22C:118 Course Syllabus Fall 2005

Introduction to Network Applications

Section 001 Monday/Wednesday/Friday 14:30-15:20 113 MacLean Hall

Section 002 Tuesday/Thursday 10:55-12:10 205 MacLean Hall

Professor: Ted Herman, 201M MacLean, Telephone: 335-2833
E-mail: `herman@cs.uiowa.edu` Office Hours: 15:30-16:20 MWF
Note: if not in my office 201M MLH, try the lab in room B1C MacLean Hall.

Teaching Assistants:

- Don Curtis, office hours Monday/Wednesday/Friday 13:30-14:30.
  email: `dcurtis@cs.uiowa.edu`

- Alessio Signorini, office hours Tuesday/Thursday 14:30-15:30.
  email: `alessio-signorini@uiowa.edu`

Prerequisite: 22C:060 with a grade of C- or higher

Textbooks:

- *Content Networking*, by Markus Hofmann and Leland R. Beaumont.

- *Network Distributed Computing*, by Max K. Goff.

Supplementary Texts:

Part of the coursework will be some programming homework, using various tools and languages to experiment with network protocols and Internet/Web programming. There are many possible tools and languages, such as Apache and its API, MySQL, PHP, and Python. Obviously you can't be expected to learn all of this for one course, so I will expect everyone to learn just a little of Python. You shouldn't have buy a book for this (unless you're interested in doing more with this language). Fortunately, there are some good online references:

- Appropriate for most students who already know Java or `C#` could be the book *Dive into Python* which is available online: http://diveintopython.org.

- A good beginner's book is *Learning Python* by Mark Lutz. This text is available *online* if you access it via the University's catalog.

- Alternatively, you may want to read the online tutorial by Guido van Rossum.

A more complete list of reference books on Python is given on http://www.python.org/doc/, though working though online examples and documentation is often more useful than books if you just want information quickly.

Announcements: Nearly all assignments, projects, examination information, and various help files will be posted to a `22C:118` Course Web site. The URL for the course's Web site is: `http://22C118.cs.uiowa.edu`.

Content and Schedule: The following is an approximate plan for the semester – I may need to adjust it based on the progress of students. Changes to this syllabus will be reflected in the online version, available on the course web site.

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Theme
1	22 Aug	23	24	25	26	Social Networks
2	29	30	31	1 Sep	2	Python Intro
3	(no class)	6	7	8	9	IP Protocols
4	12	13	14	15	16	Web Protocols
5	19	20	21	22	23	Content Caching
6	26	27	28	29	30	Navigating Web
7	3 Oct	4	5	6	7	Peer-to-Peer
8	10	11	12	13	14	Content Services
9	17	18	19	20	21	Technology Trends
10	24	25	26	27	28	Computing Trends
11	31	1 Nov	2	3	4	NDC Theory
12	7	8	9	10	11	NDC Theory
13	14	15	16	17	18	NDC Protocols
14	(no class)	(no class)	(no class)	(no class)	(no class)	Thanksgiving
15	28	29	30	1 Dec	2	NDC Frameworks
16	5	6	7	8	9	?

Quiz Dates

- 8 Sept (Section 002), 9 Sept (Section 001), in class

- 28 Sept (Section 001), 29 Sept (Section 002), in class

- 3 Nov (Section 002), 4 Nov (Section 001), in class

- 16 Nov (Section 001), 17 Nov (Section 002), in class

Examinations – both Sections 001 and 002

- Midterm Examination: Tuesday, October 11 at 5:30pm in Shambaugh Auditorium.

- Final Examination: Friday, December 16 at 2:15 p.m.

Miscellaneous Announcements: The University of Iowa Policies.

- This course is given by the College of Liberal Arts and Sciences (CLAS). This means that class policies on matters such as requirements, grading, and sanctions for academic dishonesty are governed by the College of Liberal Arts and Sciences. Students wishing to add or drop this course after the official deadline must receive the approval of the Dean of the College of Liberal Arts and Sciences. Details of the University policy of cross enrollments may be found at:
  `http://www.uiowa.edu/~provost/deos/crossenroll.doc`.

