COMP1021
Introduction to Computer Science

Course Details

Fall 2022

COMP1021 Introduction to Computer Science

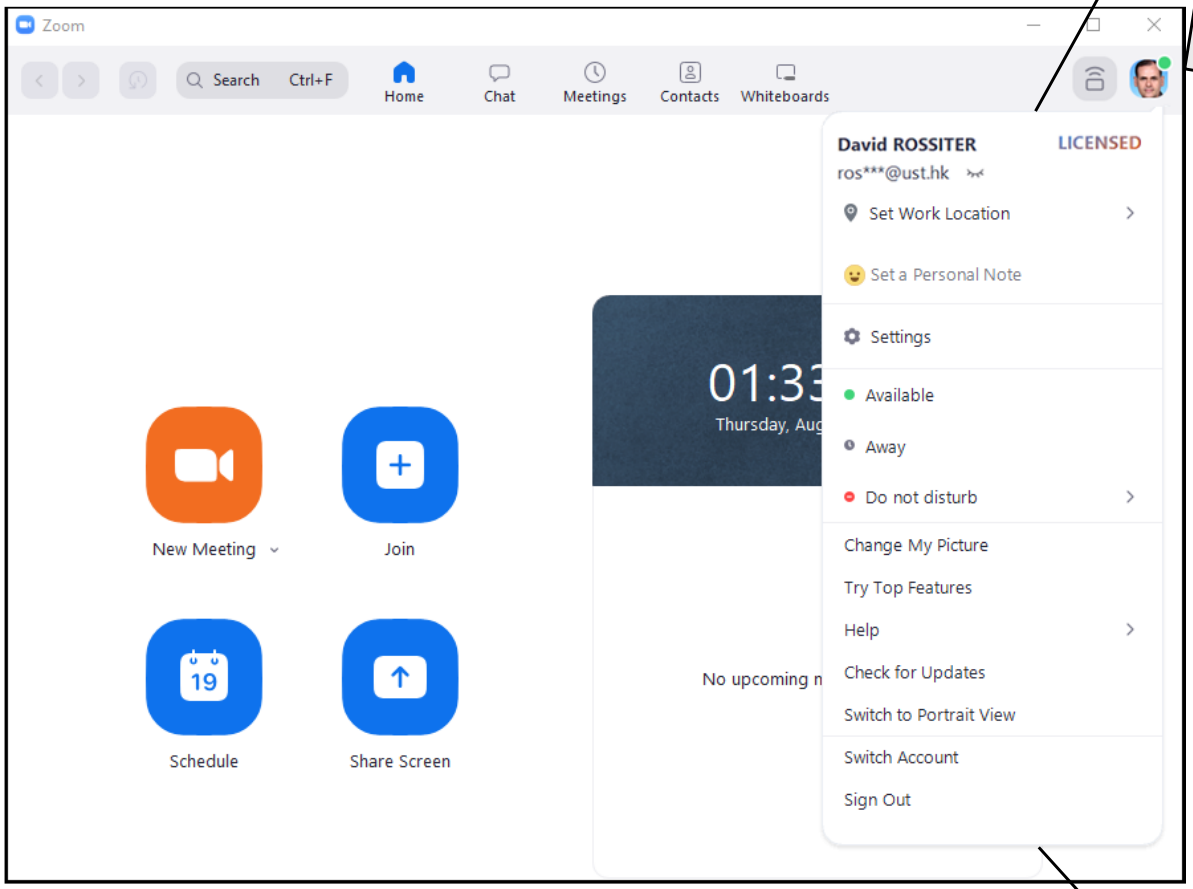
- Welcome to COMP1021 Introduction to Computer Science!

- This presentation goes through all the essential information about the course

COMP1021 and Zoom

- COMP1021 lectures will be face-to-face in a classroom
- Recently the university announced this:
  - … there will be no more arrangements of granting "Not In Hong Kong" status to students to study remotely. For students with genuine difficulties in arriving on campus in time for the classes, they should contact their home School/IPO for advice on the study plan and the course instructors for alternative arrangements (e.g., RVC recordings). We don't expect any students delaying their arrival in HK for more than two weeks, i.e., within add/drop period.
- The Zoom system will be used to give students who have genuine difficulties access to the lectures, and it may be used to record the lecture
- If you have genuine difficulties in going to class, please see the canvas system to get access to the lecture Zoom links

Updating Zoom



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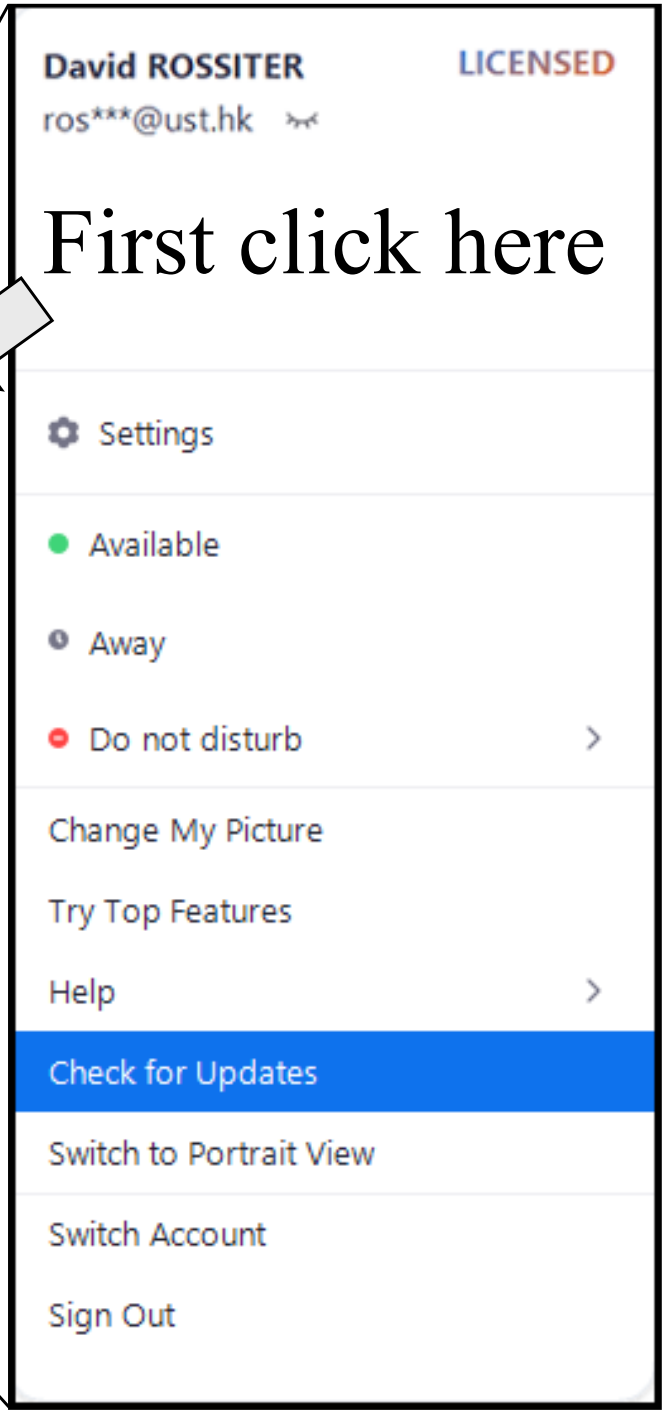


Then update your Zoom

- This is the official information about the course

Course Detail

Career	Undergraduate	
Units	3.00	
Grading Basis	Graded A+ to F	
Course Components	Laboratory	Required
	Lecture	Required

Exclusion	COMP 1022P, COMP 1022Q (prior to 2020-21), COMP 2011, COMP 2012H

Enrollment Information

Typically Offered	Fall, Spring

Description

This course introduces students to the world of Computer Science. Students will experience a range of fun and interesting areas from the world of computing, such as game programming, web programming, user interface design and computer graphics. These will be explored largely by programming in the Python language.

