CPS221 Lecture: Course Introduction

Objectives

1. To introduce the purpose and nature of the course
2. To deal with basic mechanics

Materials:

1. Syllabus
2. TCP/IP Book to show
3. McGraw-Hill handout on accessing ebook

I. **What is this Course About?**

   A. In the history of computing, three major classes of very large systems have emerged:

      1. Operating Systems

      2. Computer Networks, Servers, and Clients

      3. Database Systems

   B. These three classes of systems are utilized on a daily basis by most people who use computing.

      1. In the case of Operating Systems and Networks, this is obvious

      2. Though most computer users do not directly access database system software, databases are behind the scenes for many applications that people use every day - e.g. ecommerce (both database-driven websites and databases used for ordering) ...

   C. Certain issues are common to all three classes of systems

      1. Issues pertaining to concurrency and parallelism.

2. Issues pertaining to security (such as authentication and encryption)

3. This commonality has meant that sometimes very similar material is covered in different courses.

D. Courses dealing with these three classes of systems have been a part of CS curricula since the earliest days of the field.

1. Often, they have been (and still are) taught as separate courses (e.g. an Operating Systems course, a Networks course, a Database course.)

2. The most current recommended curricula from the professional organizations in the field (ACM and IEEE Computer Society) includes topics in each of these areas (though much less than a full course's worth) as part of the core of CS study which every CS major should wee.

E. This course is designed to cover most of the CS-core material in these three areas in a single course. (Some OS-related material is covered in CPS311)

1. Some of the core material in these areas is part of other courses.

2. A bit of the material in this course, though not part of the core areas of CS in the recommended curricula, is elective material in the recommendations but something I personally think every CS major needs to study.

3. Elective courses remain in the curriculum to facilitate further study in two of these areas if you are interested in doing so.

    a) Database Systems: A course of that title (CPS352) is offered alternate years.

      b) Computer Networks: A course titled "Internet Programming" (CPS353) is offered alternate years.

F. One interesting issue in developing this course was the challenge of finding a suitable textbook.

    1. It turns out to be common for the same author to write separate books for two of the three courses - e.g. Andrew Tanenbaum has written books on Operating Systems and Networks; Silberschatz has been a joint author on books on Operating Systems and Databases, etc.

    2. To the best of my knowledge, there is no one book that deals with these three areas in a single book. Therefore, we will be using three different books.

        a) Most of the material in the Operating Systems portion of the course will use material from a text that the author has made available freely online. (Show on Blackboard site).

        b) Most of the material in the Networks portion of the course will use material from a book called *Teach Yourself TCP/IP in 24 Hours*. (We will cover much, but not all, of the book.) (Show)

        c) Most of the material in the Database Systems portion of the course, plus most of the material in the Security portion of the course, will come from a custom book. (Explain process for buying ebook)

        HANDOUT

        One advantage of using a custom book is that you don't need to buy chapters we won't be using for the course!

        d) Because one of the books for the course is free and the two others are relatively inexpensive, your books cost for this course will actually be quite a bit less than for most courses!

II. **Go Over Syllabus**