- See the student academic handbook for administrative procedures, your rights and responsibilities, and other topics. The official classroom procedures for faculty includes policies on cheating and plagiarism, students with disabilities, and other topics. In particular, we are required to state the following: *I need to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please see me after class or during my office hours.*

  Also, we are required to specify the following information. *The name of the department, location of the departmental office, and information on how to contact the DEO or his/her designee.*

  > Department of Computer Science
  > 14 MacLean Hall
  > Professor James Cremer, DEO

- "Statement that, for each semester hour credit in the course, students should expect to spend two hours per week preparing for class sessions (e.g., in a three-credit-hour course, standard out-of-class preparation is six hours)."

- "Procedures for student complaints." *There is rather specific language (legalese) describing the escalating hierarchy of complaint procedures in several University documents. Typically, the student tries to resolve the matter with the instructor; then it can go to the department chairman or higher levels of authority. Please see the official documents for all the details of grievances and appeals.*

- The collegiate policy on plagiarism and cheating *Plagiarism and cheating are not tolerated. In the past, I've gone so far as making multiple versions of quizzes and examinations to discourage cheating (which had the unfortunate side-effect of being "unfair" because not all examinations were identical). Generally, students caught cheating for the first time may be given a penalty up to an automatic F in the course. Such an F cannot be removed from the transcript. Penalties up to expulsion may apply to second offences. While you are encouraged to discuss homework problems with others in the class (this is a good way to learn), do not discuss anyone's solutions prior to turning in your final copy! In some cases, I may assign* group *homeworks, and of course the submitted work will be by the group in those cases, where collaboration is expected.*

- Goals and objectives of the course. *Traditional networking courses explore the insides of networks, explaining various architectures and performance issues. Unlike a traditional course, 22C118 will spend less time explaining how networks are built and more time about how applications use networks. The goal is to learn how to make use of networks, even though you may not understand all the components and how they work.* **Note:** *students will be expected to demonstrate learning of topics by programming exercises (homework). These exercises will use the Python programming language, which is available on the CS Department's machines (and there are MS Window-based versions as well, in case students would like to work on programs at home). Naturally, many of the programming exercises will require working on computers connected to networks, usually meaning the Internet.*

- Schedule of topics, readings, and course materials or other description of course content. *See above, and frequently consult the course web page for assigned readings, pointers to online documents, and other announcements.*

- Grading procedures, including whether plus/minus grading will be used. *Plus/minus grading will be used based on normalizing total student scores to a curve. There are four homeworks, three examinations, and possibly a programming project. Examination scores contribute 40% of the final grade, quiz scores are 15% of the final grade, and homework/project scores contribute 45% of the score. Above, it is noted that students can expect to spend about six hours per week outside of class on this course.*

- Instructor's or departmental policies on attendance and tardiness, assignments, and examinations. *Students are expected to attend classes. No late homeworks are accepted if solutions have been posted to the course web site. There is no guarantee that late homeworks will be accepted; if the Professor or TA agree to accept a late homework, the score will be penalized: homeworks submitted late, but before the TA has graded all the on-time homework, will be penalized by 20%; homeworks submitted after the TA has finished grading all the on-time homeworks, but within a week of the deadline, will be penalized 50%.*

- Dates and times of any exams scheduled outside of class time and the date and time of the final examination. *The final examination date is listed above.* (Taken from the University's Final Examination Schedule.)

- Corrections or changes (if any) in the information about the course printed in the Schedule of Courses or other official University publications. *Corrections, updates and announcements will be posted on the course web page version of this syllabus.*

- Resources for obtaining additional help, such as tutors, teaching assistants, or tutorial laboratories (if any). *Most of the additional resources are online or in libraries. They will be announced on the course web page.*