This Course

- COMP1021 Introduction to Computer Science
  - Teaches you the basics of programming
    - We use the Python programming language, which is a really good language for learning programming
  - Gives you an introduction into the ways of thinking used by programmers
    - This means you can use these ways of thinking if you learn other programming languages
  - This is a ‘hands on’ course where you gain experience by developing several projects

This Course - Outcomes

- On successful completion of this course, students are expected to be able to:

1. Demonstrate programming skills, with an emphasis on the Python programming language
2. Write programs in interesting areas such as game programming, computer graphics and user interface design

Python is Popular

- Python is now one of the most popular programming languages

- It's also quite easy to learn so it is one of the most commonly used languages for teaching programming

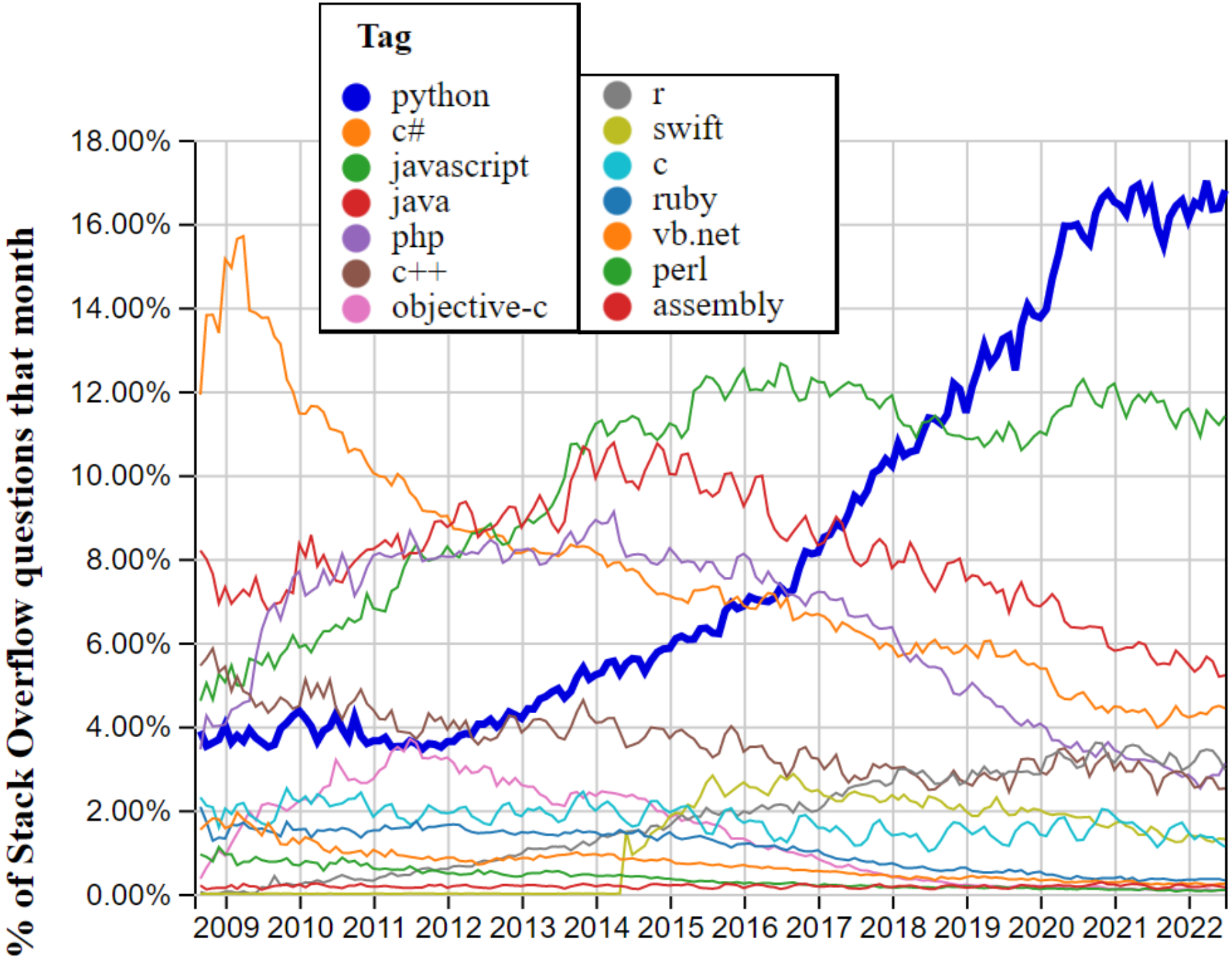
Examples of Companies That Use Python

- Google
- Facebook
- YouTube
- Instagram
- Dropbox
- Spotify
- Quora

- You have probably heard of some of these ‘big name’ companies that use Python
- Paypal
- Netflix
- Reddit
- Industrial Light and Magic

The Most Popular Language

- Stack Overflow is a web site where people ask questions about programming
- There are more questions about Python than any other language
- This suggests Python is the most popular programming language in the world


Tag
python
c#
javascript
java
php
c++
objective-c
r
swift
c
ruby
vb.net
perl
assembly
% of Stack Overflow questions that month
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

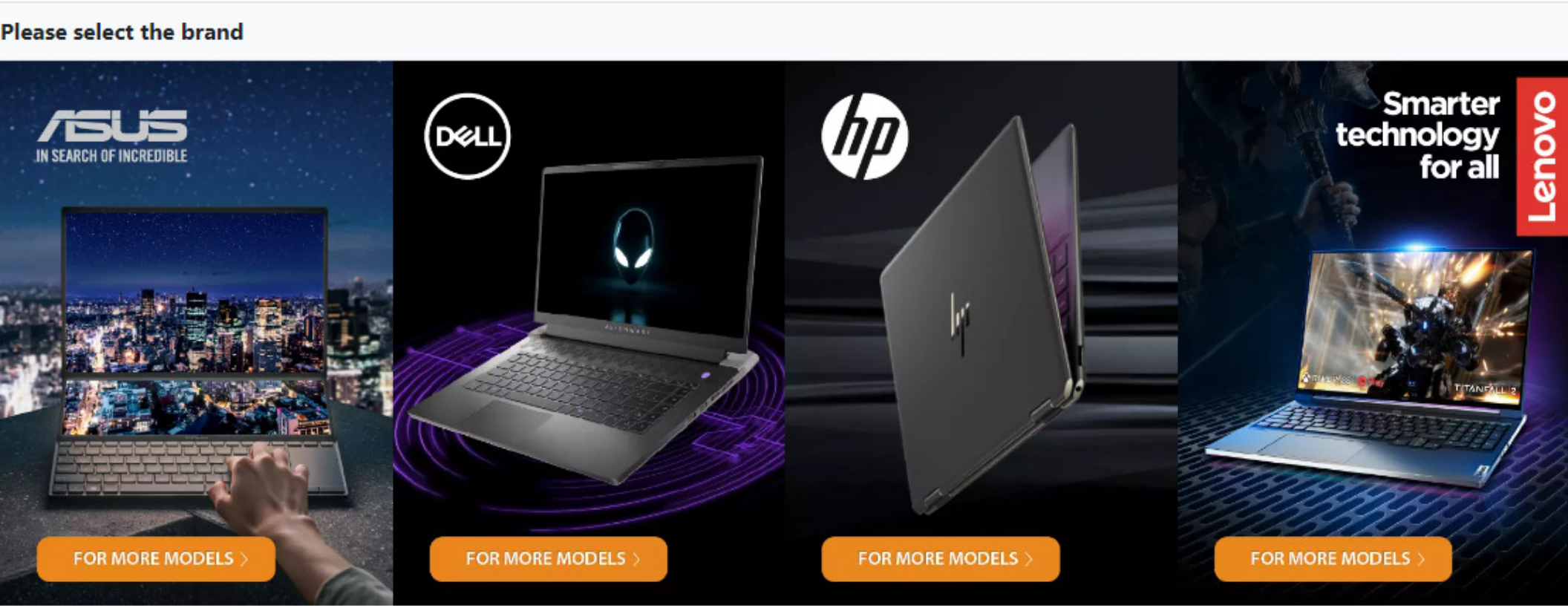
A Suitable Computer For This Course

- PCs are good and Macs are good
- iPads and Android tablets are not good for this course
  - Almost all programmers don't use tablets to do programming
  - For example, although you may be able to install Python on an iPad or Android device you probably won't have access to the IDLE editor we use, you will have problems if you need to add extra libraries, and there may be other problems

