

DEPARTMENT OF ELECTRONIC ENGINEERING

Unit Quality Assurance Report

YEAR: 2008
SEMESTER: 2
UNIT CODE: ELE4NET
UNIT TITLE: Communications Networks
LECTURER(S): Robert Ross
CLASS SIZE: 68

UNIT OBJECTIVES/OUTLINE:

In this unit students study network architecture (OSI 7 model), serial communication standards, medium access techniques (CSMA/CD, Aloha), the data link layer (HDLC, SDLC and LAPB), routing techniques (including least cost algorithms), flow control, LAN's, queuing theory, network security, information integrity and ATM.

SURVEY RESULTS AND ANALYSIS OF INDIVIDUAL QUESTIONS:

The survey sample for this subject was 29 students, representing 42% of the total class size of enrolled students.

The summary of the questionnaire is:

Qa: The unit helped me develop as a team member: 3.8

Not particularly relevant for this unit. The labs were where group work was encouraged – but students had the option to work individually if they wanted – most worked in groups.

Qb: Work in the unit helped me enhance my analytic skills: 4.0

This is particularly relevant for this unit. The labs encourage students to analyse networks through simulation and then follow on with some limited problem solving and configuration based on their analysis. Throughout the course new calculation style problems were introduced through assignments which required both interpretation and calculation.

Qc: Learning in this unit helped me develop my problem-solving skills: 3.8

This is particularly relevant for this unit. Most of the labs are a simulation based – to some degree limiting the freedom to practice rigorous problem solving. A new hardware lab was introduced which students really enjoyed on the whole as it opened new pathways of interest in real-world networking. This score is probably about right considering the number of simulation labs.

Qd: I have developed my communication skills in this unit: 4.1

The intention for this unit was to develop technical skills rather than communication skills. Written communications skills were developed primarily in the labs and assignments – where students were asked to record observations, make inferences and write answers to specific questions. This was a very good score considering the subject was targeted to improve technical skills more than communications skills.

Qe: The unit has helped enhance my confidence tackling unfamiliar problems: 3.9

This unit provides a very broad overview of networking technologies and then concentrates significant detail on key concepts – giving students both a wide background knowledge as well as specialities in key areas. Both were tested in assignments – with some research questions forcing students to look outside the textbook and evaluate different concepts. This mark is satisfactory for the subject.

Qf: The unit helped me to develop the capacity to plan my work: 3.9

The unit is well structured – with regular lectures, labs and assignments – making planning relatively simple. It would have been nice to see more students completing assignments on time – an issue which should be raised in the first lecture next semester, as well as attending labs more regularly – most of the students that failed did so because they failed to meet the lab hurdle. The score reflected the good transparency and layout of the subject.

Qg: I improved my oral communication skills: 3.7

This unit is meant to develop technical skills rather than communication skills or oral communication skills specifically. Lab classes are the primary place this subject allows for development of oral communication skills. In lab classes demonstrators were instructed to cross-examine students on their work to ensure they understood what they were doing. The relatively low mark reflects the fact that development of oral communications skills are not a core aim for this unit.

Q1: The aims of the unit were made clear at the start: 4.2

The aims of the unit were clearly stated in the unit guide (syllabus) as well as in the first lecture. On the whole students understood the aims with high clarity and hence ranked the subject accordingly.

Q2: The teaching staff put a lot of time into commenting on my work: 4.0

The class for 2008 had a total of 68 students, which provided some hectic moments in some of the labs. Having two permanent and very capable demonstrators in the labs was a big improvement on last year (and was one of the key areas cited for improvement). The students appreciated the feedback and comments received and reflected this in their ranking (up from 3.4).

Q3: I was generally given enough time to understand the things I had to learn: 4.0

Because the subject covers such a wide breadth some of the students were a little overwhelmed there was so much material to be covered – but once we concentrated on the key areas they quickly came to terms with what they needed to understand and put further study into. I'm happy with this result.

Q4: The staff made a real effort to understand the difficulties I was having with my work: 4.0

Most of the consultation for students were carried out through labs, though as a lecturer I had numerous out-of-class discussions with students – which they really appreciated. It was made clear to students that the teaching staff were happy to discuss difficulties with students. Most of those with difficulties queried these first via email and were generally satisfied with the result. I'm happy with the response from students for this question and will endeavour to provide quality support for student encountering difficulties.

Q5: Appropriate forms of assessment were used in this work: 4.1

The assessment was in the form of labs (with reports reports), assignments and the exam. The assessment was made clear to the students at the start and on the whole many performed very well. The level of assignment completion was relatively high (though not necessarily timely) and reinforced the lecture material well. I was quite happy with the result.

Q6: Teaching staff gave me helpful feedback: 4.0

The feedback score was again reasonably high - due to the quality assistance provided by the lab demonstrators as well as the lecturer - both in labs, the lectures and also private consultation. Students appreciated this and enjoyed the labs in particular.

Q7: The teaching staff were extremely good at explaining things: 4.0

This good mark reflects the lecturers and demonstrators ability to relate difficult concepts to students in a simple to understand manner. Students were on the whole quite happy and the main avenue for improvement could be to ensure that all the labs have been fully tested on the new version of OpNet to iron out all the bugs – which would in turn make the lab demonstrators job easier.

Q8: The workload was manageable: 4.2

Students gave this a particularly high score, which makes me a little suspicious they were not challenged as much by this unit as they could be been. The total contact hours were relatively low (5 hours) with several hours of additional work required for assignments. Possibly a few more ‘research’ questions could be added to the assignments to get students to explore a little further in their own time.

Q9: The teaching staff worked hard to make this unit interesting: 4.1

This unit was revised as the semester continued with new material (hardware lab, revised network security, packet captures) added which aroused student interest. A number of students complained that a two hour lecture (2 back to back lectures) was too much and as a lecturer I’d be inclined to agree – possibly a change there could lift the interest level even higher.

