Boston University
College of Liberal Arts

Computer Science Department
111 Cummington Street, MCS 138
Boston, Massachusetts 02215
Tel: (617) 353-8919 / Fax: (617) 353-6457

CLA CS-101 (B1)
Introduction to Computers
Fall 1995

Overview: CS101 is a general introduction to computers and their applications that assumes no previous knowledge of the subject. CS101 introduces computers and their uses in the arts and sciences – what they are, how they work, how they can be programmed, what they can and cannot do. My philosophy in teaching this section of CS101 is to emphasize the basic concepts underlying computers and computation, and not just the know-how. This course is for people who read about such topics as VLSI or WWW and want to understand them, for people who need to have data processed on the job, and for people who see the computerization of our society and ask about the meaning of it all.

Meeting Time & Place: Tue & Thu (3:30pm – 5:00pm) in STONE B50

Web Home Page: http://www.cs.bu.edu/faculty/best/crs/cs101/Home.html

Instructor: Prof. Azer Bestavros

- **Office:** MCS 276
- **Email:** bestavros@cs.bu.edu
- **Web:** http://www.cs.bu.edu/faculty/best/Home.html
- **Phone:** 353-9726
- **Office Hours:** Tue 2:00pm–3:30pm & Thu 2:00pm–3:30pm, or by appointment

Teaching Fellow: Robert Pitts

- **Office:** MCS 286
- **Email:** rip@cs.bu.edu
- **Web:** http://www.cs.bu.edu/students/grads/rip/Home.html
- **Phone:** 353-6412
- **Office Hours:** Mon 11:00am-1:00pm & Wed 12:00pm-1:00pm
  Fri 11:00am-12:00pm (Friday hours are held in the MCS B24 lab)

Textbooks and References:

- ◇ **[CU]** *Computing Unbound: Using Computers in the Arts and Sciences* by David A. Patterson, Denise S. Kiser, and D. Neel Smith, W. W. Norton & Company. This book **is** available at the BU bookstore and will be used **throughout** the semester.
- ◇ **[AM]** *Approaching the Macintosh: A guide to learning Macintosh software* by Tao, Berner, Elliott, Chu, Fernandez, Finkelstein, and Frost, Second Edition, Addison-Wesley. This book **is** available at the BU bookstore and will be used in the **second half** of the Semester.
- ◇ **[WR]** *Web Resources* for this class will be available on-line through the course Home Page. This includes lecture notes by Prof. Bestavros for material not appropriately covered in the textbooks. You are responsible for anything posted on the Course Home Page under "Lecture notes" and "Section notes".

You are advised to buy your textbooks now since the bookstore runs out of copies few weeks into the semester.

Other Materials:

- ◇ Owning a personal computer (for example a Macintosh or an IBM) is **not required** for this class. However, if you do own one then parts of the Lab Work required for this class can be done on your machine. You are encouraged to do so.
- ◇ In the second half of the course, you will need **three to four $3\frac{1}{2}$ inch Double-sided, High-density, floppy disks** for your Macintosh Lab assignments. You can buy these at any computer store, the nearest ones from BU being the BU bookstore (3^{rd} floor) and Radio Shack.
- ◇ In the second half of the course, you will be working with applications such as MacPaint, Microsoft Word, Microsoft Excell, FileMaker Pro, and Hypercard. These applications **will be available at the Mac Lab of the CS department** for your use. If you own a Mac and would like to solve the homework assignments on it, you should acquire copies of these applications. If you own a PC with similar software packages, then you are encouraged to use that to solve the homework assignments. However, please notice that we (the course staff) cannot promise any support for setting up your personal computer hardware or software. Please keep this in mind if you choose to use your personal computer to solve the problem sets.

Lectures:

- ◇ You are responsible for *all* the materials covered in the lectures including any topics **not** in the textbooks.
- ◇ Class participation and questions are very welcome during the lectures. There is no such thing as a "stupid question". Failure to ask a simple question might result in the inability to follow the rest of the lecture.
- ◇ Up to 10 minutes at the beginning of every class will be devoted for answering questions related to topics discussed in previous lectures.

