

TNE10006/TNE60006: Networks and Switching



Unit Introduction



Three Core Learning Components

1. **Lectures**
Understand theoretical concepts
2. **Laboratories**
Acquire hands-on skills
3. **NetAcademy Program**
Prepare for industry certification



Lectures

- Pre-recorded lectures on Echo360
- Released Monday the week before they are scheduled on
- Roughly two hours worth of recorded material per week
- Core material that will be assessed in the Final Concepts Assessments
- Supported by Live Q&A Sessions
 - The lecturer will answer your questions on the week's Lectures content
 - The lecturer will run Kahoot quizzes and present practical examples
 - Opportunity to clear your doubts and solidify your understanding of the content.



Laboratories

- Three hour Labs
- On-campus for onshore students (unless we are in lockdown)
- Online for **offshore** students

Allocated Labs

- You **MUST** attend the Lab you are allocated to
- Assessments only provided for students in the class

Content

- Mix of Swinburne Labs and modified versions of Cisco Labs
- Remote access to ATC Labs to work on real equipment
- Schedule as per Unit Outline
- Labs include some theoretical activities



NetAcademy Program - CCNA

What is the CCNA

- Cisco Certified Network Associate
- First level data networking accreditation
- We will cover CCNAv7 curriculum during S2 2021

TNE10006/TNE60006

- CCNA1
- Switching topics of CCNA2

TNE20002/TNE70003

- Routing components of CCNA2
- CCNA3



NetAcademy Program - CCNA

- Swinburne is a member of the Cisco NetAcademy Program
- Online material and assessments administered by Cisco
- Passing all three CCNA modules may entitle you to a discount when sitting the external Cisco Certification exam

NetAcademy Modules

- TNE10006/TNE60006 – all CCNA1 and some CCNA2 modules
- TNE20002/TNE70003 – some CCNA2 modules all CCNA3

NetAcademy Accounts

- Accounts will be created in Week 1



Canvas... Let's have a look

- Unit Outlines
 - Assessment details
 - Unit Requirements
- Activity Planners
 - Weekly Planner
 - Assessment Planner
- Content and Activities
 - Lectures and Q&A Sessions
 - Lab Sessions
 - NetAcademy Program
- Assessment Information
- Discussion Boards



Student Feedback – Survey Comments

Negative

- Too much content and assessments
- Not enough on-campus labs
- Not enough contact hours
- Not enough feedback on labs

Positive

- Q&A sessions and Kahoot quizzes
- Discussion boards
- Helpful, professional teaching staff
- Relevant, interesting content

In response to your feedback...

- We have removed some content. However, this is still a content heavy Unit, please manage your expectations.
- Sem 2 2021 labs will run on-campus while adhering to COVID-Safe guidelines. However, they will move online in the event of a lockdown.
- On-campus lectures are not an option, however, we have managed to keep 2-hour Q&A sessions.
- Lab handouts will not include feedback/answers. Students are encourage to proactively seek feedback from their instructors.



Student Feedback – Trends

- Positive comments about tutorials, Q&A sessions and discussion boards

We strongly recommend participating in all interactive activities/tools at your disposal to complement your online learning.

Students have reported Q&A Sessions are particularly useful

- Complaints about missing out on on-campus lab

Connectivity scenarios to complement the online learning experience.

In S2 2021 students will have the opportunity to attend on-campus lab sessions

- Lab handouts should include final device configuration in-full

Practical skills are acquired through hands-on work. Providing the final configuration in the handouts might defeat the purpose of the labs.

Students are encouraged to request feedback from their instructors instead.

- Concerns around the Final Oral Defence and online Skills Demonstrations

Highest final assessment marks than ever. Data shows that every student scored roughly 10% higher than they would have in a written exam.



Student Feedback – Testimonials

Networks and switching is a fun unit combine both theory and practical part of the learning materials. The lecturer provided a lot of support and resources, make sure you use them.

In order to achieve a good result, make sure you watch the pre-recorded lecture before the Q&A session, so you can ask tons of questions while the lecturer goes through the topics in the Q&A session, Kahoot is really helping too, once you did it once, u can always access it later on to refresh your knowledge.

