Computer Communications and Networks (COMN) Change for Lecture Hours

1. Introduction

This document proposes to increase lecture hours from 20 to 30 hours for the Computer Communications and Networks (COMN) course.

The proposed weekly teaching form is two lectures: one double lecture and the other 1hr lecture, which makes 30 hours per semester. This would bring two benefits. First, instructor can cover coursework-related topics early enough for students to have sufficient amounts of time to work on it without a deadline extension. Second, it would also provide in-depth off-line discussion between the instructor and students. Overall, the increased lecture hours would improve students' learning experience.

2. Current coursework

The current coursework is to write a set of reliable transport protocols and evaluate their performances in an emulated network environment. The coursework consists of two parts. The first part is due to the end of week 5 whereas the second part is due to the end of week 10. The second part builds on the first part.

The lecture materials that pertain to the coursework are being studied between week 3 and week 4. This usually gives students 2 weeks for coursework part 1, which may not be sufficient for slow students. Since part 1 and part 2 are tightly coupled and part 2 is more difficult than part 1, failing part 1 can have a cascade effect.

3. Proposed alternation: Lectures

The main problem I encounter with the current coursework is that for the students to be able to finish their coursework, they need to have had all the lectures covering the topics necessary for the coursework. I found that I sometimes had to race through the lectures in order to present all the material before the actual coursework deadline. Over the last two years, extra delays in covering the course materials relevant to the coursework led to the extension of the deadline, which usually collides with "Innovative Learning Week". Hence, the deadline had to be extended further than the necessary amount. To mitigate this issue, I would suggest making one of the lecture a "double lecture" as permitted by the University policy [Shared Academic Timetabling, policy and guidance, 3.5].

Having 3 hours of weekly lecture would allow me to present all the necessary materials for the coursework well in advance of the actual deadline. It is not my intention to use all the lecture slots and I envision that some of the lectures would not use the double slot available at times. In addition, the double slots can be used for question/answer sessions as students in general have lots of questions, especially regarding the coursework. Currently, Q&A is handled through Piazza and a main issue is that students ask similar questions repeatedly, barely search past discussions on relevant topics or fail to understand the posted answers. To complement Piazza, I hope to use some time

of the double slot for discussing Frequently Asked Questions (FAQs).

Total : 30 hours (probably a bit less)

4. Course descriptor updates

Course Start

Semester 2

Learning and Teaching activities

Total Hours: 110 (Lecture Hours 30, Summative Assessment Hours 2, Programme Level Learning and Teaching Hours 2, Directed Learning and Independent Learning Hours 76)

Assessment

Written Exam 60 %, Coursework 40 %, Practical Exam 0 %

Additional Information (Assessment)

One programming assignment comprised of two parts.

You should expect to spend approximately 40 hours on the coursework for this course.

If delivered in semester 1, this course will have an option for semester 1 only visiting undergraduate students, providing assessment prior to the end of the calendar year.

Learning Outcomes

On completion of this course, the student will be able to:

1. Be able to explain key networking concepts, principles, design issues and techniques at all protocol layers.
2. Be able to contrast between different types of networks (e.g., wide area networks vs. local area networks, wired vs. wireless) in terms of their characteristics and protocols used.
3. Be able to describe the Internet architecture, salient features of TCP/IP protocols, and unique characteristics of Ethernet and Wireless LANs.
4. Have obtained hands-on experience in programming applications and protocols using TCP/UDP sockets.