HKUST Students' Union

Electronics Fiesta 2022 for Students, Staff and Alumni

- You can get some good prices at the HKUST laptop sale – https://www.moss.com.hk/nop-entry/#/hkust



Lecture Flexibility

- This course has 15 lecture sections
- If you want to, you can go to any lecture
  - you don't have to go only to the lecture section which you are registered for
- A couple of days after the lecture we will post a video recording of the lecture – you will be able to view a video recording of any lecture
- So you have a lot of flexibility :)

Course Instructors 1/5

- Prof. David ROSSITER
  - Email: rossiter@cse.ust.hk
  - Office: room 3554

- David is the course coordinator
- He will teach L1, L2, L3 and L4

Course Instructors 2/5

- Prof. Gibson LAM
  - Email: gibson@cse.ust.hk
  - Office: room 3553

- Gibson will teach L5, L6, L7 and L8

Course Instructors 3/5

- Dr. Alex LAM
  - Email: lamngok@cse.ust.hk
  - Office: room 3548

- Alex will teach L9, L10, L11, L12 and L13

Course Instructors 4/5

- Prof. Mordecai J. GOLIN
  - Email: golin@cse.ust.hk
  - Office: room 3559

- Mordecai will teach L14

Course Instructors 5/5

- Prof. Cindy LI
  - Email: lixin@cse.ust.hk
  - Office: room 3525

- Cindy will teach L15

Section	Teaching times	Instructor	Teaching Room
L01	Wed, Fri 1700	Prof. ROSSITER	2407
L02	Tues, Thurs 0930	Prof. ROSSITER	2465
L03	Tues, Thurs 1330	Prof. ROSSITER	2465
L04	Wed, Fri 1600	Prof. ROSSITER	2407
L05	Tues, Thurs 1230	Prof. Gibson LAM	2407
L06	Mon 1330, Fri 0900	Prof. Gibson LAM	2407
L07	Tues, Thurs 1500	Prof. Gibson LAM	4619
L08	Tues, Thurs 1130	Prof. Gibson LAM	2407
L09	Wed, Fri 1500	Dr. Alex LAM	2407
L10	Mon, Wed 930	Dr. Alex LAM	2407
L11	Wed, Fri 1400	Dr. Alex LAM	2407
L12	Mon, Wed 1030	Dr. Alex LAM	2407
L13	Mon, Wed 1230	Dr. Alex LAM	2407
L14	Tues, Thurs 1700	Prof. Mordecai GOLIN	4620
L15	Tues, Thurs 1030	Prof. Cindy LI	2407

Instructor Differences

- All the instructors teach the same concepts
- However, the way in which they teach the concepts may be different. For example:

- One instructor may not show the slides which we release every lecture; another instructor may show all of them

The x axis on the next slide

- One instructor may show their own example programs and interactive elements; another instructor may stick to the examples from the course web site

The y axis on the next slide

- Using new illustrations and examples, beyond those on the web site

L1, L2,
L3, L4

L5, L6,
L7, L8

Python examples

Using course slides

- Teaching using other things instead of slides

Using course slides

- Teaching using slides

L9, L10,
L11, L12, L13

Python examples

- Using mainly the examples released on the web site

New to COMP1021:

L14

L15

Use Email to Contact Us

- Please use email to contact us
- The canvas system gives you the ability to contact us - but it doesn't work well, please **don't use the canvas system to contact us**, instead **use email to contact us**!

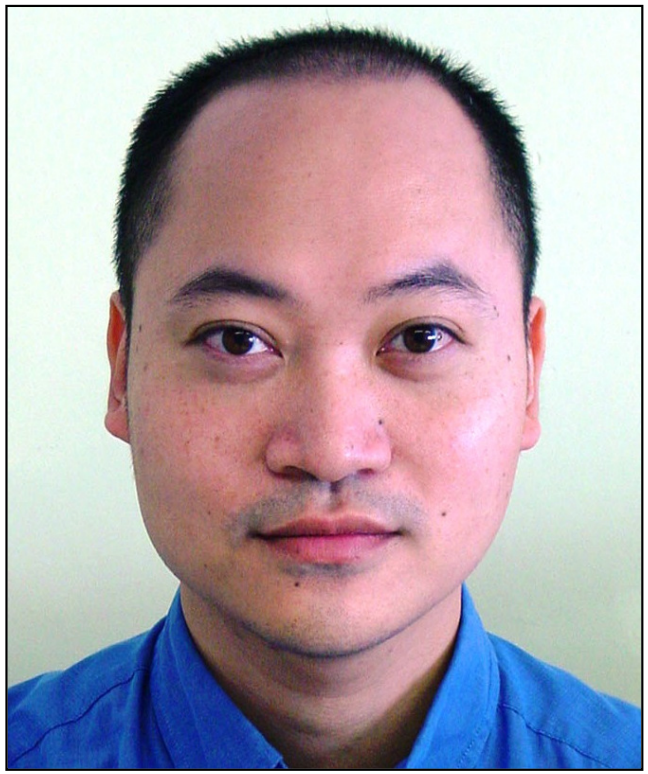
- This course doesn't have any web presence in Facebook/Twitter/Instagram, etc

Teaching Assistants

- As well as the instructors there are other people called Teaching Assistants, for example:
  - They help answer any questions you may have e.g. they may give lab support
  - They help with the midterm and final exams
  - They help mark your work
- The main assistants are shown on the following slides, there will also be others

