CS 104: Understanding and Using Computers: The Information Superhighway

Quad 2 1999 $Revision: 1.3 $

1 General Information

Meeting Times:

Monday, Wednesday, Friday: 3:20 – 4:20 p.m., MacDonald 109.
Lab meetings will occur in MacDonald 110.

Instructor:

Dr. Jonathan R. Senning, 210 MacDonald Hall (ext 4376), *senning@gordon.edu*.

Office Hours:

Monday, Wednesday, Friday: 1:30 – 2:30 p.m.
Tuesday: 8:30 – 11:30 a.m. and by appointment.

Text:

Introduction to the Internet for Engineers by Raymond Greenlaw and Ellen Hepp, WCB/McGraw-Hill, 1999.

Computer Ethics: Cautionary Tails and Ethical Dilemmas in Computing Second Edition, by Tom Forester and Perry Morrison, M.I.T. Press, 1994.

Prerequisite:

None.

Online Materials:

Online materials associated with this class can found on the departmental web server at *http://www.cs.gordon.edu/courses/cs104*.

2 Course Description

Introduction:

The convergence of computer and communication technologies has brought into being a "wired world" in which it may be easier and faster to access information stored hundreds or thousands of miles away than it is to ask a person a neighboring office or look it up in a book on one's own bookshelf. With every passing year we become more and more dependent on computers, whether we are aware of it or not.

There are three major questions concerning computer-based systems which every educated person in the twenty-first century should have some understanding of: what computer systems can do; what computer systems can do but shouldn't do; and what computer systems cannot do. That is, every person needs some familiarity with using computer-based systems as a skill, with the social implications of computers and computer networks, and with the ultimate capabilities and limitations of computing. Virtually every profession currently makes extensive use of computer technology, and this is expected to increase further in coming years. Intelligent use of any technology demands that one know both when to rely on the technology and when not to do so. Hopefully, this course will help you to be better able to make such judgments.

The course is intended to approach the technology in two distinct ways. First, through this course you will gain (or demonstrate prior) familiarity with the use of computers and the Internet for communication and accessing information. The segment of the course dealing with these skills is designed to allow for the fact that various individuals may possess differing abilities in the use of computers upon arrival in this course. If you are already very proficient in the use of computers and the Internet you may work very independently to demonstrate those abilities. If you have never used a computer before, fear not because you will receive lots of help in class and through assigned work to become proficient in the use of the computer.

Course Objectives:

While developing computer and Internet skills are goals of this of this course, they are not the main focus of the course. We will devote most of our class meeting time to the discussion of some computer-related issues facing society today. Issues to be discussed will include historical, theoretical, and practical perspectives from computer science. This aspect of the course is not intended to be an addendum to the skill development; rather, this is the main goal of the course.

Upon completion of this course, you should be aware of the many ways in which computers may be used to simplify and improve the quality of life. In addition, you will be more keenly aware of the dangers that the computer, if misused, represents to society. In this way you will have developed a degree of computer literacy which will enable you to make responsible, informed decisions in the future.

Upon completion of this course you should:

1. Be able to use Internet services such as e-mail, newsgroups, ftp, telnet and the World-Wide-Web to access and/or exchange information about your academic work or personal interests.
2. Be able to construct simple web pages including images and links to other pages
3. Be able to discuss intelligently some of the social issues raised by the use of computers and the Internet, and to make informed judgments about these issues.

3 Course Requirements

Attendance:

You are expected to attend every class, and attendance will frequently be recorded. For every recorded absence after the second your final grade will be reduced by 3%. Exceptions to this policy will be made only in extreme cases, due to circumstances beyond your control and which were unforeseen at the beginning of the term. The four excused absences should be reserved for classes you will need to miss because of field trips, athletic events, or for personal reasons. If you arrive in class after the attendance is taken, you may be marked absent for that class.

Assigned Reading:

You are responsible for completing the reading assignments **before** the start of the class for which they are assigned. This will be particularly important during the second half of the course when most of the class meeting time will be discussion oriented.

