Introduction to the Student Computing Facilities in CS

by Dr. Graham Roberts

It may take me some time to remember your name – please keep reminding me!
What you need to find out about this week

• The Department
• Computer Labs
• Departmental & main UCL Websites
• Using email
• Core Unix commands
• Editing files
• Printing
Reminder

• I am the Departmental Tutor and Director of Studies
  – Room 1.03 66-72 Gower Street building
  – Email G.Roberts@cs.ucl.ac.uk
• See me if you have problems.
  – Must inform me if studies are affected by illness or other problems.
  – Email for appointment.
• See Undergraduate Administrator in MPEB 5.22 if I am not available.
• Go to the MPEB Reception Desk if you need to see me or another member of staff in person.
Engduino

• For COMP101P and learning to program
• It’s on loan, return later in the term
• Goto www.engduino.org
• Try it out, experiment, write some code
  – Show and Tell at first COMP101P lecture
Malet Place Engineering Building (MPEB)

- Floors 0, 1, 4-6.
- Reception desk on 5th floor.
- Bridges to Engineering building next door.
- Lifts & stairs in both buildings.
- Undergraduate and MScCS administrators in room 5.22.
66-72 Gower Street

• Many academic staff located here:
  – Make appointments via email

Further staff in Engineering Front Building
One Euston Square
Hampstead Road
The Faculty

- CS is part of the UCL Engineering Faculty
- Dean of Faculty – Prof. Anthony Finkelstein
- Faculty Tutor – Dr. Simon Banks
- Faculty Office 2nd floor
- Faculty IEP team
We are friendly!

• No Sir/Miss – we are *not* a school.
  – If in doubt refer to academic staff as Dr. or Prof.

• But we are *busy* people.
  – Please attend all meetings & tutorials on time.
  – Use *email* to ask questions and arrange meetings.
  – Arrive promptly at lectures.

• Academic staff are not available all day, every day.
The way we are...

- World leading department.
- Research-led teaching.
- Teaching and communication are a fundamental part of research.
- Leaders not followers.
- Recognise that academic staff are also researchers, not just teachers.
- The research ability of staff determines the success of the department, which in turn determines the value of your degree.
Staff-Student Consultative Committee

• Meets every term.
• Gives you a voice in the running of department.
• Do you want to be a representative - a StAR?
Timetables...

• www.ucl.ac.uk/timetable

• Slots marked with:
  – Lecture
    • Go to all the lectures for your modules, especially the first lecture!
  – Problem Based Learning and Labs
    • You will be allocated to problem and lab classes.
    • There are multiple groups LABA, LABB, etc.
    • Will be given more details at first lectures.

• Make sure you check your timetable regularly.
  – Subscribe.
  – Updates will usually be notified by email.
Getting ready for COMP101P

- COMP 101P is the Term 1 programming module
- First half taught by ME!!

The first lecture is at
11-1 Monday 5th Oct
Birkbeck B36 LT
Questions?
UCL Security are here for your Safety and Protection

But we need your help.

- **Visit Our Website** for our Advice on staying safe in and around the UCL Campus.
- **Follow us on Twitter** for up-to-date advice and information on live emergencies on campus.
- Put our **24/7 Emergency Phone Number** in your mobile phone NOW – **0207 679 2222**.
- **Use your ID/Access Cards sensibly** and never let anyone follow you through a secure door.
• The 3 most reported stolen items at UCL are:
  – Phones
  – Laptops
  – Bicycles
How To Avoid Becoming A Victim

- **Phones** – Do not leave on display when not in use
- **Laptops** – Do not leave unattended in libraries or cafes
- **Bicycles** – Use 2 different locks (e.g. ‘D’ Lock & Cable Lock) and park in an official CCTV covered UCL Bike Rack
Snatch Crimes In London

Phone/Bag snatch crimes is a growing trend in London and has occurred many times in the streets around UCL.

Be aware of your surroundings and keep your valuables out of sight
Contact Us/Further Information

Call Us – 24/7/365
• Security Operations: 020 7679 2108
• Emergency Number: 020 7679 2222 or (222 from any internal UCL phone)

Follow Us
• Twitter - @UCLSecurity

Visit Us
• Website – www.ucl.ac.uk/estates/security/ or simply ‘Google’ UCL Crime Prevention.

