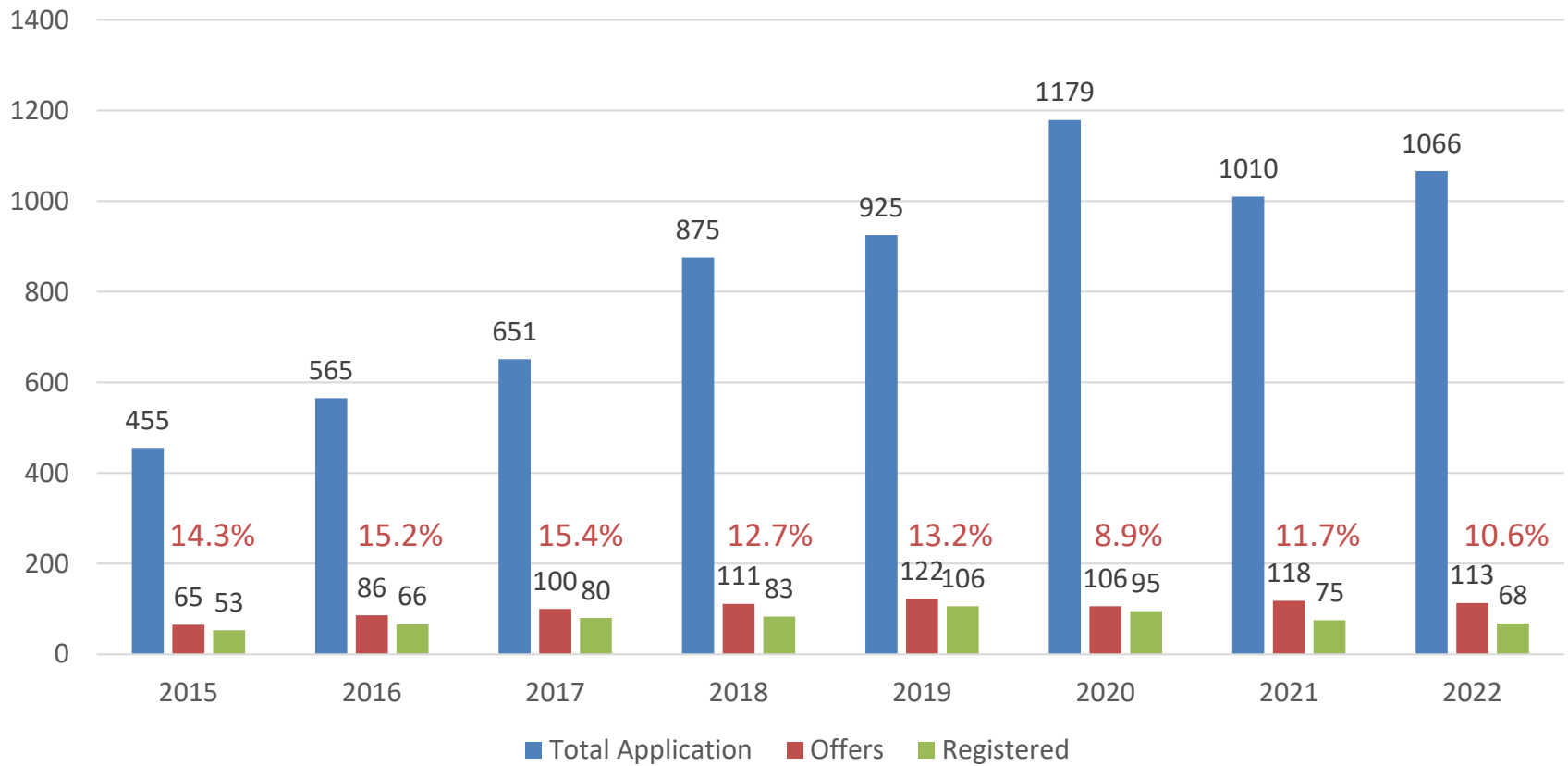# 2022 CSE PG Orientation

Sept 5, 2022

Agenda for Today

- Welcome

- Who We Are
- CSE PhD/MPhil Program Requirements
- TA Duty

- CS System's Lab Introduction

- Experience Sharing from Senior PhDs (by TACs)

- CSE Department Head's Closing Remark

Congratulations!

