Advanced Business Data Communications
ICT535

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Staff

Unit Coordinator / lecturer

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Tutors

Just Terry for 2021

Overview

ICT535 aims to broaden your understanding of IP based data-communications and build upon ICT546.

Specific focus on:

- Scalable network design
- Core security and packet selection concepts
- Access Control Lists.
- Advanced switching concepts.
- OSPF Routing
- Consideration of larger networks and “bringing the elements together”.

Learning outcomes for the unit.

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On successful completion of the unit you should be able to:

- Create a network design that is functional, fault-tolerant and scalable.
- Select and configure protocols and technologies to implement a highly available network.
- Manage network traffic according organisational policy.
- Detect, troubleshoot and correct common enterprise network implementation issues.
- Implement networks using the EVE-NG emulation environment.

Classes

Online recorded lecture

- The workshop is not the lecture. You need to listen to the recorded lecture in Echo 360 before the workshop.

Workshop

- 3hr workshop
  - Held in lab 435 3.064
  - 24X7 Access with student card
  - EVE
  - Some labs will not be completed in the allotted lab time. You should still plan on completing them.
  - Workshops are NOT recorded.

Assessment

Weekly troubleshooting or design problem

- 15% of your grade
- Due Sundays at midnight
- First two weeks are feedback only (but very important) and don't contribute to your grade.
- Nine submissions.
  - Your grade will be based on the average of your scores as long as you submit at least seven of the submissions.
  - Therefore you can miss up to two submissions without penalty.
    - This allows for being sick or whatever.
    - You do not need to tell the unit coordinator why you missed the submission.
    - If you miss three or more submissions then your average will be based on seven submissions, with the missing submissions being assigned a mark of zero.
  - Late submissions are penalised at 10% per day (or part day).
    - Under University policy, late submissions cannot be accepted once any graded submissions have been returned to other students.
      - Up to 1 day late and your graded mark is multiplied by 0.9
      - 1-2 days late your graded mark is multiplied by 0.8

Assessment

Mid semester exam

- 20% of unit grade
- Conducted during the first non-teaching week.
  Friday 9th April 1:00 PM
- Exam is taken in the labs 3.063 & 3.064 and is supervised (invigilated)
- LMS based
- Covers the lecture and lab content of the first four weeks of teaching.
  - Narrow focus
  - STP (theory behind, different types, limitations, determination of port roles)
  - Scalable network design (three layer hierarchy,principles)
- 2 Hours duration.
- A result of feedback from students in 2019

Assessment

Practical exam

- 30% of unit grade.
- 2 hours.
- Closed book exam (no notes allowed)
- Exam is taken in the labs 3.063 & 3.064 and is supervised (invigilated)
- Students are given an EVE topology file which contains a preconfigured network. The configuration and topology will be similar to a provided case-study that students will have been working with over the semester so the scenario will not be unfamiliar.
- The assessment will require students to fix errors in the network configuration, make changes to the configuration to reflect business requirements and extract information from the network. Details of the changes made to the configuration are pasted into an LMS based exam.
- During the semester, a mock exam will be made available so students can practice.

Assessment

Final Exam (35%)

- Online LMS based
- 2hrs
- Comprehensive but less coverage of topics covered in the mid semester.
- Sequential – You can't return to questions already answered and they must be answered in order.
- Open book but the words are expected to be those of the student taking the exam. Copy and paste = plagiarism.
- Regardless of how well you do in the other components you need 50% overall and **at least 50% in the supervised components** for a pass in the unit.

Locating Resources

- LMS (Moodle)
  - Unit guide
  - Links to readings, labs, lecture notes, EVE.
  - Forum
  - Testing environment (Final Exam)
  - All assessment submissions

In general, work through the LMS activities in the order they are presented.

Readings

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- Available through the Cisco Networking Academy Class you should already have access.
  - Enrolling late?
  - Reading this in week 4 or 8 and realise you've not been completing the readings?
  - Not in a class?

