Study Abroad: How to Choose Classes

Copenhagen, Ecole Polytechnique, Edinburgh, Melbourne, and UCL
Requirements for All Programs

• Students must take at least 2 classes/18 units for credit related to their option
  – If you have a double option, then the 2 courses will be in what you consider your primary option
• Must take at least 36 Caltech units and minimum of 4 classes with max of 5 (6 sometimes allowed)
• No need to get professor approval for courses at this point (this happens after selection into a program)
Degree Structure

• All English degrees are 3 years long – only 3 years of classes.
• Cambridge – all biology only 3 years, math only 3 years, all other Natsci subjects and Engineering are 3 undergrad plus 1 master’s, but only top students allowed into master’s year.
• Scotland (Edinburgh) – all degrees are 4 year honours level
Degree Structure Continued

• Denmark (U. Copenhagen & DTU) – first 3 years are undergrad. Last 2 master’s. 4\textsuperscript{th} year coursework for master’s. 5\textsuperscript{th} year thesis.

• Ecole Polytechnique – 3 year undergrad. Can only take classes from year 3 of curriculum.
Copenhagen: DTU & KU
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• Students are admitted to either DTU or KU, and take all science and engineering classes at admitting university...

• ...except Danish Language, which DTU students take at KU for credit. DTU Danish class is not taught for credit

• Econ/BEM: If primary option is Econ, then apply to KU. If BEM option, DTU is a better match.

• E means autumn (efterår) and F means spring (forår).
KU Option Subjects

• KU Subjects: Biology, Chemistry, Computer Science, Environmental Sciences, Geological Sciences, Mathematics, Physics (Nils Bohr Institute).
DTU Subjects

- DTU Subjects: All engineering including Chemical & Environmental, Nanotechnology, Applied Math, Computer Science, Chemistry, Systems Biology, Physics, Transport, Food, Space Sciences, Wind Energy, & Management Engineering
Copenhagen: DTU & KU Credit

- ECTS = European Credit Transfer Credits
- DTU: classes are usually 5 or 10 ECTS. Both = 9 Caltech unit unless you are trying to get credit for a 12 unit CIT equivalent class.
- KU: classes are 7.5 or 15 ECTS.
- Both universities have something called a Block System, but that means something different at each...
KU: Block System

• KU’s semester in science is composed of 2 teaching blocks:
  Block 1, Sept – mid Nov.
  Block 2, Mid Nov.- January with 1 week break.
• Exams are given at the end of each block.
• Students choose two 7.5 classes in Block 1 and one 7.5 class in Block 2. At least two classes (18 CIT units) must qualify for option elective or requirement credit.
• Students also take Danish Language and a Danish culture course
DTU: Block System

• The weekly schedule is composed of ten teaching blocks.

• Each block is 4 hours long 8am to noon or 1pm to 5pm: Lecture/coffee break/lecture & discussion/break/problem or project session with faculty member attending

• Each 5 ECTS class is taught in one 4 hour block.

• Each 10 ECTS class is taught in two 4 hour blocks, but not on the same day.
Bachelor’s vs Master’s Classes

• Bachelor’s classes are first 3 years of program. Most Danish students opt to do 2 additional years to get a master’s with the 2\textsuperscript{nd} year for a thesis.

• The 4\textsuperscript{th} year classes are master’s level and open to qualified Caltech students.

• When choosing classes pay attention to the term taught (fall only) and to the level of class, e.g., Bachelor’s or Master’s.
Questions?
Ecole Polytechnique
Ecole Polytechnique

• Can only do 3rd year of engineering cycle:
• Must take 4 classes in their Programme d'Approfondissement (PA)
• Must take French Language
• Can take hum or social science depending on offerings and schedule.
Ecole Polytechnique

• **Programme d’Approfondissement (PA)**
• (36 blocs, 144 h of teaching, 20 ECTS) Biology Chemistry at the Frontiers Computer Sciences
• Economics Ecossiences Electrical Engineering Energies for the 21st Century Engineering and Innovation Technologies
Ecole Polytechnique

- Programme d’Approfondissement (PA)
- Engineering of Complex Industrial Systems Engineering, Simulation and Modeling Mathematics
- Mathematical Engineering in Finance and Ecological Systems
- Mechanics
  Mechanics and Physics for Environment Optimisation, Communication, Signal Physics
  Quantitative Economics and Finance
Questions?
Edinburgh
Edinburgh

• College of Science & Engineering

• College of Humanities & Social Sciences

• College of Medicine & Veterinary Medicine (cannot be admitted to or take classes in this college.)
Edinburgh

• Each College is made up of Schools.