Admission Statistics

Year	Total Application	Offers	Registered	%
2015	455	65	53	14.3%
2016	565	86	66	15.2%
2017	651	100	80	15.4%
2018	875	111	83	12.7%
2019	925	122	106	13.2%
2020	1179	106	95	8.9%
2021	1010	118	75	11.7%
2022	1066	113	68	10.6%

■ Total Application ■ Offers ■ Registered

Who We Are

- Admin Office
- PG Committee
- CS System
- TAC (PG student representatives)

- Need help? Send email to
  - pgadmin@cse.ust.hk
  - cssystem@cse.ust.hk

PG Admin Office Staff

- ## Ms. Connie Lau
  - Admission, enrollment, studentship, TA, PG Office

- ## Mr. Isaac Ma
  - Course requirements, PQE, defenses, graduation, course waiving, credit transfer

- ## Ms. Sharon Chiu
  - Course registration

- ## Ms. Lily Chan
  - Seminars (COMP 6911 & 6912)

CSE PG Committee

Xiaojuan Ma
PG Coordinator

Pedro Sander
Associate PG Coordinator

Dimitris Papadopoulos

Wei Wang

Kai Chen

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CSE RPG Program Requirements

See PG intranet:

https://www.cse.ust.hk/pg/hkust_only/

RPG Handbook:

https://pg.ust.hk/rpghandbook/

MPhil Course Requirements

- LANG 5000 if you fail ELPA*, for oral communication on campus
- LANG 5001, for academic study and research
- PDEV 6800, for GTA training
- CSE Seminar for 2 semesters (COMP6911+COMP6912)
  - Attend 7 (out of 12) seminars in the Fall and Spring semesters, and sign the attendance sheet
- PDEV 6770 (1 credits)
- ENGG 6780 (1 credits) } Professional development courses

- 5 PG courses (15 credits)
  - Covering at least 4 areas
  - At most one independent study course allowed
  - GGA must be at least 2.85

*English Language Proficiency Assessment

PhD Course Requirements

- LANG 5000 if you fail ELPA
- LANG 5001
- PDEV 6800
- CSE Seminar for 2 semesters (COMP6911+COMP6912)
  - Attend 7 (out of 12) seminars in the Fall and Spring semesters, and sign the attendance sheet
- PDEV 6770 (1 credits)
- ENGG 6780 (1 credits)

- 6 PG courses (18 credits)
  - Covering at least 4 areas
  - At most one independent study course allowed
  - GGA must be at least 2.85

https://prog-crs.ust.hk/pgprog/2022-23/mphil-phd-cse

PhD Course Requirements

- ≥ 4 PG-core courses (5000-level) covering 4 different areas

- Grade ≥ B+ for each of the 4 PG-core courses

- ≥ 2 PG-core courses in the first year

- ≥ 4 PG-core courses in the first two years

- ≥ 1 PG course outside CSE (SENG requirement)

https://cse.hkust.edu.hk/pg/programs/pgcore/

Outside-CSE Course

https://cse.hkust.edu.hk/pg/courses/non-comp/

- Courses co-listed with CSE do not count

- LANG courses do not count

- SHSS (Humanities and Social Science) courses may count
  - Consult with PG admin before taking

- MSc courses in programs offered (or jointly offered) by CSE do not count
  - MSc-IT
  - MSc-BDT

Please note that this is a SENG requirement, and one would need to provide a specific course + course information after taking the course to seek SENG's consideration.