We are based on the Ground Floor of Foster Court in Malet Place – (Entrance Opposite the Petrie Museum)

Welcome To UCL
Questions?
Computers — Basic Rules

• Don’t need to switch a computer on or off.
• Do not unplug any wires or cables!
• If there is a fault please report it.
Networking

CS Dept. -> UCL High Speed Network
CS Dept. -> Janet (UK)
CS Dept. -> Internet (world)
The Computer Labs - all in MPEB

• Labs:
  – 1st Floor: 1.05 (3D lab), 1.21 (Financial Computing lab)
  – 4th Floor: 4.06 (Apps lab)
  – Vlab - virtual computing service
  – Physical labs are available all day except when booked for classes.

• Connecting your own computer:
  – Use the UCL eduroam WiFi service.
    • See http://www.ucl.ac.uk/isd/services/get-connected/wireless/ for connection details to UCL networks.
  – Goto CS helpdesk to register for CS WiFi network.
What’s in the labs

• Each lab has a theme:
  – 1.05 3D Lab 1.05 (PCs, 3D monitors)
  – 1.21 FC Lab 1.21 (PCs, virtual trading floor)
  – 4.06 Apps Lab (dual boot Macs, touchscreens)

• Plus support for app development on mobile devices (iOS, Android, Windows).
  – Pool of devices available, including iPads and phones.

• Latest versions of software such as Xcode, Visual Studio.
  – Full access to MS DreamSpark.
Lab Practice Sessions

• See Induction week timetable.
  – Please go to assigned session.
• Familiarise yourself with using the computers, web, email, Unix, etc.
• Go through the Practice Worksheet.
Combination Locks

• 4 digit combination code.

• 2015
  – Keep secret!

• Click the buttons in correct sequence and then turn the handle.

• Go to Helpdesk if you forget the combination.
Opening times

• Normal working hours are 8am - 7pm.
• Occasionally there may be an extension to 9pm.
  – Will be advertised by email.
• Please leave the building quickly at closing time.
Safety and Security

• Internal Emergency phone number: 222
  – National emergency number: 999

• If the fire alarm rings, leave the building and go to the assembly point (South Junction for MPEB).

• Follow the green signs to the nearest emergency exit.

• Please don’t try to enter secure doors.
The Help Desk

• For help with CS hardware and software problems.

• Phone 37280 (internal)
• or goto room MPEB 4.22
• or email (more later).
Lab Etiquette

• We have rules but prefer friendly co-operation!
• Resources & space are finite.
• Labs are quiet working areas.
• Use computers sensibly.
• Keep labs tidy.
• No food or drink in labs.
• Don’t destroy the furniture!
Questions?
User Accounts

• Each user has:
  – a login name (public).
  – a password (keep secret!).

• Never use another person’s account.
Logging In and Out

• You must *login* to start using a computer.
  – Enter username and password

• When you have finished using a computer you must *logout*.
  – Usually via a pop-up menu item.
  – Don’t Forget!
  – Don’t switch it off!
CS v. ISD Computer Accounts

• This talk is mostly about your using CS computer account.

• You also get an Information Services Division (ISD) computer account.
  – ISD runs the UCL computing service.
  – www.ucl.ac.uk/isd

• Different username and password.

• You need your ISD account to access Email, Portico and Moodle, and use the ISD computers.
An important source of information.
Familiarise yourself with the content.
Use bookmarks!

www.cs.ucl.ac.uk
Student teaching and support pages

www.cs.ucl.ac.uk/teaching_learning/
Welcome to UCL Computer Science

First of all, many congratulations! You have overcome considerable competition to be selected for UCL Computer Science. This means that you are talented individuals with good A level results or their equivalent, who we believe have the potential to succeed at a challenging and worthwhile programme of study.

You are about to start an exciting and exciting journey – one in which self-motivation and self discovery are as important as raw talent. We believe that learning is an active process – one in which you must take the lead; this alone makes the culture quite distinct to that you have experienced at school. You are free to make your own choices; those who freely choose to work, to research, to learn will be rewarded – and these are the people we want to see as UCL graduates.

Our expectations are simple. We expect you to put commitment and passion into this course and into your options; it will be sufficiently difficult that being passive recipients of knowledge that you then learn and reproduce is no longer enough. We will NOT hand everything to you on a plate; we will provide you opportunities to learn for yourselves, to discuss problems, and to work hard, and we will support you in this process. Those that follow this path will have proved themselves as talented people who can carry that talent through into real achievement.

