Teaching for postdocs in Cambridge

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Topics:
1. Undergraduates: supervising, practicals, examples classes, projects
2. Postgraduate teaching
3. Summer courses and outreach
4. Institute of Continuing Education
5. Teaching in the future - TEF

1. Undergraduates: the Tripos system

- Many topics in years one and two which allows:
  - broad coverage of subjects
  - introduction to non-school subjects
  - more specialisation in final year/s.

- Assessment includes:
  - formal examinations: major means of assessment
  - practicals
  - projects
  - dissertations.

- Four year courses can lead to M.Eng. or M.Sci.

Natural Sciences Part IA [year 1]

- Three subjects from 7 choices:
  - Biology of cells
  - Evolution and behaviour
  - Physiology of organisms
  - Chemistry
  - Geology
  - Materials & mineral sciences
  - Physics

- plus one of
  - mathematics
  - quantitative biology
  - elementary maths for biologists

Natural Sciences Part IB [year 2]

- Three subjects from 20 choices:
  - Animal biology
  - Biochemistry & molecular biology
  - Chemistry A
  - Chemistry B
  - Ecology
  - Experimental psychology
  - Fluid mechanics
  - Geological sciences A
  - Geological sciences B
  - History & philosophy of science
  - Mathematics
  - Materials science & metallurgy
  - Minerals sciences
  - Molecular & cellular biology
  - Pathology
  - Pharmacology
  - Physics (single subject)
  - Advanced Physics (double subject)
  - Plant sciences
  - Physiology

Undergraduate teaching approaches

- Lectures:
  - often 3 per topic each week
  - typical undergraduate: up to 12 to 18 hours per week
  - question sheets (and answers!).

- Practicals:
  - range from 2 hours to 8 hours
  - continuous assessment
  - use of demonstrators (postdocs’ help possible).

- Projects (postdocs’ help possible)
- Dissertations (postdocs’ help possible)
- Examples classes & seminars (postdocs’ help possible).
- Supervisions.

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Lecturing: opportunities
• Department: ask in Teaching Office
  or with academic responsible for teaching
• Possible postgrad lecture/s related to your research
  or expertise on techniques/computational (STEMM),
  critical analysis (AHSS) methods
• Summer courses in Cambridge and/or elsewhere
• The Institute of Continuing Education
  www.ice.cam.ac.uk
• Be pro-active and make approaches directly.

Supervisions: undergraduates

What are supervisions?
• 1 hour sessions
• Weekly usually but may vary
• Participants number from 2 to 6
• Facilitated by graduate, post-doc, lecturer, prof.
• Different according to individual and subject
• Arranged by Colleges [or departments]
• Accountable to, and responsibility of, Colleges
• NOT part of University’s formal assessment

What are supervisions for?
• learn discipline of subject
• integrate course across subject, field
• tackle assignments and problem solving
• development of individuals
• promote understanding & independence
• monitor welfare
• assessment of progress
• preparation for examinations
• supervisor’s own benefit

Finding supervisions
• lecture lists [www.timetable.cam.ac.uk]
  - own subject
  - other departments - related topics
• approach lecturers directly
• talk in Department (who is leaving?)
• e-mail Directors of Studies in Colleges
• timing?
• need for training & opportunities to do so.

2. Postgraduate teaching: opportunities

Graduate programmes: 314
• Doctoral: 111
• Masters: 179
• Diploma: 9
• Certificate: 15

Masters programmes: 179 (of which 141 have teaching)
• Entirely taught: 6
• Predominantly taught: 26
• Equal research/teaching: 67
• Predominantly research: 42
• Entirely research: 38

www.graduate.study.cam.ac.uk/courses

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3. Summer courses and outreach

a. Departments: working with schools /colleges, e.g. msm

b. University: public engagement events
   - Cambridge Science Festival
   - Cambridge Festival of Ideas
   - Open Cambridge weekend
   - schools outreach to promote access

c. Colleges: PKP - Pembroke-King’s Programme

d. Europe and the USA: workshops for graduate students

e. Institute of Continuing Education: International Summer Schools
   short and on-line courses

3a. Summer courses & outreach: links

a. Departments: working with schools /colleges, e.g. msm

b. University: public engagement events
   - www.cam.ac.uk/public-engagement/public-events
   - schools outreach to promote access
   - www.undergraduate.study.cam.ac.uk/events

c. Colleges: e.g. PKP - Pembroke-King’s Programme
   - www.pem.cam.ac.uk/international-programmes/pembroke-kings-programme/

d. Europe and the USA: workshops for graduate students

e. Institute of Continuing Education: International Summer Schools
   - www.ice.cam.ac.uk/courses/international-summer-programmes
   - short and on-line courses
   - www.ice.cam.ac.uk/courses/short-courses-madingley-hall

4. Institute of Continuing Education

Dr James Gazzard

5. Teaching in the future - TEF

UK government has stated that the TEF will aim to:

- ensure all students receive an excellent teaching experience that encourages original thinking, drives up engagement and prepares them for the world of work
- build a culture where teaching has equal status with research, with great teachers enjoying the same professional recognition and opportunities for career and pay progression as great researchers
- provide students with the information they need to judge teaching quality
- recognise institutions that do the most to welcome students from a range of backgrounds and support their retention and progression
- include a clear set of outcome-focused criteria and metrics.


5. Teaching in the future: issues?

- Accommodate changes in school courses
  - A-levels vs. International Baccalaureate
  - respect and develop additional skills
- Lecturing/teaching styles & use of web resources
- Supervision system: preservation & export
- Range of subjects taught in the University?
- College subject grouping?
- Modular degree courses and/or MOOCs?
- Two year degree courses

www.cctl.cam.ac.uk/tap