Outside-CSE Course (Cont.)

https://cse.hkust.edu.hk/pg/courses/non-comp/

- RE: the School Requirements, please note that the 3 credits may be satisfied by courses from other Schools upon approval. As the School Requirements aim to help students gain a wider exposure to multidisciplinary areas, and attain all-rounded learning by **broadening their knowledge base**, the course to be selected by the student should go in line with this rationale.

Justify 1) how it extends your knowledge, 2) why that cannot be offered by existing CSE courses

- The student may use the course from GZ campus to fulfil the program requirements, as long as it is in compliance with the CSE curriculum, based on the guiding principles just mentioned

Credit Transfer and Area Waiver

- At most 6 credits can be transferred from outside HKUST CSE
  - Transferred course must be at PG-level
  - If that PG course was taken during your UG study, that course must NOT have been used to satisfy the UG degree requirement
  - Applications must be made to students' department during their first term after admission

- No limit on area waiver
  - But the course taken must match one of the PG-core courses here

https://rpghandbook.hkust.edu.hk/course-substitution-and-credit-transfer

Pre-requisite UG courses for PhD

- 3 Prerequisite UG courses for CSE PhD
  - Operating System (COMP3511)
  - Algorithms (COMP3711)
  - Theory of Computation (COMP3721)
- Grade ≥ B in each of 3 courses
- Can apply for waiving
  - Hand in form to Isaac
  - Need to attach syllabus unless the course title matches above
  - COMP3511 handled by Prof. Bo Li & Prof. Kai Chen
    COMP3711 by Prof. Siu-Wing Cheng
    COMP3721 by Prof. Nevin Zhang

What if Courses are all full?

- PG courses typical have limited seats
  - Quota for CSE 5000-level courses: 60
  - Quota for ECE 5000-level PG courses: 30
  - Quota for CIVIL 5000-level PG courses: 32
- So you need to be early birds!
- What to do if you are late:
  - Stay on the waiting list, someone may drop
  - Take courses from outside-CSE department

PhD Qualifying Exam

- After passing 3 prerequisite UG courses
- Must be taken within the first 22 months of study
- At most 2 attempts
- Request of extension requires special approval with a strong justification
- One written survey and a public oral exam based on the survey
- You officially become a "PhD candidate" after passing the qualifying exam

Thesis Proposal and Defense

Worry about them later...

PG Studentship (PGS)

- Unless you are self-financed, you are paid 12-month PGS no matter whether you are an RA or TA

- PGS: your advisor + (maybe) university

- You are now PG students, fully devoted to research:

  - Apply for leave to your advisor if you are an RA
  - Apply for leave to both your advisor and the instructor of the course if you are a TA

Teaching Assistant (TA) Duty

- Minimum graduation requirement: 1 semester for MPhil, 2 semesters for PhD
  - Applies to HKPF and Huawei Fellow students
- Full/partial PGS from university will be TA for 2/1 semesters in an academic year
- If no PGS from university, your advisor decides whether you do TA or RA
- In order to be TA, you must take PDEV6800 (unless if you are HKUST MPhil→PhD student)

Teaching Assistant (TA) Duty (Cont.)

- Due to the increasing COMP course demands, we need more TAs than before

- It is possible that eligible students and even fellowship/scholarship recipients will need to TA more than twice

- Please DO communicate with your advisor in advance about your plan of taking (study/internship...) leave and inform the department (Connie) before the TA assignment exercises

Other References

- **Academic Regulations Governing Postgraduate Studies 2021-22**
- https://registry.hkust.edu.hk/resource-library/academic-regulations-governing-pg-studies-2021-22
-
- **Postgraduate Program & Course Catalog 2021-22**
- http://prog-crs.ust.hk/pg
-
- **Handbook for Research Postgraduate Studies 2021-22**
- https://rpghandbook.hkust.edu.hk/
-
- **Handbook for Taught Postgraduate Studies 2021-22**
- https://tpghandbook.hkust.edu.hk/
-
- Alternatively, you may access them from the HKUST Fok Ying Tung Graduate School (FYTGS) website at https://pg.ust.hk.
-
- If you have any questions pertaining to the Academic Regulations, Catalog and Handbooks, please contact FYTGS. Thank you.

    https://pg.ust.hk/current-students/contact-us

Introduction by CS system

Experience from 10+ senior PhDs

>= Class of 2021

Research life

How to find papers at the early stage?

