CS 101
Introduction to Computing

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Office Hours: TBA (will be posted on the course website)

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Course Code: CS 101 Introduction to Computing
(Units): (4 units)

Goals: This course fulfills the university core requirement in computing. Therefore, we expect most freshmen to register for this course, including students who do not intend to major in Computer Science. As such, there are multiple objectives of this course, which primarily include the following:

- To give everyone a flavor of the kinds of things studied in Computer Science
- To give every student a set of productivity tools that they will be able to use for the rest of their lives
- To encourage students to enroll in Computer Science/Engineering majors
- To provide CS students with a useful start

Core/Elective: This course fulfills the university core requirement in computing. However, CS111 or CS192 may also be taken to fulfill the same requirement. Students who have taken Computing in A-Levels will not get credit for this course.

Pre-requisites: None

Course Description: This course was redesigned recently to better cater to the needs of different majors and to make it more interesting and intuitive. Regardless of their intended major, all students at LUMS will have to use computers extensively during their studies here, and most likely, will continue to use them even after they graduate. The course aims to convert students into sophisticated power-users, who can comfortably use their computers. However, we aim to do so
without burdening students with useless details that have little utility from a user’s perspective. The course will provide a general overview of the computer science disciplines, as well as an introduction to basic programming. A new key component of the course is a special lecture series on some of the interesting areas of research and innovation in computing sciences.

By the end of this course, we aim to impart the following skill-set to the students:

- A thorough understanding of a user-level view of computers, and their role in the society.
- The ability to use computers to enhance productivity, regardless of the type of discipline in which they are being used, including effective use of MS Word and Excel.
- An overall understanding of the area of computer science, including interesting research areas like computer graphics, networks and artificial intelligence.
- An introduction to programming, using Visual Basic, and the ability to write short programs, for example for financial computations or computer graphics.
- The ability to create simple websites, and to understand basics of image manipulation which is frequently needed to develop web pages.
- The ability to install downloaded or purchased software, and understand issues like privacy and computer viruses.
- An introduction to the Internet/intranet, including a users’ view idea of things like client/server, WWW, firewall.
- An understanding of enough basic specs and components of computers to make reasonable purchase decisions, along with working knowledge of hardware components, for example an understanding of how to add a video or a sound card to a computer.
Text Books and Programming Environment

The text used in support of the lecture contents is *Introduction to Computers* by Peter Norton, 6th Edition, McGraw-Hill SiE, ISBN 0-07-059374-4. In addition, handouts will be given to help with the programming aspects of the course.

Programming environment used for the course is Visual Basic 6.0, chosen primarily because it allows users to create sophisticated computer programs with a minimum of programming effort.

Lectures/Labs

This is a 4-unit course. 3 units are for lectures (150 contact minutes + 9-12 hours of work on your own). One unit is for labs (150 contact minutes). We have divided the lab time into a 100 minute lab session and a 50 minute lecture.

Each week, there will be two regular lectures of 75 minutes each, one ‘topical’ lecture of 50 minutes and a 100 minute lab session. There will be one midterm exam, taken during a regular lecture.

Regular lectures will be of two types: theory lectures and lab lectures. In theory lectures, we will cover the Shepard textbook and will provide students with an overview of computer science. In lab lectures, we will discuss programming, software applications and other computer skills. The lab lecture will support the labs, because material covered in it will be essential to complete the lab assignments.

Before each lab, a pre-lab handout will be distributed. This will consist of assignments that students should attempt on their own. While pre-labs will not be graded, completing the pre-lab will help you complete the lab within time and get full credit for it.

The popular lecture series is designed to generate excitement about the computer science discipline by presenting some of the research areas in computer science. This series will give you an overview of the type of things that a senior-year computer science student works on. Material covered in this series will not be tested on in the midterm and the final. However, pop-quizzes will be taken during the lectures.

- Regular Lectures: 19 sessions of 75 minutes each
- Topical Lectures: 10 sessions of 50 minutes each
- Labs: 10 sessions of 100 minutes each
- Midterm: 1 session of 75 minutes
- Final: Held outside class time
Grading

Quizzes:
- In regular lectures: 15%
- In topical lectures: 5%

Labs: 15%
Lab Exam: 5%
Midterm: 25%
Final: 35%

Policies and Information

Course Website: http://suraj.lums.edu.pk/~cs101a07 will serve as the primary source for information on lecture content, copies of slides, announcements and policies. Please check it frequently and at least once every week. The website will also contain a web-forum for discussion on topics related to the course, in which students, TAs and instructors can participate.

Office Hours: Each instructor and TA will announce their office hours on the website. You should make good use of this resource, especially if you feel that you are not doing well in the course. The schedule will be posted on the website.

Late Submissions / Missed Quizzes / Missed Exams: Requests for these will not be entertained. If there is a dire emergency, please contact one of the instructors, either by visiting their office or through email. Petition forms are available from PCO.

Coming Late to Lectures and Labs: The instructors reserve the right to not allow late comers to attend the lecture.

Plagiarism: Unfortunately, some students have resorted to cheating and plagiarism in the past. We want to make it clear to you that we have a zero-tolerance policy for such cases. You have made it to LUMS after passing through significant competition. Do not squander a promising opportunity that may have significant impact on your future. After all, it will be too bad to be expelled from LUMS or to end up with an F in your first quarter.

To be clear on what constitutes plagiarism, please consult your student handbook. Some typical cases that we have encountered in the past include submitting identical homework, copying a paragraph from the internet for your assignment without referencing the source, and taking someone else’s code, changing variable names in it, and then submitting it under your own name.

The instructors also reserve the right to use automated tools to check for plagiarism.