Main Teaching Assistant 1

- Nam-Kiu CHAN
  - Email: namkiu@cse.ust.hk
  - Office: room 3543



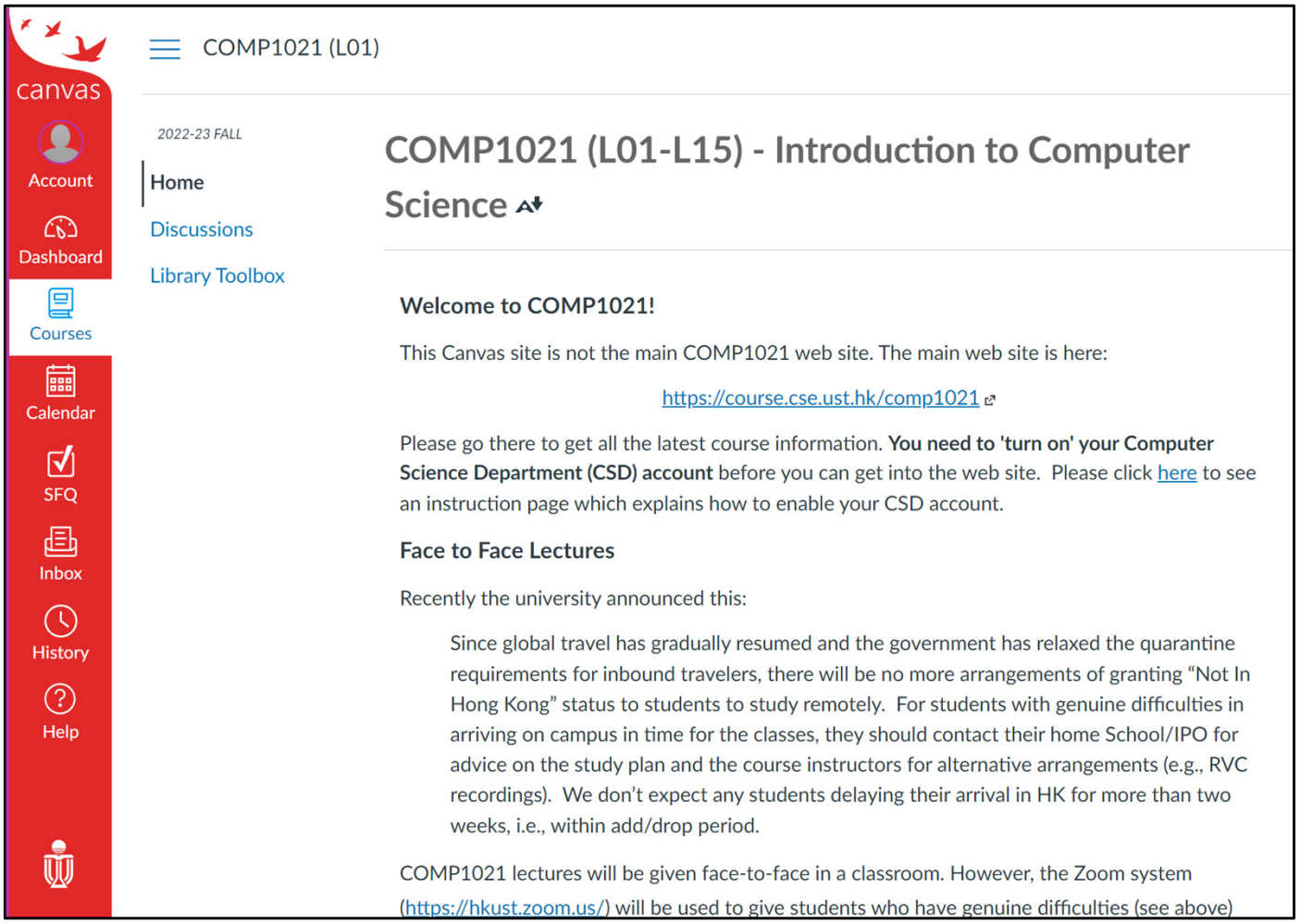
Main Teaching Assistant 2

- Eden WONG
  - Email: edenia@cse.ust.hk
  - Office: room 3532

COMP1021 in Canvas

- At HKUST, lots of courses use the canvas web site
  https://canvas.ust.hk
- COMP1021 will use it for a few things, probably:
  - You will hand in your lab submissions there
  - You will hand in your exam answers there
  - There will be a Discussions forum, which might be useful for asking questions, and reading answers
- For COMP1021, canvas is not the main web site

COMP1021 in Canvas



- For COMP1021, canvas is not the main web site

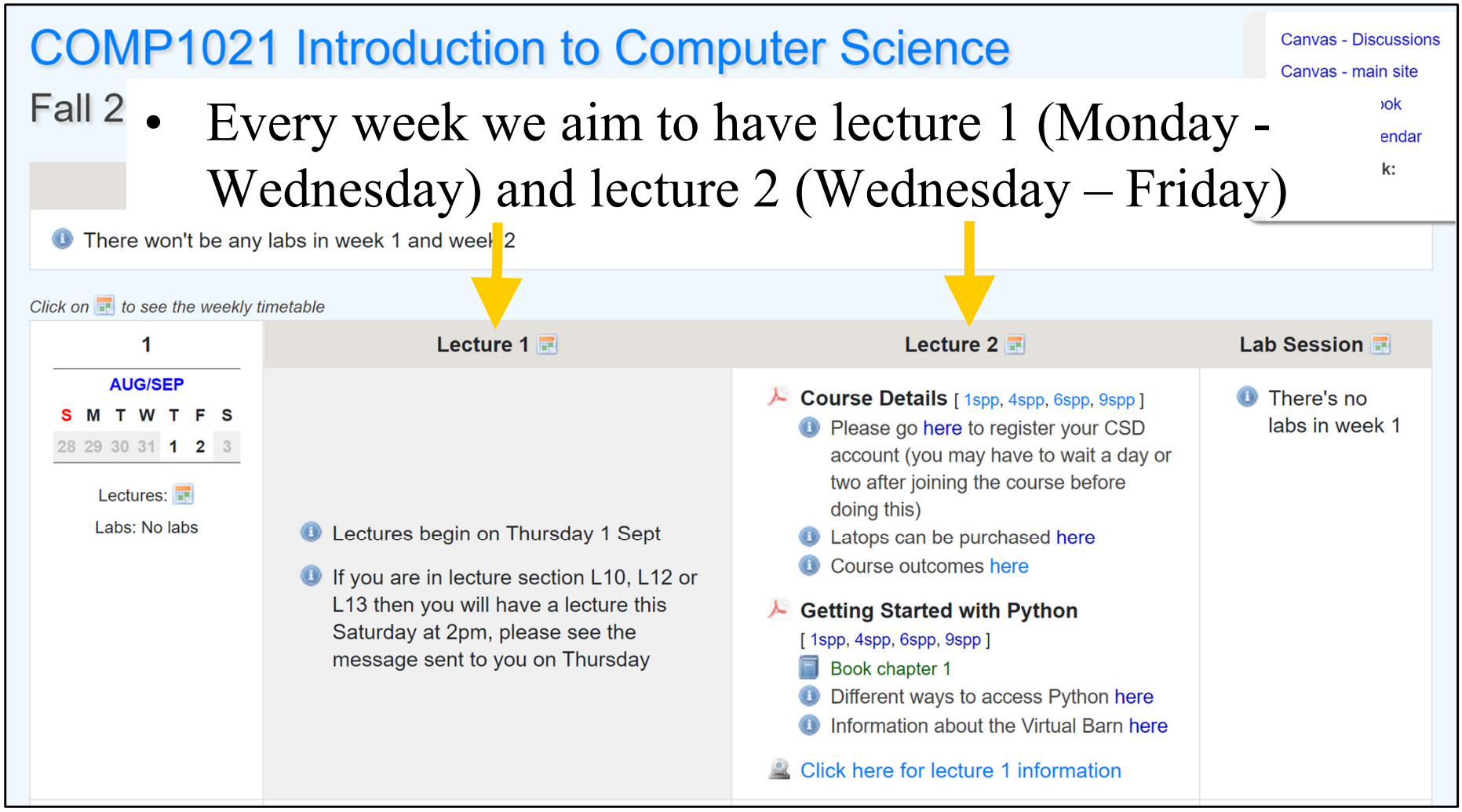
The Main Course Web Site

- All course information is presented via the web at

  https://course.cse.ust.hk/comp1021

- Within Campus (or if you are using the HKUST VPN)
  - There won't be any need to log in to the course web site
- Outside Campus
  - You need to use your Computer Science Department (CSD) account to log in to the web site
  - You have to activate your CSD account before you can use it
  - Please refer to the slides at the end for details about how to activate your CSD account

The Main Course Web Site



Course Notes

Getting Started with Python [1spp, 4spp, 6spp, 9spp]

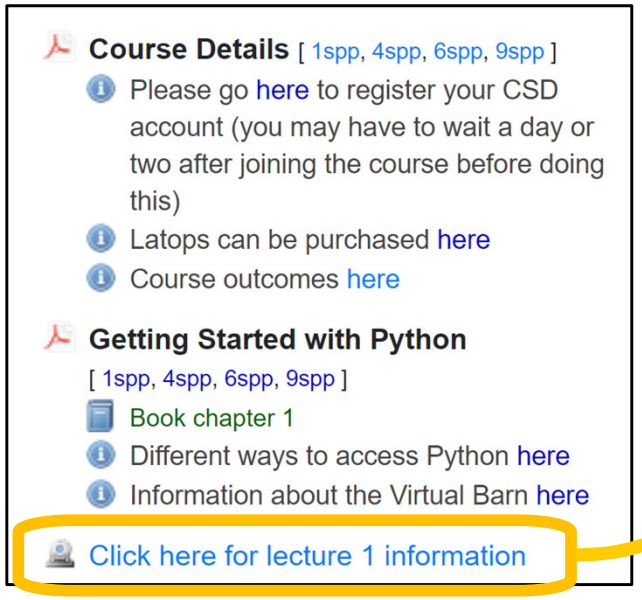
- **1spp / 4spp / 6spp / 9spp**

means 1/ 4/ 6/ 9 slides per page

- All notes are colour, with no background, so they are good for both viewing and printing
- You'll be able to access the notes on the web site before the lecture begins

Lecture Video Recordings

- While we teach the lecture:



- You will see some basic information about the lecture schedule

- Later, after all sections finish teaching that lecture:

- You will see a list of all the lecture videos, and can watch any of them

Self-Paced Labs

- We will have 6-8 lab sessions
- All labs are self-paced
- Each lab is a Python mini-project
- Each lab has a web page
- Each lab page explains everything, giving you step by step instructions with video guidance

Optional Lab Help

- There will be Zoom rooms which you can go to at the time of your scheduled lab
- People will be in the Zoom room to help you, in case you have any questions
- You don't have to go there unless you have questions you want to ask
- You don't have to do anything at the time of your lab – you choose when to do your work

Labs

- There's no labs in week 1 and week 2
- The first lab will be released for you to do in week 3
  - The first lab is not a hand-in lab

- The second lab will be released for you to do in week 4 – it will probably be a hand-in lab!