Those of you on the BSc and MEng Computer Science programmes will be embarking on the Engineering Faculty Integrated Engineering Programme, better known as the EIP. As well as studying to be a computer scientist you will also be learning to think and work as an Engineer. An Engineer has to know how to take mathematical, scientific, and in your case computer science knowledge, and apply them to solving practical problems by designing and building working solutions for real people. In addition, you need to learn how to work with engineers from other engineering subject areas in interdisciplinary teams. From day one of teaching you will be working with students from all departments within the Faculty towards this goal.

The MEng Mathematical Computation, in contrast, is focused on a deeper exploration into the worlds of mathematics and theoretical computer science. You will learn how to model and analyse systems from a mathematical perspective, and gain insight into how the theoretical underpinnings of computer science lead to the development of complex algorithms, machine learning, and the ability to systematically model and understand complex systems.

If, at any point, you are experiencing difficulties, then we want to know about them, preferably before they become real problems. UCL, and the department, has support available for both academic and personal problems.

If you are unsure who to contact, please ask the Undergraduate Administrator, or the Departmental Tutor, Dr Graham Roberts.

To raise an issue to be discussed at the Staff Student Consultative Committee, please contact your programme representative.

Useful Information

- How to Survive the Department of Computer Science
- EIP CS Handbook 2015
- Integrated Engineering Programme (IEP)
- Timetable of Undergraduate Induction Activities
- Slides from Welcome Talk (to be added once term starts)
- Introduction to the Student Computing Facilities in the Department
- Slides from Introduction to Computing Facilities lecture (to be added once term starts)
- Video of Computing Facilities Lecture (to be added once term starts)
- UCLA A-Z Guide for Students
Lots of useful information about CS computers and software.

tsg.cs.ucl.ac.uk
Lots of support information. Everything you need to know about UCL.

www.ucl.ac.uk
Student support. Detailed information from the Registry about degrees, regulations and much else.

www.ucl.ac.uk/current-students/
Portico

- UCL Student Information System
  - Stores your records, course information, results.
  - Login using your ISD account (not CS).
  - Must be familiar with using Portico.
  - Keep your contact information up to date.

www.ucl.ac.uk/portico
Moodle

Virtual Learning Environment. Used to support all modules.
moodle.ucl.ac.uk
Using the Web

• Find out where the important information is.
• Use bookmarks.
• Learn to Search (local and global) efficiently.
• Remember: we provide web access for academic purposes. Don’t access offensive or illegal material.
Electronic Mail (Email)

• You must know how to use live@UCL email.
• You should check your email multiple times a day.
• Important messages will always be sent by email.

NOTE – any email you send always has your name attached to it.
Accessing Email & Calendar: live@ucl...

• You have live@UCL account.
  – Attend an ISD intro session to find out more.
• Or via IMAP, Outlook or Exchange clients.
  – And on mobile devices including the iOS & Android.

www.ucl.ac.uk/isd/services/email-calendar
live@UCL Email Addresses

• Have the form:
  firstname.familyname.year@ucl.ac.uk

• For example:
  – Arthur.Dent.14@ucl.ac.uk

• Use your UCL address when emailing staff.
CS Staff Email Addresses

• All staff have CS email addresses.
  
  For example:
  G.Roberts@cs.ucl.ac.uk

• But also use standard UCL addresses.
  
  For example:
  graham.roberts@ucl.ac.uk
Getting Familiar with live@UCL

• Supports full range of facilities — experiment and try everything out.
• Email yourself or friends to practice sending/receiving messages.
• Note - please use plain text emails when emailing staff (not HTML formatted).
• You will get SPAM.
  – Go to ISD Help Desk if it becomes a problem.
    • Help Desk is in Science library.
  – All email is automatically scanned and dangerous elements removed.
  – Staff never read anything that looks like spam.
live Calendar and Office365

• Integrated with various UCL services
• And your timetable
• Free use of Office365
Message Headers

- To: - who the message was sent to.
- cc: - who else the message was sent to.
- Subject: - what the message is about.

- Also Date:, Message-ID:, From: & others.

