香港中文大學
The Chinese University of Hong Kong

ENGG1004K/N
Digital Literacy and Computational Thinking

Course Information

Term 2, 2024-2025

Wai-Yiu Keung

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General Information

- Instructor: Wai-Yiu Keung
  - office: HCA320D
  - email: wykeung@cse.cuhk.edu.hk
- Class website: http://www.cse.cuhk.edu.hk/~wykeung/dlct/
  - slides used in class and supplementary materials
  - announcements
- Blackboard: https://blackboard.cuhk.edu.hk/
  - **assignments, labs, scores, etc.**

General Info. – Tutors

- ENGG1004K: Miss Rita LIU
  - Office: HCA328
  - Email: ritaliu@cse.cuhk.edu.hk

- ENGG1004N: Miss Cherry Cheung
  - Office: HCA328
  - Email: cherryccy@cse.cuhk.edu.hk

General Info. – Academic Integrity

- Honesty in Academic Work: A Guide for Students and Teachers
  https://www.cuhk.edu.hk/policy/academichonesty/

- Guidelines To Academic Honesty
  https://www.erg.cuhk.edu.hk/erg/sites/default/files/Disciplinary_Booklet_2022-23.pdf

- Use of AI Tools in Teaching, Learning and Assessments – A Guide for Students
  https://www.aqs.cuhk.edu.hk/documents/A-guide-for-students_use-of-AI-tools.pdf

- Student/Faculty Expectations on Teaching and Learning
  http://www.cse.cuhk.edu.hk/~cslui/student_teacher_expectations.pdf

General Info. – IT Clinic

- Office: HCA328, i.e.
  Office of Digital Literacy Education (ODLE) cum IT Clinic (Room 328, Pi Chiu Building)

- IT Clinic accepts ***online booking***
  https://dlct.cse.cuhk.edu.hk/booking/index.php

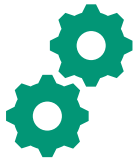
- The IT Clinic also serves ***walk-in*** help seekers
  https://dlct.cse.cuhk.edu.hk/it_clinic.php

By taking this course, you are assumed to have read and understood the aspects described in the readings as assigned on the previous slide.

CUHK Graduate Attributes

Numeracy

Analytic Skills



IT Capabilities

Have You Seen This Meme before?

- The actor, Eric Suen, is a CUHK alumni who holds a B.Eng. in Comp. Engr. (second class honours)

Background

- No pre-requisite
- Digital literacy and computational thinking are keys to your success
- For your present and future

About ENGG1003/4

- 3-unit course with Distinction/ Pass/ Fail grade
  - No letter grade, no effect on your GPA
  - But it's a ***graduation requirement!***
- Weekly lectures, followed by lab exercises
- Four assignments & an individual project
- ***No examination***

Course Registration

- Students are pre-assigned by the RES.
- Refer to major programme course requirement – mandated to be P (1003) or R (1004)
- Contact Office of Digital Literacy Education (Room 328, Pi Chiu Bldg) for enquiry.
  - Phone: 3943 4252
  - Email: dlct@cuhk.edu.hk

This Course is About

- Digital literacy – survival in the digital society
- Computing – basic concepts and hands-on skills
- Handling data – obtain, process, interpret and present data properly
- Data science – modelling and understanding data

This Course is NOT About

- ~~Building full-scale computer software/ webs/ apps~~
- ~~Excel VBA~~
- ~~Intermediate/ advanced Python programming~~
- ~~Building AI models/ machine learning~~

Topics

- Introduction to Digital Literacy, Basic IT, and Basic Spreadsheet Usage
- Basics of Data Science and Common Misinterpretations of Statistics
- Computational Thinking
- Curve Fitting, Classification, and Clustering
- Modern Artificial Intelligence
- Data Visualization
- Demonstrations on Solving Real-Life Problems

Tentative Teaching Schedule
ENGG1004K (TUE, LSB-C4)