Use your time wisely in the labs, and keep practicing until u feel good about it. Don't hesitate to jump into a network help desk as it provides u additional opportunities to ask questions, tutors are part of learning resources too.

overall, I really enjoyed this unit as it provided me a lot of insights into networks. I feel confident with what I learned in this unit.

Plan ahead and follow the weekly planner is a great start. best of luck guys.

Xinjia Feng – Sem 1 2021



Student Feedback – Testimonials

I personally found learning Networks and Switching to be very rewarding! I was amazed to learn all about a world I never properly appreciated. I didn't realise how heavily we rely on networking and communication in our daily lives. However, due to the topic being so vast with a so much information, this unit can seem overwhelming. Fortunately, I was encouraged that there were a number of ways that support learning this topic.

Attending the Q&A sessions is a MUST. This is your prime opportunity to learn more in depth and ask as many questions as you like. Don't be afraid to ask questions! Joining the networking study group and keeping in touch with them was also beneficial to me as we would motivate each other and do revision together.

Finally, practice and repetition made me well rounded in both theoretical and practical aspects of the unit. I did networking tasks repeatedly until I could memorise commands, completed every single practice paper that was available from the discussion boards and revised the lecture content thoroughly. You will need to put in more effort than you would like or are used to, but it's well worth it to get the most out of the unit and have a better appreciation of the Internet and how you use it.

Elysia Guglielmo – Sem 2 2020



Student Feedback – Testimonials

I really enjoyed Network and Switching unit, since it has both theoretical and practical aspects. In my experience I would say, to achieve best results in this unit, it is best to attend all the Lab sessions and Q&A sessions. It is very important to go through the pre-recorded lectures before attending the Q&A session and be ready for the Q&A session. The Kahoot session during the Q&A session is very interactive and is very useful, even in getting ready for the final oral exam. I have gone through every single Kahoot session to revise all the lessons before the final oral defence.

It is very important to attend all the lab sessions and practising the labs in a regular basis to get ready for the skills assessment. Since the final skills assessment need to be completed within a certain time frame, we need to practise lab exercises thoroughly. I really liked that we had the oral defence as the final exam for this unit because in a way it gives us confidence to face a real-life interview. I highly recommend using flash cards in preparing for the final oral defence. [...] Best of luck.”

Kalani Katupothage – Sem 2 2020



Student Feedback – Survey Comment

[...] Q and A sessions were a great revision for the important subtopics of the week. Her [the Lecturer's] diagrams helped visualize and sequentially understand the problem best and she was always open to going over some of the tough concepts and basic doubts again, which made the learning wonderful and effective.

The lab revision notes were really helpful too, for revisions to keep up-to-date on the important announcements and to track ones progress to be at par with what the unit's course in that particular week requires. [...]

The oral defence format of final assessment was a comfortable and positive environment to test the unit's theoretical skills, in my opinion. I really enjoyed the test actually, given the fact that I was so nervous going in and had spent the entire night before preparing all the details of the topics and even memorizing the numeric tables. For me it was conducted really smoothing and in an amiable manner. It gave me the confidence to actually share and communicate what I knew on the topic in depth. [...]

Student Survey Respondent – Sem 1 2021



Student Feedback – Survey Comment

[...] Asking students to watch lectures in their own time and utilising the lecture time for a Q&A session has been critical to my continued engagement in this unit [...] Each week, the class plays a Kahoot quiz, which is an excellent way to keep students engaged in their learning by having a bit of fun. Then, the class moves on to student questions about the previous week's content. I often find that others have thought of questions that I have not, and from that, I learn a lot [...] They are a truly excellent activity and I strongly recommend implementing them in some form next semester, even though we are likely to be in an on-campus environment.

Student Survey Respondent – Sem 2 2020



Assessments

In-Semester 30%

- Group Lab Activities 15%
3 activities, 5% each
- NetAcademy Exams 5%
8 module group exams 1%
Final CCNA1 Exam 4%
- VLSM Online Tests 5%
2 tests, 2.5% each
- Mid-Semester Skills Assessment 5%

Final Assessments 70%

- Final Skills Assessment 20%
- Final Concept Assessments 50%
Final VLSM Assessment – 10%
Final Oral Defence – 40%



NetAcademy Program - Exams

- Online assessments on NetAcademy website.