  Email the unit coordinator

Passing this unit

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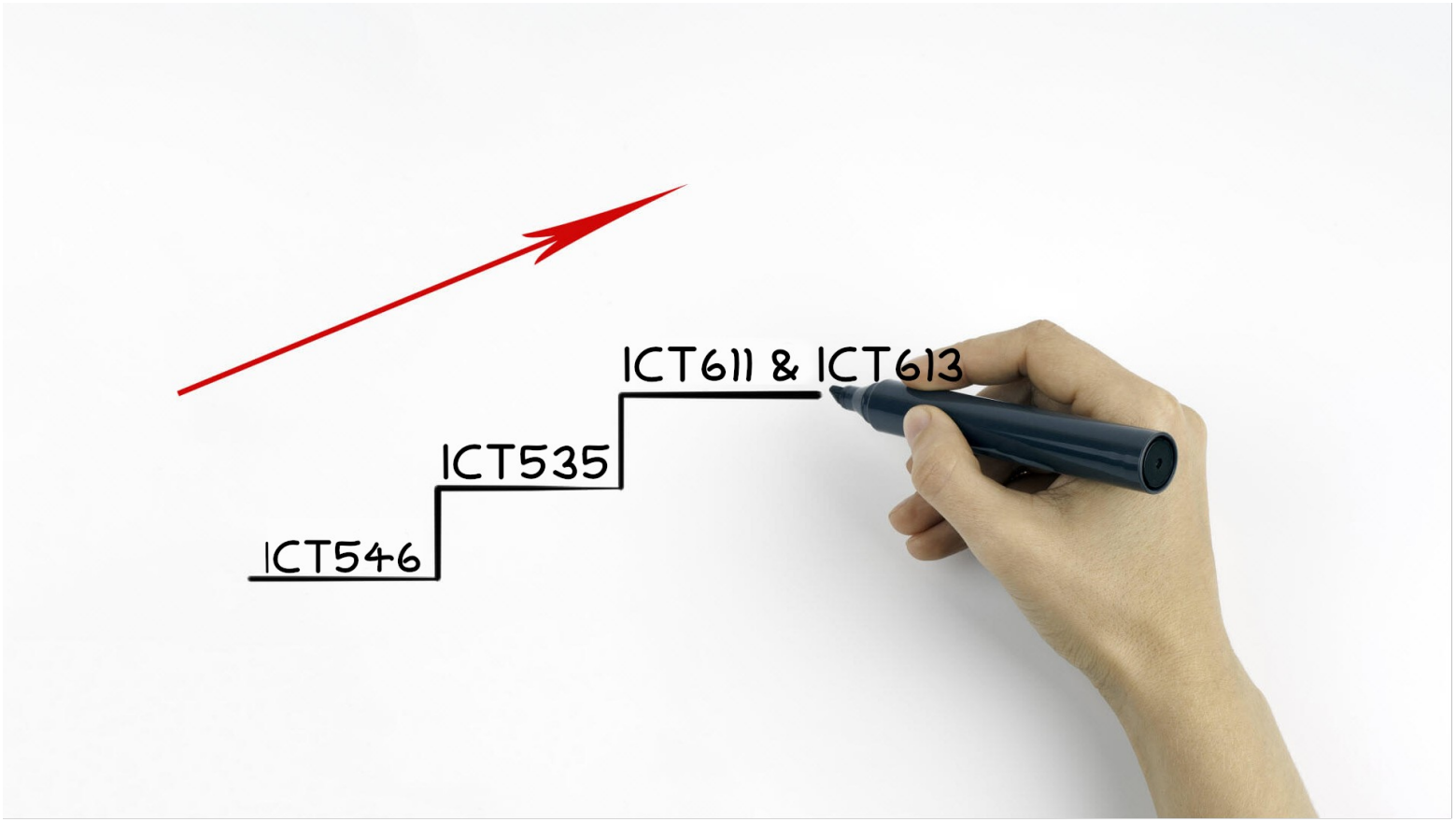
- Work consistently and keep up with the readings.
- There are a lot of readings I know.
  Skim/Skip reading configuration unless you find it interesting. You'll cover it in the lab where it is more relevant.
- Attend classes – Strong correlation between non-attendance and poor performance.
- Keep an eye on the due dates.
- Complete the labs and make sure you know what/why/how. It's not a race to type the commands.
- Work through the case study.
- Follow up on items your having trouble with. Read / research / experiment / ask as necessary.

Where this unit fits and relative difficulty.



Mark	Grade
65	ASC
80	HD
91	HD
80	HD

Mark	Grade
60	C
50	ASP
75	D
77	D

EVE

- Network Simulation Software.
- A learning objective in this unit.
- Not an easy tool to install and takes time to gain confidence with.
- Doesn’t work well with older AMD processors.
- Needs enough (8 GB?) RAM.
- Needs enough CPU power.

- In 2021 all students will have access to an EVE VM hosted in our data centre.

- However, if you have a computer capable of running the EVE server I highly recommend you install it locally as the data centre VM will be removed at the end of semester.
  - Links to “self install” will be made visible once everyone is up and runniing with the data centre.
  - Don’t install from the EVE-NG web site!

Admin Questions ?