- Find the keywords
  - From your supervisors or peers
  - From survey papers
  - From official blogs or social media accounts
  - Try advanced search
- Filter top-venue papers
- Read leading researchers' work

How to comprehend a paper as a beginner?

- Start from abstract, introduction, and contributions
- Read papers everyday
- Consult senior members or supervisor
- Use other media like videos

How to come up with ideas?

- Read more and discuss more.
- Try old problem + new technique OR new problem + old technique First.
  - Attempt new problem + new technique carefully
  - Talk to people (or read paper in other domains) with actual needs
  - Think about the surveyed techniques
- Personal interest to the contributions to be made.
- Why the problem is important and how to make your method soild?

How to adjust the mindset after rejection?

- Fact: Research is all about trial-and-error

- Reflection: What's the weakness of this paper

- Mindset: Relieve stress wisely

Beyond research

How to be a TA?

- Email instructors in advance if you are particularly interested in some courses' TA.
- Choose courses wisely
  - Intro course: standardized routines, simple contents
  - Elective course: flexible routines, harder contents
- Set aside a fixed time for office hours, etc.
- Communicate with the instructor
  - What you need to do
  - What you have done
- Communicate with the students
- Be passionate (the hardest part :D)

TAC

- TA Coordinator, as its name indicates
- Also assist the department in various affairs
- Help facilitate the communications between the students and faculty/staff.

How to balance TA duty, coursework and research?

- For most people, research is the most important activity during the PG career.

- Do not over-estimate your availability and productivity.

- Split coursework wisely according to your lab's pace.

How to prepare for PQE?

- Confirm the date & the committee, submit the survey two weeks before that date
- Fine-read 20+; browse 80+
- Consider your interest and resources
- Trust your advisor
- Show confidence of your work

Extracurricular life?

- Officially organized student activities (via email)
- Find your own groups
- Reach out to other communities (other nationalities, UG/TPG, other universities…)
- Find your interests
  - And share them with others!

Future development

Academia or industry?

- Academia
  - Stable research positions
  - Flexible life schedules
  - Pursuing tenure
- Industry
  - More practical, less ideal
  - Regular schedules
  - Less short-term pressure
- More likely if you leave academia, it would be quite hard to go back
- Anywhere would embrace hardworking students

Jobs in academia

- Common positions in academia
  - Post-doc
  - Research position (some need to supervise students; the pay is generally less than 50% of the industry)
  - Tenure track (need teaching, best for long term development)
- For Post-doc
  - Usually depends on opportunities and recommendations
  - Pay attention to the information sources, e.g., mail lists
  - Fully understand the JD and arrange graduation time accordingly
  - Post-doc position in corporations could also be a good choice
- For tenure track, high-quality post-doc & publications are appreciated

Personal Planning in PhD study

- Plan different things at different stages
  - Coursework & TA requirements
  - Research that fulfils the minimum requirements
  - The allocation of extra time
  - Job seeking
- Regard the PhD live as self-employment and self-development
- Develop your skillset wisely
  - Coding
  - Research
  - Global outreach
  - Paperwork writing
  - Students mentoring
  - Anything else?

Unofficial group chats for 2022 CSE students

- We TACs are also there.

- Feel free to connect with your schoolmates, help each other, and share your life & thoughts there.

- Official affairs will still be announced by email.

2022-CSE-Family

HKUST CSE 22
WhatsApp 群组

Thanks to CHEN Jingye for helping create the WeChat group in the first place

使用 WhatsApp 相机扫描或上传此二维码即可加入群组

Thanks!

Work hard, and enjoy your new life with us in HKUST

Closing Remark by Department Head