Lecture	Date	Topic	Lab activity	Lab Difficulty
1	Jan-07	overview; excel	R, RStudio and VM installation	*
2	Jan-14	excel	excel: basic	*
3	Jan-21	excel/digital literacy	excel: more	**
4	Feb-04	citation/library/ info. sec.	word document + refworks	*
5	Feb-11	data sci./ misuse of statistics	IPLogger + sec. cert	*
6	Feb-18	data sci./ R scripting 1	data sci w/ excel	***
7	Feb-25	R scripting 2	R: basics	*
8	Mar-11	R scripting 3	R: more	**
9	Mar-18	data frames and curve fitting on R	R: function	***
10	Mar-25	classification and clustering on R	regression w/ R	**
11	Apr-01	machine learning applications on R	ML w/ R	**
12	Apr-08	advanced topics	Project consultation	

Tentative Teaching Schedule
ENGG1004N (WED, LSB-C1)

Lecture	Date	Topic	Lab activity	Lab Difficulty
1	Jan-08	overview; excel	R, RStudio and VM installation	*
2	Jan-15	excel	excel: basic	*
3	Jan-22	excel/digital literacy	excel: more	**
4	Feb-05	citation/library/ info. sec.	word document + refworks	*
5	Feb-12	data sci./ misuse of statistics	IPLogger + sec. cert	*
6	Feb-19	data sci./ R scripting 1	data sci w/ excel	***
7	Feb-26	R scripting 2	R: basics	*
8	Mar-12	R scripting 3	R: more	**
9	Mar-19	data frames and curve fitting on R	R: function	***
10	Mar-26	classification and clustering on R	regression w/ R	**
11	Apr-02	machine learning applications on R	ML w/ R	**
12	Apr-09	advanced topics	Project consultation	

Course Learning Resources

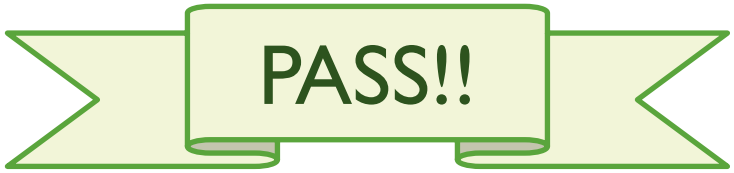
- Course Portal: **https://dlct.cse.cuhk.edu.hk/**
- Course Materials and e-Learning --- Blackboard: **blackboard.cuhk.edu.hk**
- Communication
  - Email: **dlct@cuhk.edu.hk**
  - Blackboard Forum on CU e-Learning

Information Security

VPN protects the connection between you and CUHK
2FA factor 1: What do you know?
2FA factor 2: What do you have?

- CUHK Virtual Private Network
  https://www.itsc.cuhk.edu.hk/all-it/wifi-and-network/cuhk-vpn/
- CUHK DUO Two Factor Authentication (2FA)
  https://www.itsc.cuhk.edu.hk/all-it/information-security/two-factor-authentication-2fa/
- Setup your VPN connection as earliest as possible, as you will need it for accessing the assignment system

Assessment



Assignments	40%
Lab exercises	20%
Project	30%
In-class participation	10%

- To ***pass the course***, students are expected to **pass (>60%) in each and every component** listed above.

- Pass with *Distinction*
  - Achieve at least 85% of marks in every items
  - Achieve at least 95% of marks in total score
  - Finish bonus parts in labs and project

Lab Sessions

- Every week we have an hour of lab session subsequent to the two-hour lecture. You are required to bring your **own notebook computers** to class. Internet access (e.g., CUHK1x WiFi with 2FA) is required.