CCNA1/2 Module Group Exams – Online

- Activated at the beginning at the term
- Available until due date specified in Unit Outline and Assessment Planner
- Complete exams in your own time before the due date
- Feedback provided by NetAcademy web site
- Score 40% or more in 6 exams for **1 mark towards your final mark**

CCNA1 Final Exam – Online

- Complete in your own time during **Week 12**
- Pass mark is 60%
- Second attempt – maximum mark is 60%
- **Worth 4% of your final mark**



Skills Assessments

Mid-Semester Skills Assessment – On-Campus

- On-Campus using ATC equipment
- **Week 8** during lab session
- One hour exam – late arrival will result in less time to complete
- **Worth 5%** of final mark – Grading Scheme on Canvas

Final Skills Assessment – On-Campus

- On-Campus using ATC lab equipment
- During **Final Assessment Period**
- One hour exam – late arrival will result in less time to complete
- **Worth 20%** of final mark – Grading Scheme on Canvas
- **Hurdle requirement** – must score 10/20 to pass the Unit
- Final Skills Assessment **Resit** – max. mark 14/20



Skills Assessments for Offshore Students

Online Mid-Semester Skills Assessment

- Online via **Collaborate Ultra** using **Packet Tracer**
- **Week 8** during lab session
- One hour exam – late arrival will result in less time to complete
- **Worth 5%** of final mark – Grading Scheme on Canvas

Final Skills Demonstration – Online

- Online via **Collaborate Ultra** using **ATC equipment**
- During **Final Assessment Period**
- **15 mins** interview to complete **2 configuration tasks**
- **Worth 20%** of final mark – marking rubric on Canvas
- **Hurdle requirement** – must score 10/20 to pass the Unit
- Final Skills Assessment **Resit** – max. mark 14/20



Other Assessments

VLSM Tests - Online

- Two VLSM Canvas Tests
- VLSM Test 1 – **Week 7**
- VLSM Test 2 – **Week 10**
- Online assessments to be completed in your own time
- **Each test worth 2.5%** of your final mark
- Marking scheme available on Canvas
- Marks available on Canvas the following week



Group Lab Activities

- Schedule:
 - Group Lab Activity 1 – **Week 5** during lab session
 - Group Lab Activity 2 – **Week 6** during lab session
 - Group Lab Activity 3 – **Week 11** during lab session
- Group Activity (3-4 students) based on the lab practice
- Groups must be formed from students within your lab class
- Activity details posted to Canvas during lab session
- Canvas Submission by the next week lab session
- **Worth 15%** of your final mark (5% each)



Final VLSM Assessment

- On-campus assessment
- **Week 12** during lab session*
- 30 minutes
- Resolve 1 VLSM scenario
- **Worth 10%** of Final Mark



Final VLSM Defence for Offshore students

- Online assessment
- **Week 12** during lab session
- 8 minutes interview via Collaborate Ultra
- Partially resolve 1 VLSM scenario
- **Worth 10%** of Final Mark



Final Oral Defence

- Online interview via Collaborate Ultra
- During **Final Examination period**
- **Worth 40%** of final mark
- 15 minutes per student
 - 12 minutes questioning
 - 3 minute assessor deliberation
- 4 questions on theoretical concepts
 - 3 regular questions – two attempts for each
 - 1 “HD” question (higher difficulty) – 1 attempt



Final Oral Defence

- Online interview via Collaborate Ultra
- During **Final Examination period**
- **Worth 40%** of final mark
- 15 minutes per student
 - 12 minutes questioning
 - 3 minute assessor deliberation
- 4 questions on theoretical concepts
 - 3 regular questions – two attempts for each
 - 1 “HD” question (higher difficulty) – 1 attempt



Hurdle Requirements

- An aggregate mark of 50%
Passing accumulated mark across all assessments
- Achieve 40% in the Final Concepts Assessments
Final VLSM Assessment + Final Oral Defence = 20/50
- Pass the Final Skills Assessment
Requirements to pass the skills assessment in Canvas

Students who don not meet **all three** of these hurdle requirements will score a maximum of 45/100 as their final result of the Unit.