Releasing Course Material

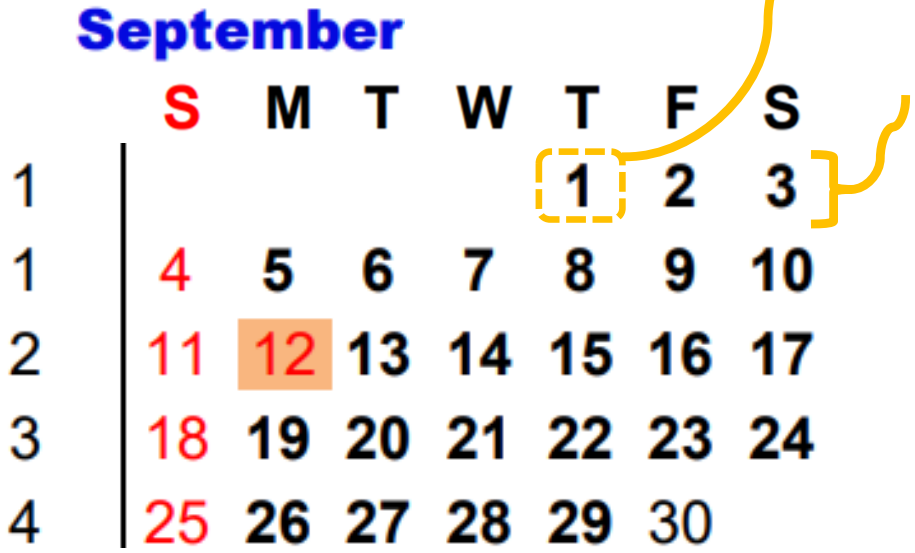
- The notes will be released on the main web site https://course.cse.ust.hk/comp1021 a day or two before the lecture
- The labs will also be released a day or two before their scheduled time

Canvas Discussions

- There is a ‘Discussions’ page in canvas
- You are welcome to post questions there
- Be wise! If you have a problem with some code just post the few lines of relevant code, not your whole lab code!
- The quickest way to get a response is to directly email the instructor or TA
- The instructor/TA will then put a copy of his reply in the Discussions page, for everyone to learn from

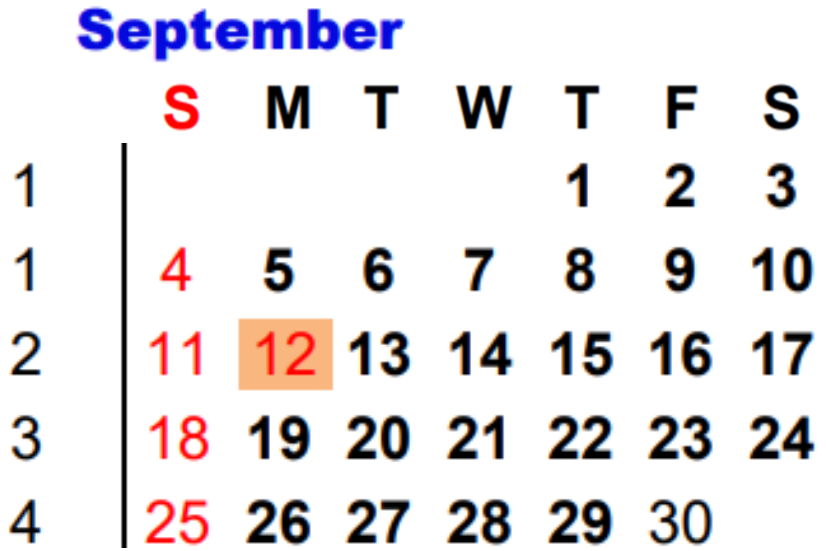
- You don't have to memorise these - all lecture information will be shown in the COMP1021 web site

September Schedule



- **Week 1**: Lectures begin on Thursday 1 September
- **Week 1**: Students in sections L10, L12, L13 need to attend a Zoom class at 2pm on Saturday 3 September. The instructor of L10, L12, L13 will send an email to those students on Thursday 1 September.

September Schedule



September

	S	M	T	W	T	F	S
1					1	2	3
1	4	5	6	7	8	9	10
2	11	12	13	14	15	16	17
3	18	19	20	21	22	23	24
4	25	26	27	28	29	30	

- **Week 2**: There is a holiday on Monday 12 September, but lecture 1 and lecture 2 will take place as usual. Students with lectures on Monday (sections L6, L10, L12, L13) will need to attend lecture 1 by going to another lecture section, or seeing the video recording of another lecture section

October Schedule

October

	S	M	T	W	T	F	S
4							1
5	2	3	4	5	6	7	8
6	9	10	11	12	13	14	15
7	16	17	18	19	20	21	22
8	23	24	25	26	27	28	29
9	30	31					

- **Week 5**: Because of the Tuesday 4 October holiday, there is no lecture 1 for all lecture sections in this week; there will be a lecture 2 as usual this week

November Schedule

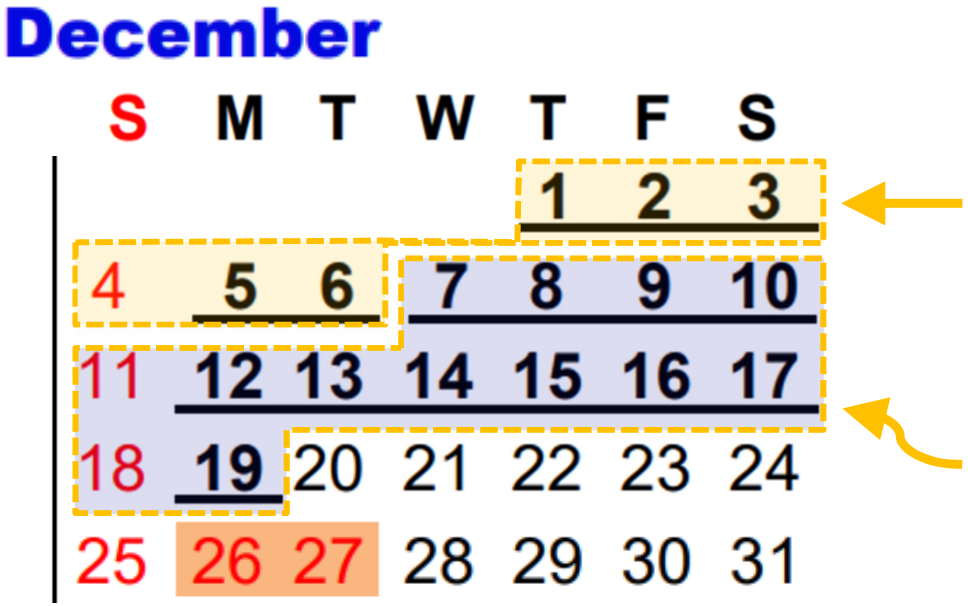
November

	S	M	T	W	T	F	S
9			1	2	3	4	5
10	6	7	8	9	10	11	12
11	13	14	15	16	17	18	19
12	20	21	22	23	24	25	26
13	27	28	29	**30**			

- **Week 13**: Wednesday 30 November is the last teaching day of the semester

- **Week 13**: This is the last week of teaching. For all sections there will be a lecture 1; there will not be lecture 2.