- Lab manuals are available on Blackboard with instructions guiding students to complete some hands-on tasks in each lab

- We will brief you on the tasks and guide you through
  - Tutors and I will offer face-to-face assistance to individuals
  - We encourage peer-to-peer discussion and learning.
  - **BUT don't copy!**

Lab Environment

- Windows or macOS assumed.
- On your own computer, you need these tools:
  - Google Chrome (probably you've got this)
  - Microsoft Office; O365 via CUHK
  - Microsoft Remote Desktop client (free download)
    - https://docs.microsoft.com/en-us/windows-server/remote/remote-desktop-services/clients/remote-desktop-clients
    - Each student will get a remote PC (VM) for lab and project.
  - Programming software:
    - Python IDLE for ENGG1003
    - RStudio for ENGG1004

Lab Submissions

- Lab exercises will be graded and the score and feedback will be posted on Blackboard.
- Students are expected to submit lab works on Blackboard at the end of each lab.
- Default deadline: 11:59pm, the day after we met
- I may grant extensions in class, depending on the actual progress of my teaching pace.

Late Policy

- Unless prior arrangement is agreed, all late submissions will be rejected and no mark will be given.
- Deadline extensions due to unforeseeable events, such as a verified medical leave, can be applied to the instructor by email. Note that applications without proper justifications will be ignored.
- The policy applies to both lab and assignments.

Participation Quizzes

- Short quizzes will be handed out in class time throughout the term to evaluate participation
- Time of quizzes: random
- Scope: topics and discussions mentioned in class
- Format: multiple-choice + short questions; closed-book

Honesty in Academic Work

- **CUHK Policy and Guide on Honesty in Academic Work**
  - The Chinese University of Hong Kong places very high importance on honesty in academic work submitted by students.
  - CUHK adopts a policy of *zero tolerance* on cheating in examinations and plagiarism.
  - Any related offence will lead to disciplinary action including termination of studies at the University.

- CAUTION: lending/borrowing/using/sharing peers' computer
  - Create and adopt a GUEST account on Windows/macOS
  - Backup and Remove your own course work!

Copyright

- Do respect copyright of CUHK, including all course materials such as notes, lab manuals and recordings
- Do NOT upload or post course notes, lab exercises, assignment questions and project work on web sites such as *CourseHero* and *Chegg*
- Do NOT out-source your course works or seek help in public
- We do encourage peer-to-peer teaching and learning, but NOT copying or revealing solutions!

Use of AI Tools

- Assessments such as lab exercises, assignments and project shall be completed by students individually without the use of AI tools, except those explicitly instructed by the course teacher
- Students are encouraged to explore and to try different kinds of AI-assisted tools throughout the course though, to expand the horizon of digital technologies
- Students are reminded to pay attention to university/faculty/department/course-specific policies and guidelines concerning the use of AI in learning and creation.

Assessment Approach 2 – Use only with prior permission

Use of Generative Artificial Intelligence (AI) Tools in Graded Lab exercises (except lab on text processing,) Assignments and Project is prohibited.

In assessing the level of achievement of learning outcomes and students' performance, students are expected to produce their own work independently without any collaboration with the use of AI tools.

Use of some AI tools is allowed in some in-class lab activities on the following conditions:

1. The AI tools to be used are restricted to: poe.com in lab activities of text processing, and teacher issued demo packages
2. The specified AI tools will only be allowed for lab activities of text processing, and teacher demos
3. Collaboration of AI tools is only allowed for the following purposes / tasks: trying the demo and completing specific lab exercises;
4. The input contributed by the AI tools are properly acknowledged and cited; and
5. The input together with the prompts used to elicit the AI responses should be highlighted or included as appendices wherever appropriate.

IT Workshops (Free!)

- Need some guidance in exploring and making full use of your MacBook?
- Want to learn how to securely set up a home WiFi network?
- Prepare your own gift via 3D printing!
- Sign up an **IT Workshop** with some friends!
  - Simply drop us an email !
  - Details available on https://dlct.cse.cuhk.edu.hk/it_clinic.php

IT Workshop Registration

- **Email** to dlct@cuhk.edu.hk

- Subject: **IT Workshop Registration**

Workshop Code: IT Workshop A
Workshop Name: Mac Explorer
Workshop Date:
Name:
SID:
Email address: