

CMSC 102 - Introduction to Information Technology - Fall 2009

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Class Web Page: <http://www.cs.umd.edu/class/fall2009/cmcs102/>

Course Description

A historical and practical introduction to computer and network terminology, applications, and concepts. Students will have hands-on experience with a variety of tools available to find and access information on the Internet, to exchange information between computers, and to perform basic web design. Students will explore applications (such as browsers and spreadsheets) as well as different computing environments (such as Windows and UNIX). There will be discussions of social, legal, and ethical issues related to technology.

Some Student Goals

To understand history behind the technology we use today, and from this to envision and prepare for new technologies as they unfold. To study and use relevant terminology and underlying concepts of today's technology. To explore both graphical and command-line operating systems. To use tools and information available on the Internet to gather ideas and facts, and then to organize and present these ideas in a professional manner. To consider and appreciate societal impact and implications of technology.

Required

- Your own University "clicker" (<http://clickers.umd.edu/students/index.html>) that you register at the University site. Either the RF or XR keypad model will work for this class. We will use these in class so you need to bring them with you each day. They can be purchased at the University Book Center or online from <http://store.turningtechnologies.com> with code **gGRS**.
- USB "key chain" drive or other device for backup copies of your project and writing assignment files.

Suggested (details in class)

- Nothin' But Net: 5th Edition by Evan Golub & Jandelyn Plane
[ISBN: 0-470-08927-X]

Grading

Semester Exams - 2	
Exam 1	(14%)
Exam 2	(14%)
Projects - 6	
Windows, Mac, Internet Applications	(3%)
UNIX, Pico, talk/IM, E-mail	(5%)
Encryption and File Transfer	(4%)
Searching and Research	(5%)
Web Page Creation	(6%)
Spreadsheets	(4%)
Clickers	(7%)
In-class Worksheets and Individual Paper	(8%)
Final Exam	(30%)

Assignments due in class will be due at the beginning of your section's class time on the date specified in the project descriptions. Assignments due electronically will have their due times listed in the project description. For each project there will be a one week late period. Assignments turned in during this one-week late period will be assessed a 50% late penalty regardless of when during the late period it is submitted. With a **valid medical excuse** for the due date, a project can be submitted at the next class you attend after your medical problem and will not be penalized for lateness. If you have a medical problem for **one week or more** that causes you to need an excused extension for a project, the medical excuse will need to cover that extended period of time and a **letter** from your physician with his/her phone number and the exact dates for which you were incapacitated **WILL** be required at a **minimum**. Even with a valid excuse, you will still be expected to hand in your assignment, but will be given appropriate time. Assignments may **not** be handed in at the undergraduate office, in my mailbox, or place other than in class or my office hours. Assignments are to be done INDIVIDUALLY. Working in ANY way with other students will be considered cheating. Cheating is (of course) PROHIBITED. A student found to be cheating on a project, paper or exam will receive a zero for that project and will be reported to the honor council for an academic review.

The semester exams will be given during the normal class period. The exam will be given at the beginning of the period. The second part of the period will be a class session. University IDs must be available for inspection on exam day. You should bring a blue or black pen with you to your seat on an exam. If you are sick on the day of an exam, you need to contact the instructor within 24 hours to alert him to this fact - you can use the e-mail address and/or phone number listed on the syllabus to make contact. A student with acceptable medical documentation will be able to take a make-up exam during the next class period. This documentation must be provided at that class session following the exam. In the case of extended absence due to medical reasons, documentation must be provided by the class session immediately following the end of the excused period, and will be handled individually. If a student expects to miss an exam for a university function that they are REQUIRED to attend, an explanation from a faculty member will be required IN ADVANCE. As with projects, cheating on exams is PROHIBITED. This includes looking at another student's exam, showing another student your exam, using any notes or electronic devices during the exam. Students caught cheating in any way will receive a zero on the exam and will be reported to the honor council for an academic review.

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.studenthonorcouncil.umd.edu/whatis.html>.

Any student eligible for and requesting reasonable academic accommodations due to a disability is requested to provide, to the instructor in office hours, a letter of accommodation from the Office of Disability Support Services (DSS) within the first two weeks of the semester.

Projects, Writing Assignments, Clickers, and In-Class Discussions

There will be six projects during the semester. Some of the projects might have multiple parts, some of which might have a separate due date. Some projects will have a writing component. On average, you can expect to have a project due every other week. Some projects (or parts) might be submitted in paper form, but most will be submitted electronically. There will be regular "clicker" polls in class. There will be approximately five in-class discussions that will be graded for participation and quality. There will be an individual written paper assigned.

Exams

The planned semester exam dates are October 6th and November 12th. The final exam will be on Monday, December 14th at 4:00pm - location TBA in class and on class website.

Topics will include (not necessarily in strict order)

- Hardware/Software/Operating Systems/Networks: Introduction and Terminology. Discussion of the distinct layers of technology within today's personal computer, definition and explanation of how digital technologies store and manipulate data, discussion of key terms in their proper contexts.
- Introduction to the Internet and the World Wide Web. History of the Internet starting from its origins as the ARPANET, moving into the early 1990s when a major transition away from mostly governmental and academic use took place. Discussion of the history and challenges of multiple browsers, the need for common document formats. Discussion of online community.
- Discussion of the way in which Internet addresses and protocols work, details relating these issues to home networks, and some of the security issues posed by today's home user and web designer's needs.
- Messaging systems. Different messaging systems (mostly text-based systems) will be discussed and presented within the context of the development of messaging over the past three decades (eg: talk -vs- ICQ -vs- AIM). Using messaging systems in order to exchange files and communicate via voice and video. Some of the security risks of unencrypted messaging and how they related to the Internet's basic architecture.
- How to connect to remote resources other than via a web browser (such as through telnet and secure shell). The web browser is just one of many clients available, and it is not a good idea to restrict yourself to it as your only interface to Internet resources.
- The UNIX Operating System. Learn about the UNIX family of operating systems in order to know how to log into a remote UNIX workstation, navigate its file system, and create documents. Machines running *NIX operating systems will be used to explore e-mail, text messaging, as well as web design.
- E-mail. The history of e-mail dating back to the early 1970s moving through the current state of the technology. Discussion of how the underlying protocols have changed little in three decades, and the implication of this on our current use of e-mail. Practical experience with different generations of e-mail clients.
- Exploration of different ways to transfer files across the Internet, and related security and legal issues. Discussion of peer-based technologies in general, and peer-based file sharing system in particular. Demonstrations of software using different file transfer architectures.
- Exploration of on-line book-centric resources. This will include library resources, but also include discussions of how to make use of online bookstores and search collections.
- Searching for information on the World Wide Web. An exploration of different web-based search tools, as well as issues in credibility and reliability of sources on the Internet.
- Web page authoring "from scratch" using a text editor to build web pages. Creating and connecting web pages using technologies including HTML, SSI, style sheets, and Java applets.
- Spreadsheets. The historic significance of the spreadsheet as well as their use to process and present data. Some basic concepts in statistical functions and chart generation, as well as their potential misuse. Comparison of some different spreadsheet applications (such as Office's Excel, UNIX's sc, Open Office's Calc). Importing data from other document types into spreadsheets.
- Social and Legal Issues Relating to the Internet and Information Technology, tying topics across the entire semester to current events, with a focus on privacy, security, and ethics.