Q10: I was able to access the learning resources: 4.2

It seems most of the bugs have been sorted out in the WebCT system and students didn’t really have any trouble accessing the lecturers or additional material which was provided. No real complaints here

Q11: The teaching staff motivated me to do my best work in this unit: 3.8

I was a little surprised to see this mark so (relatively) low given 4+ marks for similar questions regarding the teaching staff. Some students were disheartened that some of the labs were playing up – maybe it related to a lack of preparedness on the part of the teaching staff – this will be rectified for 2009.

Q12: Overall I am satisfied with this unit: 4.2

Students were on the whole very happy with this subject (0.4 point improvement on last year). I’m happy with this result and expect that it will grow even higher next year as the action points are acted upon.

Summary of Student’s Comments:

“Better guidance required for labs”

“Good Labs, friendly staff, useful assignments”

“2 hour lecture is too long”

“Good labs” x 2

“Lecturer good at explaining things” x 3

“Too much surface detail without looking in depth”

“A programming lab would be good”

“Not enough time for labs” x 2

“Labs need improvement” x 3

“Underground lab was great”

“Too much content in lectures, needs to be more specific” x 3

“Great overview of networking” x 3

RESULTS

68 Students, 62 pass, 6 fail, 6 sup, 0 NS, average mark 77%

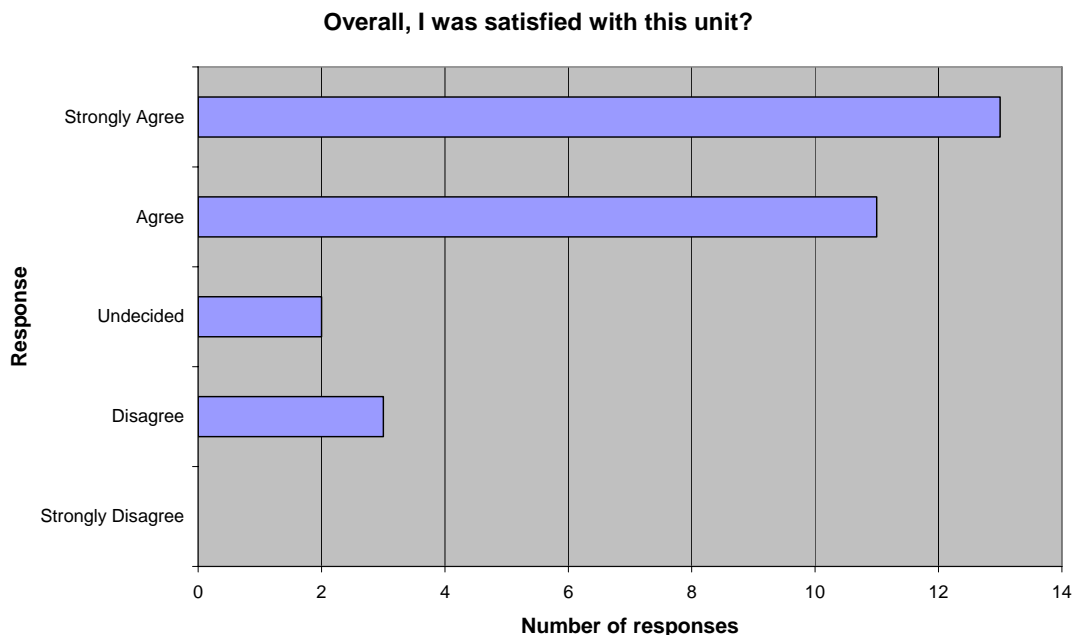
DISCUSSION AND RECOMMENDATIONS REFERRING TO UNIT OBJECTIVES AND SURVEY RESULTS:

Overall, the unit appeared to run well, and most students found the subject useful and sufficiently challenging. The students walked away with a good background in networking technologies and with the integration of the new hardware lab gained some practical experience in investigating network topologies, analysing packets and using networking software commands. I was disappointed to not get any specific feedback related to this lab in the survey – but students informally stated that their most enjoyable labs were the hardware lab and the underground tours.

Due to the new revision of OpNet being used the simulation labs had some small niggling problems, these should now be sorted out for next year where the labs will be able to run far smoother. Having two permanent lab demonstrators in the subject was an excellent move and really facilitated better student learning.

As a whole the students found the lectures provided a good overview of networking but needed to be more specific. Since communications networking covers such a wide breadth this can be a quandary. My recommendation would be to formally remove some of the material on legacy networking systems (token ring) and concentrate in detail on key technologies and concepts.

The overall satisfaction graph is reproduced below – showing a score 4.2 – good result which is an improvement on last year. Dedicating additional staff – particularly in labs, new labs and the incremental update of the lecture material are key areas of improvement which have brought this about.



COMMENTS/RECOMMENDATION(S) FOR FOLLOWING YEAR:

- Ensure that labs are prepared and fully tested well in advance
- Include more detailed content in lectures
- Talk to students regarding timely assignment submission and highlight the danger of plagiarism

-
- Statistical Information from the Academic Development Unit is attached.
- Statistical Information form the Academic Development Unit is not available due to insufficient student numbers.
-
- I acknowledge that this report will be published on the Department of Electronic Engineering web site for viewing by the general public.

LECTURER: **SIGNATURE:** **DATE:**

YEAR LEVEL COORDINATOR: **SIGNATURE:** **DATE:**

COMMENTS:

.....

.....

.....

APPROVED:

HEAD OF DEPARTMENT: **SIGNATURE:** **DATE:** 6/3/09.....

COMMENTS: ...

A mature and evolving unit. More hardware labs could be reintroduced if funding was available.

.....

.....

.....