December Schedule



- Thursday 1 December to Tuesday 6 December is the Study Break period
- Wednesday 7 December to Monday 19 December is the Final Exam period (we won't know the date of the final exam until months later)

Course Book

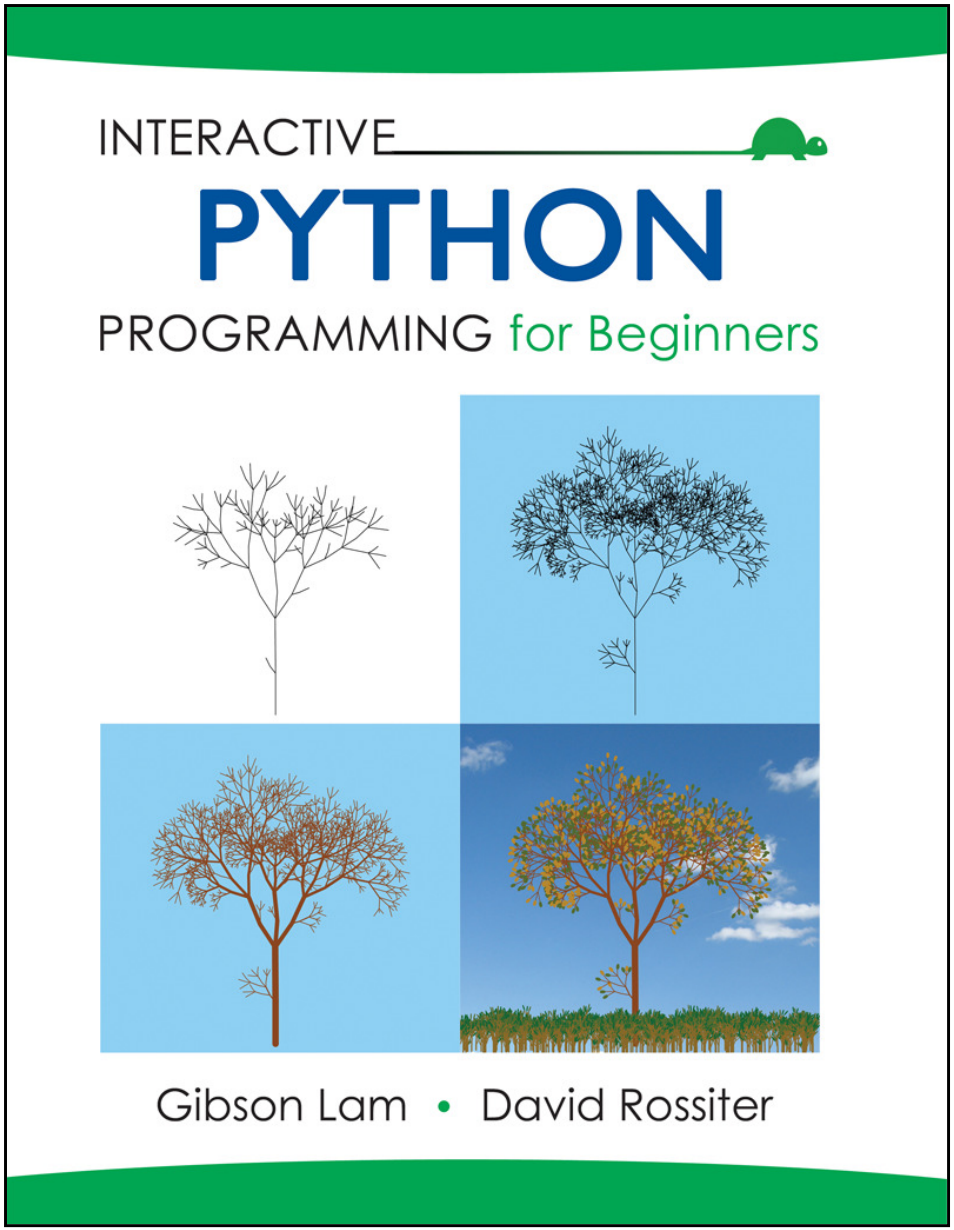
- The course book is shown on the next slide
- This book is written specially for this course
- Both the midterm and final exam will probably be open book/open notes, you could use the book then

- However, we will never assume you have the book

Interactive Python Programming for Beginners

- Written by Gibson Lam and David Rossiter
- About 250 pages
- Student price is HK$259.30

(with the 13% student discount)



Getting the Book

- We have been told: You can get the book by physically going to the HKUST book shop (9am-6pm)
- Or you can get the book from the on-line system
- “After students have successfully got the purchase acknowledgment from the on-line system they can make the request to mail the book to their correspondence address”
- “However, the mail service is only limited to the local area, and a courier service fee of approximately HKD30 will be collected by the courier when the book is delivered to them”

Midterm and Final Exams

- The midterm exam will be:

  Saturday 22 Oct 2022, 2pm to 4pm
- Probably, the midterm and final will be online
- If online, there will be a short practice exam a week before the midterm:
  Saturday 15 Oct 2022, 2pm to 3pm
- There will be more details about all of this later in the semester
- (The final exam date is not known until roughly week 11 of the semester)

The Midterm Exam

- COMP1021 teaches you programming
- Programming is all about thinking logically
- Sometimes a few students take time to get used to this way of thinking and don't do so well in the midterm – so how can we help those students?
- Answer: for every student, we will assess you in 2 different ways and use the best calculation for you
- This is an automatic process, you don't need to do anything!

At the End of Semester

- The first way we assess you is this *(more midterm %)*: **Midterm 24%**, **Lab projects 36%**, **Final exam 40%**

- The second way we assess you is this *(less midterm %)*: **Midterm 0%**, **Lab projects 42%**, **Final exam 58%**

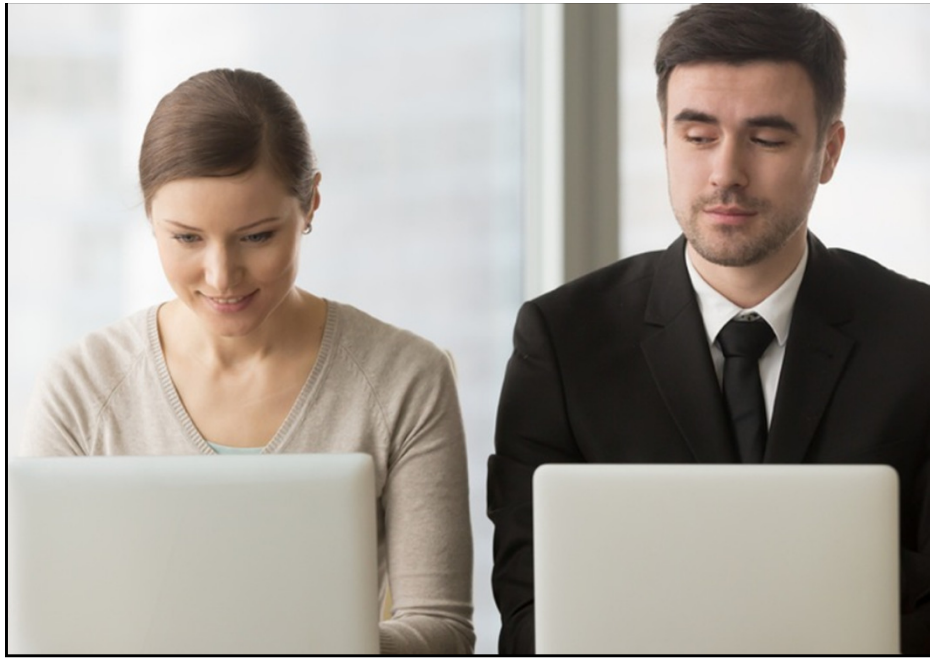
- We will automatically choose the highest mark of these two calculations

- Lectures — Worth:
  - Lectures are used to give solid introductions to the topics, with lots of demonstrations
  - Then the labs are for you to explore the subject in depth
- Labs
  - We will have 6-8 lab sessions
  - These are a major part of the course! — 3 x 12% = **36%/**
  - 3 lab projects will be handed in for marking — 3 x 14% = **42%**
- Midterm exam — **24%/ 0%**
  - An open book/open notes midterm exam
  - More details will be released later in the course
- Final exam — **40%/ 58%**
  - This will be another open book/notes exam