Sections:

- ◇ Discussion sections are smaller classes conducted by the teaching fellow.
- ◇ You must register for one of the discussion sections (B2, B3, B4, B5) offered in conjunction with this course.
- ◇ The following is the time and place for CS101-B1 section meetings:

Section	Time				Place
B2	Mon	10:00am	-	11:00am	SAR 218
B3	Wed	1:00pm	-	2:00pm	MEB B01
B4	Thu	12:30pm	-	1:30pm	MCS 148
B5	Fri	12:00N	-	1:00pm	MCS 148

- ◇ In addition to answering your questions concerning topics covered in the lectures and/or addressed in the homework assignments, some new technical material will be covered **only in the sections** (and not in the lectures).
- ◇ You are responsible for *all* the topics covered in the discussion sections. For more information, contact the teaching fellow.

Homework Assignments:

- ◇ There will be approximately 9-10 homework assignments handed out throughout the semester. These assignments will be designed to help you understand the materials covered in lectures, in sections, and in assigned readings. Most of the problems in the homework assignments will be hands-on exercises on the computer. The homeworks will be worth 40% of the final grade.
- ◇ Homework assignments will be handed out at the end of class meetings and are expected to be handed in at the *beginning* of the due date's class meeting. There will be a hefty penalty of 50% for a homework handed in one class late. No homework will be accepted if late for more than one class. There will be **no** exceptions to the above policy, other than for religious holidays and certified medical excuses.
- ◇ Homework assignments will be graded and returned to you. Grades will not be changed, except in the case of a calculation or grading error.

Exams:

- ◇ There will be **a midterm exam** on Thursday, October 26^{th}, from 3:30pm to 5:00pm. This exam will be worth 20% of the final grade, and will cover the material presented from the beginning of the semester and until October 19, 1995.
- ◇ There will be a **final exam** on Tuesday, December 19^{th} from 12:30pm to 2:30pm. This exam will be worth 40% of the final grade, and will cover the material offered *throughout* the semester.
- ◇ Please mark the exam dates on your calendar. There will be *absolutely* **no** make-up exams, except for documented medical emergencies.

Course Grade:

- ◇ The course grade will be broken down as follows:
  - **40%** Homework assignments
  - **20%** Midterm exam
  - **40%** Course final exam
- ◇ There will be **no incompletes** in this course.

Policy on Collaboration:

- ◇ There is nothing wrong in principle about discussing the topics covered in the course with your friends and colleagues. However, there are severe consequences to copying their solutions. Very soon you will find out that it is easy to copy solutions electronically from other people. This is nothing less than **plagiarism** and will be punished accordingly. Computers are double-edged swords. They make copying extremely easy, but they also make detecting such incidents possible! If you are caught cheating in a test or a homework, you will **automatically receive an F**.

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Syllabus

Class	Topic	Readings
9/05	First Class meeting	
9/07	Computers unveiled: Hardware, software, and operating systems	CU:2
9/12	History of computers: New technology = New generation	CU:13
9/14	Operating Systems: An Introduction to UNIX	
9/19	UNIX file system: Bits, bytes, files, and directories	CU:3
9/21	Unix commands and applications: X windows, Emacs, and more	
9/26	Internet applications: Email, World-Wide Web, and more	
9/28	Programming: Putting your expertise into an algorithm	CU:8
10/03	Programming: From an algorithm to a PASCAL program	CU:8,9
10/05	Programming: Variables and simple arithmetic	CU:9
10/12	Programming: The Edit-Compile-Debug-Run cycle	
10/17	Programming: Conditional execution and looping	CU:10
10/19	Programming: Case studies	CU:10
10/24	UNIX and Programming: Conclusion and review	
10/26	Midterm Exam (in class from 3:30pm to 5:00pm)	
10/31	Personal Computing & Macintoshes: Artwork and Word Processing	AM:1, 2, 3
11/02	Anatomy of computers: Computer arithmetic using 0's and 1's	
11/07	Spreadsheet programming using Microsoft Excel	AM:4,5 & CU:5
11/09	Anatomy of computers: From Transistors to gates	CU:15
11/14	Anatomy of computers: From gates to adders	CU:15
11/16	Anatomy of computers: The power of networking	
11/21	DataBase applications using FileMaker Pro	AM:6 & CU:4
11/28	Computer Science: From concurrency control to artificial intelligence	
11/30	Computer Science: From complexity to zero-knowledge proofs	
12/05	Computers and the future	CU:16,17,18
12/07	Slack	
12/12	Course conclusion and review	
12/19	Final exam (from 12:30pm to 2:30pm)	

* *Changes to this schedule will be announced if need be.*