- Please use correctly
  - Make sure the subject is clear.
- Include your real name in the message, so that staff know who you are!
Mailing Lists

• A mailing list allows one message to be sent to many people.
• You will automatically be added to one or more degree programme lists. (e.g., 1styr, msccs, mscnecs)
• Only email to a list if everyone should see the message.
Module mail lists

• All taught modules also have a Moodle mailing list.
  – Moodle also keeps a copy of all email sent in the News Forum.

• Important messages will be sent via Moodle.
  – e.g., change to lecture time/place
  – reminder of coursework deadline
Emailing the Helpdesk

• request@cs.ucl.ac.uk – to send a message to the Helpdesk.
• facilities@cs.ucl.ac.uk – to report broken bits of building and infrastructure.
Questions?
UNIX

• An Operating System used to control a computer.
• A long history, since early 70s.
• Widely used for running the internet, servers and research.
• Embodies many ideas and concepts that a computer scientist should be familiar with.
Versions of Unix

• There are many versions:
  – Solaris, AIX, HP-UX, OS X

• And many Unix-like variants:
  – Linux, BSD

• Lab computers run Windows or OS X by default and have access to Linux via the virtual computing service or dual-boot.
  – On Windows machines use the desktop icon or menu item to access Linux.

• This talk will use ‘Unix’ to refer to all variants.
Using UNIX

• Unix makes much greater use of commands typed in via the keyboard than an operating system like Windows.
  – For software developers this is an efficient and powerful way of interacting with a computer.
• There are many UNIX commands.
• The more you learn about, the easier it will be to get things done!
The Unix Desktop

- Windows
- Mouse
- Pop-up menus
- Usually a version of the X Window System (X11).
Xterm Window

- Displays a command prompt.
- Unix Commands are typed in, followed by <return> (otherwise nothing will happen!).

For example, the command: firefox&<return> will start the Firefox web browser.
Changing your Unix Password

• Use the command passwd
• Follow the instructions – you will need to type your new password twice.

• Pick your new password carefully.
• Keep it secret!

• This won’t change your CS Windows password.
The Filestore

• Information is stored in files.

• Files are grouped into directories.

• All files and directories are kept in the filestore.

• It is important to manage your filestore, as space is limited by a quota system.
Directory Tree

• The filestore is organised as one huge tree.

• Servers hold portions of the tree.
  – Not the computer you are sitting in front of.
Names

• All files and directories have a name.

• Use the command `ls` to see those in the current directory.

• A pathname gives the location within the filestore
  Absolute:

  /cs/academic/docs/timetable/term1

  or Relative:

  docs/timetable/term1

  from the /cs/academic directory
File Commands

- `ls` – list files in current directory.
- `mv` – rename file.
- `more` – display text file contents in xterm.
- `cp` – copy file.

Wildcards (e.g., `*`) allow more than one file to be matched.
Directory Commands

- `mkdir` – create directory.
- `rmdir` – delete directory.
- `cd` – change to directory.
- `cd ..` – move up one directory.
- `cd` – go to home directory.
Online Manual

• All commands are documented online.
• Use the man command to find out more,
  – for example: man ls
• There is also lots more information in the notes.
Editing Files

- An editor allows text to be:
  - created
  - modified
  - moved around
- There are various editors available but we recommend: 

Emacs
Emacs

- Emacs Makes All Computing Simple…
- Emacs is an advanced text editor*
- It has many useful facilities.

- Type the command emacs& to start it.

(*actually it’s an advanced programming tool that looks like an editor.)
Emacs Window

- Emacs runs in its own window.
- Can use mouse to point and click.
Learning to use Emacs

• Best done by actually using it!

• Read the notes to find out more.
Printing

• Use lpr -P<printername> <filename> to print a file.
  – Or use printer name in an application print dialog

• Printing is queued.

• Use lpq to see the queue, lprm to cancel.

• lpr -Pps105 or lpr -Pps121 to print on the laser printers in 1st floor labs.

• Keep the printers tidy!
ISD Machines

- ‘Information Services Division’ or ISD operates the college computing service.
- They provide many PC workrooms around the campus.
- You get a separate login and password to access their machines and services.
- Visit the ISD Help Desk for help.
  - In Science Library.
External Access

• You can access departmental gateway machines.
• The UCL Firewall restricts access to internal services.
• Must use a ssh connection.
• See Help Desk web pages for more information.
The End