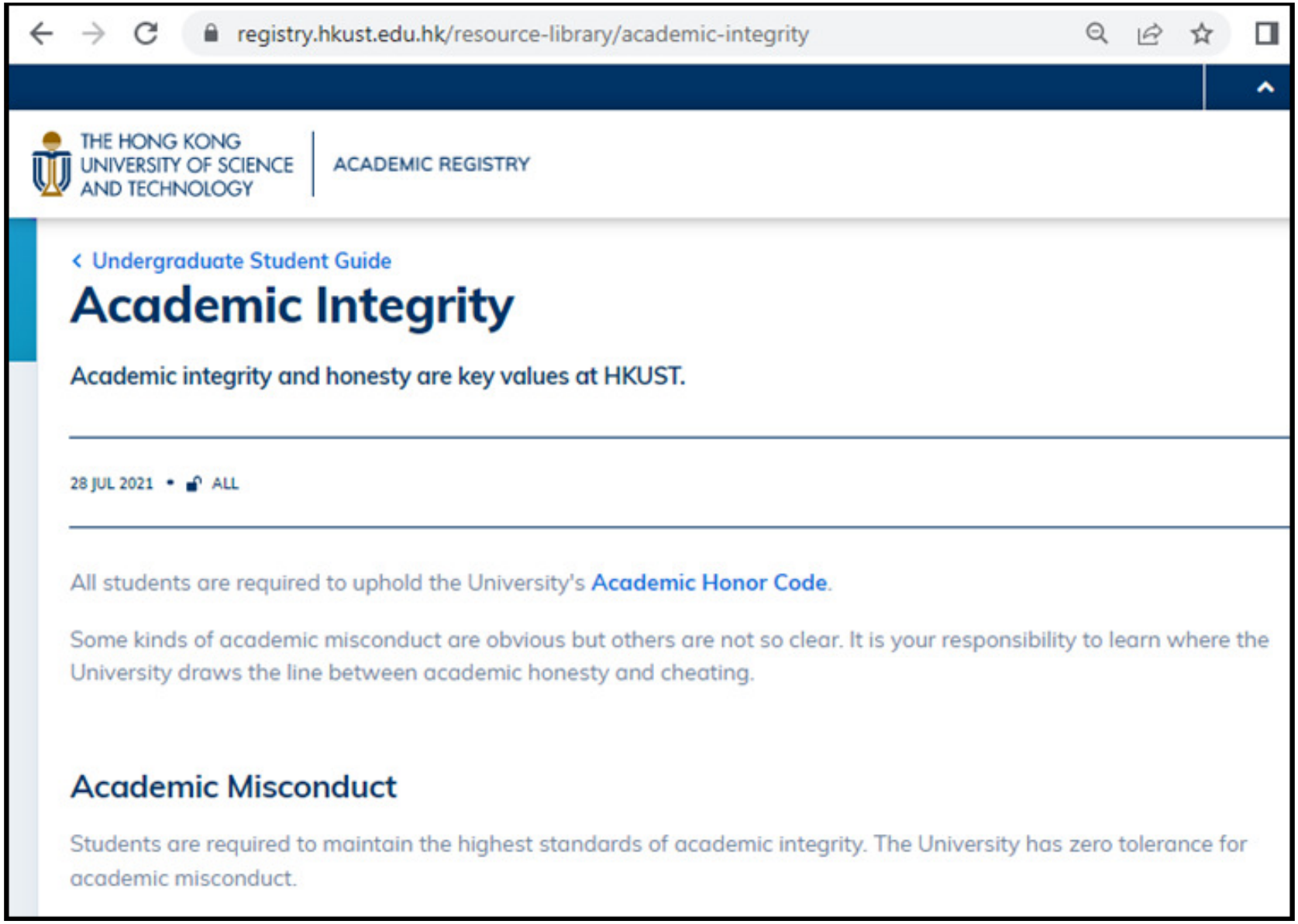
We Won't Take Attendance

- We won't take attendance during the lectures or labs
- If you don't keep up with the lectures or labs, you may become 'lost' and won't understand what's happening – but that's your choice!

Cheating Policy



- The University has recently increased cheating penalties
- If you get caught cheating the penalties may be huge!
- **You may get an automatic F grade for any cheating!**
- It doesn't matter if you only copied part of something
- The penalty is applied to both the source and the copier
- Copying anything from a previous semester counts as cheating – only use files from this semester!
- Cheating cases will be processed at the end of semester
- You would be crazy to cheat in this course, don't do it!



- Take a look at https://registry.hkust.edu.hk/resource-library/academic-integrity

Some Interesting Things We Have Heard

- I lent my USB drive to others and forgot my work was on it!
- I lent my work to others only for their reference!
- I submitted someone else's work by mistake!
- My friend prepared a template which I used to do the work, and I forgot to remove his name!
- And so on… all these kinds of things get processed as cheating cases

Things That Are OK to Do

- Discussing the work with others is fine; that's different from direct copying

- There's lots of tutorials about Python on the web, and you are welcome to learn from them
- However, make sure the material is talking about Python 3, not an earlier version of Python

Your UST Computer Accounts

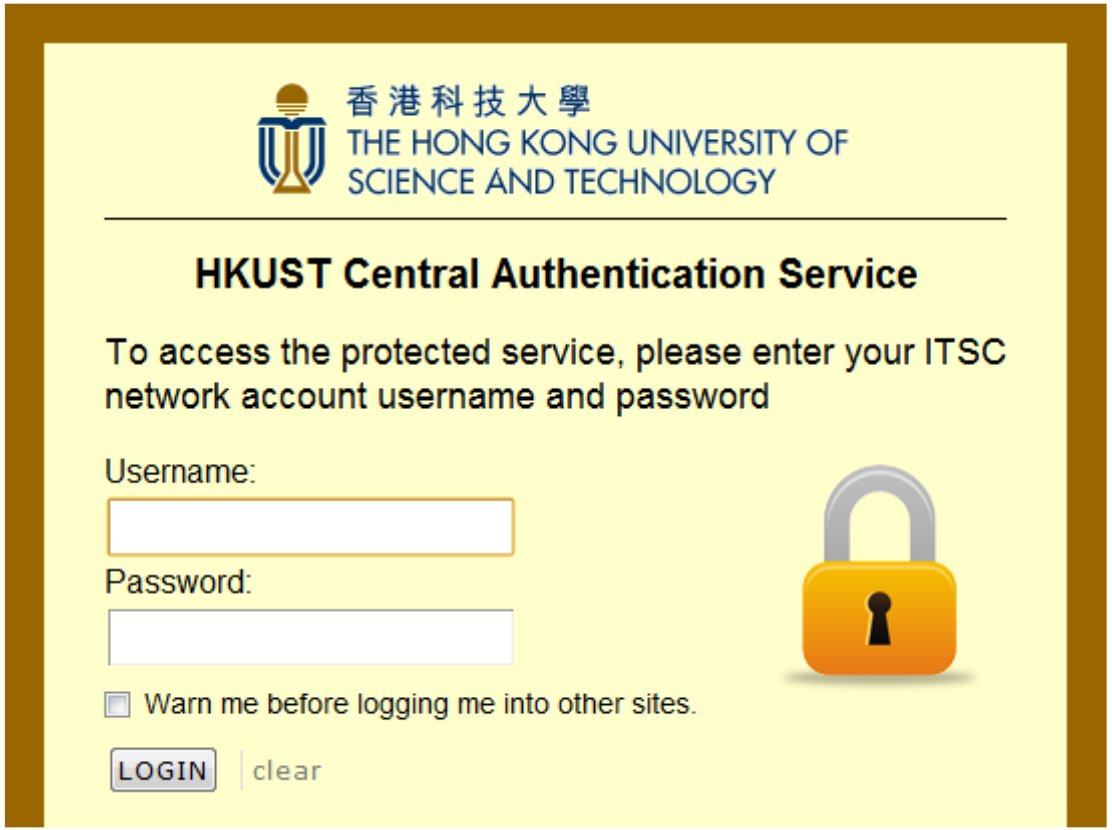
- You have two computer accounts:
- Your ITSC account
  - This is given to you when you join UST
  - This is your main email account at UST
- Your CSD account
  - This is given to you when you first join a COMP course
- You need to enable your CSD account
- This will give you access to the course web site outside HKUST

