)	***Tution Free***				
8	7 (Sep 13)	**07 Transport Layer I**	**T6** Network Layer II	**P6** Static/Dynamic Routing (RIP, RIPv2, EIGRP, OSPF)		
9	8 (Sep 20)	**08 Packet Tracer**	**T7** Transport Layer I	**P7** Networking with TCP (Client-Server)	**Task No.2 due**	**Task No.3 announced**
10	9 (Sep 27)	**09 Transport Layer II**	**Mock Paper Discussion**	**P8** Networking with UDP (Client-Server)		
11	10 (Oct 4)	**10 Application Layer I**	**T8** Transport Layer II	**P9** Networking with Application Layer I (Telnet, FTP, HTTP, Email)		
12	11 (Oct 11)	**11 Application Layer II**	**T9** App Layer I	**P10** Networking with Application Layer II (DHCP, DNS, P2P)		
13	12 (Oct 18)	**12 Emerging Networking Tech**	**T10** App Layer II **/ T11** Emerging Network Tech	**P11** Networking with IoT (Internet of Things)		
(Oct 25)	(Oct 25)	***Study Week***			**Task No.3 due**	
		Final Examination				