Quizzes:

There will be weekly quizzes over the reading and material discussed in the class during the previous week. These quizzes will be given at the start of the meeting time and you will have approximately 10-15 minutes to complete them. The lowest quiz grade will be dropped. You will only be allowed to make up a quiz if you have a legitimate excuse for missing or being late to the class.

Term Project:

As a term project you will develop a web page that is relevant to your major or some other area of interest. **Important note:** If you chose an area of interest other than your major you must obtain the professor's approval in advance. Each student will give a short (approximately 5 minute) presentation to the rest of the class near the end of the course.

Accommodations for Students with Special Needs:

Students with disabilities who may need academic accommodations should speak with the professor within the first two weeks of class. Students are also responsible for making sure documentation of the disability is on file in the Academic Support Center. See Ann Seavey, Jenks 412 x4746. Failure to register in time with the professor and the ASC may compromise our ability to provide the accommodation.

4 Grading Procedure:

Your final average A will be computed using the following formula:

$$A = (2Q + 2T + P)/5$$

where A is your final average, Q is the quiz average (the lowest quiz grade will be dropped), T is the term project score and P is the score you receive for the presentation of your term project and overall class participation.

The following table shows the correspondence between the final average A and the letter grades that will be assigned.

100 -- 96: A+	87 -- 84: B+	75 -- 72: C+	63 -- 60: D+
95 -- 92: A	83 -- 80: B	71 -- 68: C	59 -- 56: D
91 -- 88: A-	79 -- 76: B-	67 -- 64: C-	55 -- 52: D-

It is possible that the points needed for a given grade might be lower. When assigning individual grades in border-line cases I will take into account your attitude and participation in class.

5 Tentative Schedule:

Date	*	Topic	Reading**	Quiz
Mon 10/18	Lec	Introduction - Course Goals/Methods		
Wed 10/20	Lec	Historical Development of the Computer	IFE 1	
Fri 10/22	Lec	The Internet and E-mail	IFE 3	Quiz
Mon 10/25	Lab	E-mail, Telnet, FTP, News	IFE 6, 2.1-2.3	
Wed 10/27	Lec	Knowledge Representation, Binary Encoding	CE 1	
Fri 10/29	Lec	The World-Wide-Web	IFE 4.1-4.3	Quiz
Mon 11/01	Lab	Web Browsers and Searching the Internet	IFE 5	
Wed 11/03	Dis	Computer Crime	CE 2	
Fri 11/05	Lec	HTML and Web page design	IFE 2.4-2.7	Quiz
Mon 11/08	Lab	Web page construction I	IFE 7	
Wed 11/10	Dis	Hacking and Viruses	CE 4	
Fri 11/12	Dis	What Computers can and cannot do	CE 5	Quiz
Mon 11/15	Lab	Web page construction II	IFE 4.4-4.6	
Wed 11/17	Dis	Invasion of Privacy	CE 6	
Fri 11/19	Dis	Intellectual Property	CE 3	Quiz
Mon 11/22	Dis	Artificial Intelligence and Expert Systems	CE 7	
Mon 11/29	Dis	Computerizing the Workplace	CE 8	
Wed 12/01	Dis	Virtual Reality and Cyberspace		
Fri 12/03	Pre	Term Project Presentations		Quiz
Mon 12/06	Pre	Term Project Presentations		
Wed 12/08	Pre	Donald Knuth Lecture at M.I.T.		
Thu 12/16	Pre	Term Project Presentations	Term Projects Due	

*: Key to class meeting code

`Lec`: Lecture,
`Lab`: Laboratory,
`Dis`: Discussion,
`Pre`: Presentation

**: Key to Reading Assignments

`IFE`: *Introduction to the Internet for Engineers*, Greenlaw and Hepp, WCB/McGraw Hill, 1999.

`CE`: *Computer Ethics: Cautionary Tales and Ethical Dilemmas in Computing* Forester and Morrison, M.I.T. Press, 1994.