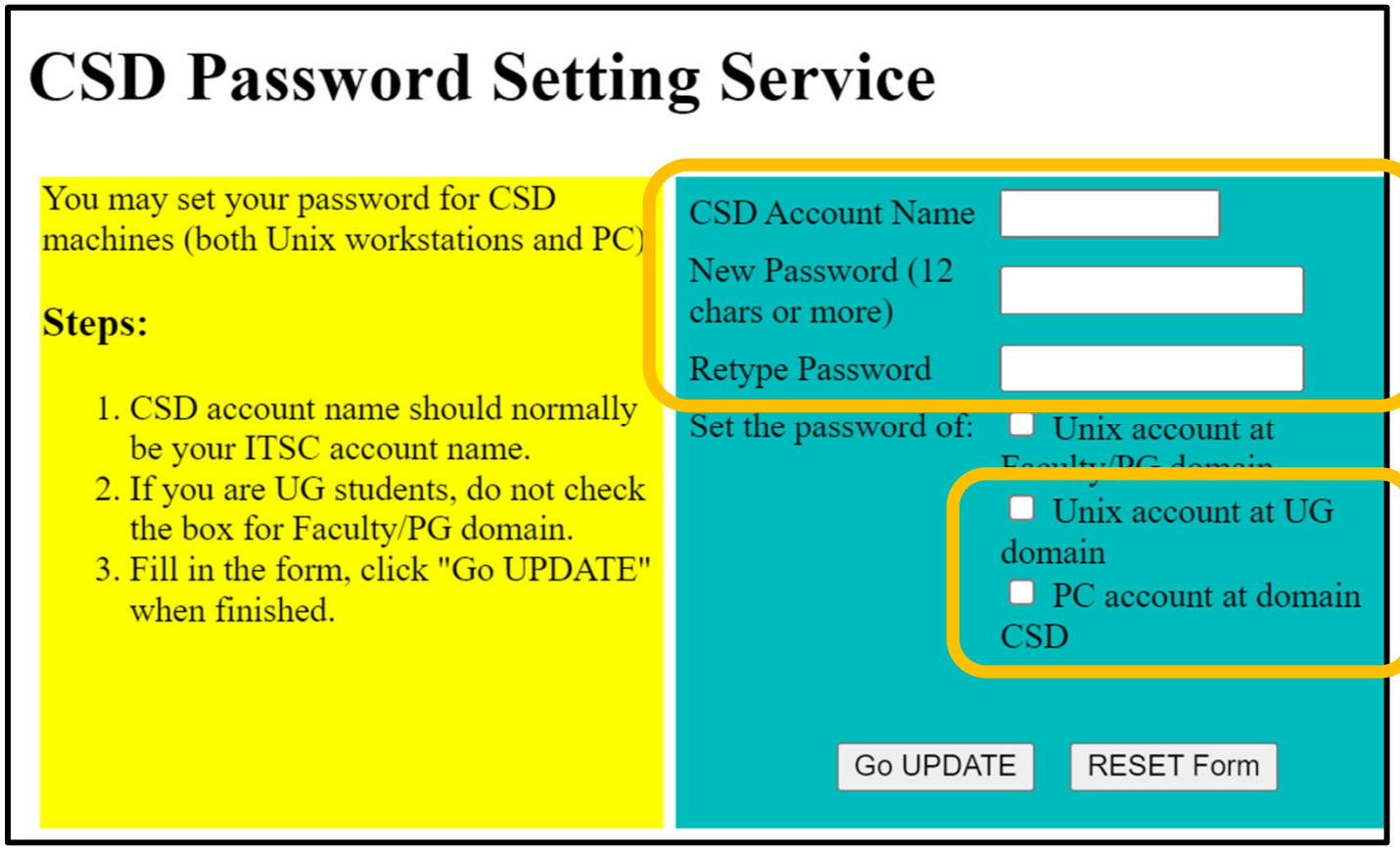
How to Enable Your CSD Account

- Run a browser, go to:

  https://password.cse.ust.hk:8443/pass.html

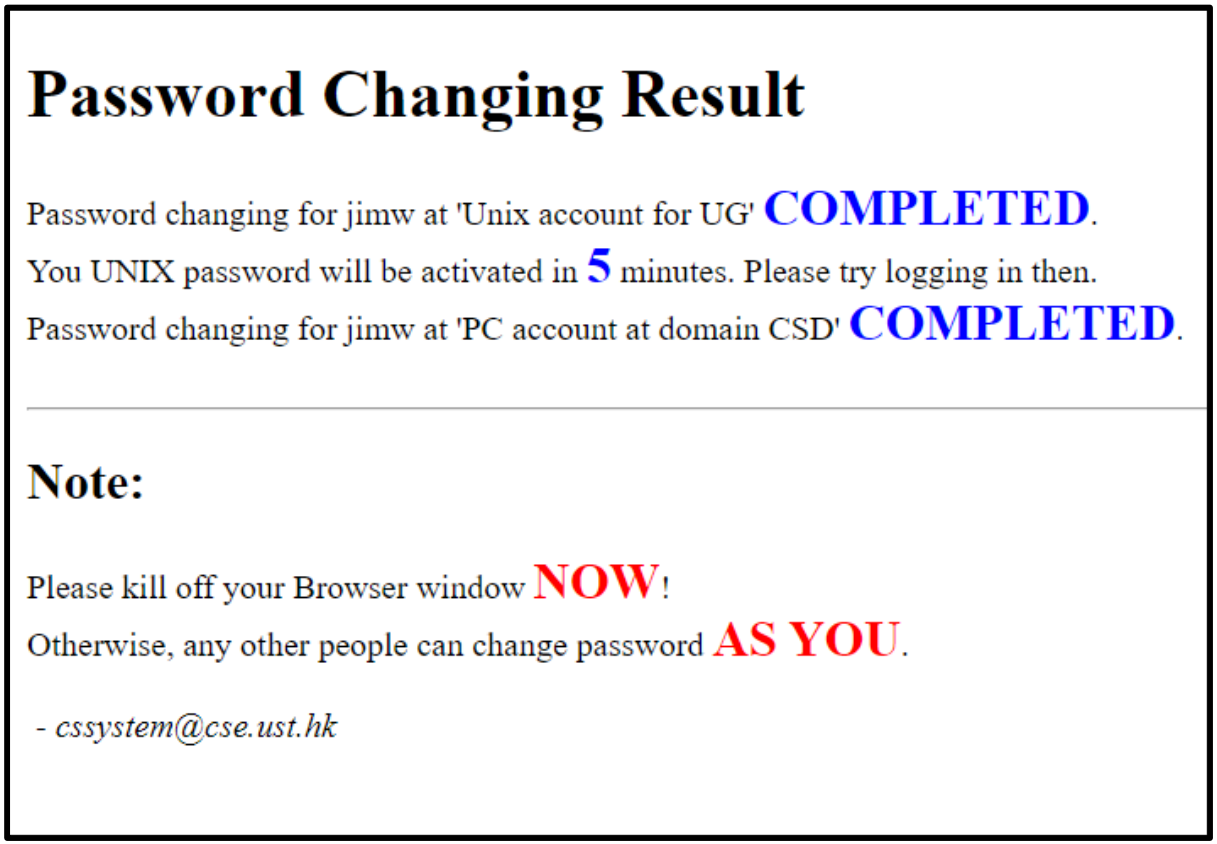
- Log on using your ITSC details





- Tick the bottom two check boxes ("Unix account at UG domain" and "PC account at domain CSD")
- Enter your ITSC account name and password (your CSD account name is the same as your ITSC account name)
- Finally, click 'Go UPDATE'

- You should see something like this:
- This system is not operated by us, it is all handled by *cssystem@cse.ust.hk*



Password Changing Result

Password changing for jimw at 'Unix account for UG' **COMPLETED**.
You UNIX password will be activated in **5** minutes. Please try logging in then.
Password changing for jimw at 'PC account at domain CSD' **COMPLETED**.

Note:

Please kill off your Browser window **NOW**!
Otherwise, any other people can change password **AS YOU**.

- cssystem@cse.ust.hk

- Instead of this text, it may say you need to apply again 2-3 days later – that means the CSD hasn't received your information yet from the Student Information System, so try again later