• There are 20 schools total.
Edinburgh

• **Schools – Science & Engineering**
  
• Biological Sciences
• Chemistry
• Engineering – ME, Chem E, EE, Civil, etc.
• GeoSciences,
• Informatics (Computer Science)
• Mathematics
• Physics and Astronomy
Edinburgh

- **Schools Humanities & Social Sciences**
- Art
- Divinity
- Economics
- Education
- **Health (New Program!)** Ex: Contemporary Issues Health & Well Being
- History
- Classics and Archaeology
- Law
- Literatures,
- Languages and Cultures
- Philosophy
- Psychology and Language Sciences
- Social and Political Science
Edinburgh

• Admitted to College of Science and Engineering (CSE)
• Take minimum of 4 classes and **minimum** of 60 Edinburgh credits. Take **max** of 80 credits & 5 classes.
• Max of 20 credits in College of Humanities and Social Sciences (CHS) – usually one 20 credit class.
Edinburgh

• If student is an Economics option student can apply to be admitted into the School of Economics.
Edinburgh

• Some CSE subjects are 20 credits per class, while some are 10, e.g., engineering.
• Can only choose Semester 1 classes – not Semester 2 or full year classes because you can’t take the exam!
• Check Availability in course description: must say *Open to All Students.*
What do the availability codes mean mean?

- **SS1** means that visiting students cannot take this class – usually field classes or yearlong project classes.

- **SV1** – available to all students – check semester taught – NEED SEMESTER 1

- **VV1** – available to visiting need to check if taught in Semester 1
• Courses are designated by level (8,9,10,11)
• For HSS courses, choose level 8 (intro) unless you have significant background in the specific subject
• Courses taken by 3\textsuperscript{rd} and 4\textsuperscript{th} year students are usually level 9 and above.
• PREREQUISITES – Noted on each class description. When prereq indicates visiting students not subject to this – means you need to have taken a \textit{similar} class at Caltech.
Credit Codes

• SCQF = Scottish Credit and Qualification Framework (Look for SCQF 10 or 20)
• **CAUTION** – do not pay attention to the ECTS credit code, applies only to European visitors.
• For example, could see SCQF 20 and ECTS 10, or SCQF 10 and ECTS 5.
• Look ONLY AT THE SCQF. All classes = 9 CIT units
School of Biological Sciences

- Biochemistry
- Biology
- Biotechnology
- Cell Biology
- Developmental Biology
- Ecology
- Evolutionary Biology
- Genetics
- Immunology
- Molecular Biology
- Molecular Genetics
- Plant Science
- Zoology
School of Biological Sciences

- Some subjects do not have intro levels, e.g., Biochemistry starts at level 10.
- 10 is the top level for undergrad classes – you cannot take postgraduate classes
- You must have the prerequisites to take level 10 classes
- Not all level 10 classes are available to visiting students
School of Chemistry

- Chemistry
- Chemical Physics

- Levels are 8, 9, 10 & 11
- Some level 11 classes are available to all students, but must be Semester 1 and have a December exam or assessment.
School of Engineering

• **Classes are 10 or 20 credits.** 9 Caltech units are given to both 10 and 20

• Chemical Engineering (levels 8-11) - level 8 only 2nd Semester
• Civil – level 8-11 & SV1 level 11 are available
• Electronics – (EE) levels 8-11
• Management only a few of these 8-10 as Level 11 in 2nd Semester
• Mechanical has levels 8-11 and level 11 available
• School of Engineering – what is this?
Engineering Class Factors

• ME Subject has sustainable energy classes & lots of project and design classes
• School of Engineering has a few group design project classes, e.g., Design of Microsystems
• Chem Eng has design and project classes open to fall exchange students
• Electronics (EE) 8 to 11 and several design and project classes open to visitors, e.g., Electronic Product Design and Manufacture
School of Geosciences

- Earth Science
- Ecological Science
- Environmental Courses
- Geography
- Geosciences
- Meteorology
School of Geosciences

• Very broad department, encompassing human geography, econ oriented classes, environmental science, and geology/geochemistry
• Geography has SS-type classes
• Postgraduate classes may be available to visiting students – depends on your background
School of Informatics

• Informatics 8-11
• *Dozens* of classes taught each semester!

• Can take classes at level 11.
• Many classes are 10 Edinburgh credits = 9 CIT units
• Classes in design, machine learning, human-computer interaction, robotics, etc.
School of Mathematics

- Mathematics 8-11
- Both pure and applied math
- Most level 11 classes are not open to visitors as they are only open to students in the graduate program, i.e., MIGSAA = Maxwell Institute for the Mathematical Science
School of Physics & Astronomy

• Levels 8 through 11
• Level 11 classes are usually open to undergraduates.
Edinburgh Points to Remember

• Classes must be SV1 or VV1 and Open to All Students (NOT SS1)
• Classes must be taught in Semester 1
• Only 20 Edinburgh Credits in the College Humanities and Social Science
• Take min. 4 classes/60 credits (max of 80 credits)
Questions?
Melbourne

• All subjects (classes) are 12.5 points each
• Can take max of 50 points – no more! At least 50% (18 credits min) of classes in option
• Can do 25% of classes as research class & Melbourne offers topics so easy to arrange
• Up to 50% in other subjects in science/eng or in humanities or social – your choice.
• Choose Semester 2 subjects (classes) only
Questions?
University College London
UCL

- No course catalog have to search by Fields of Study (link in handout)
- Admitted to one department (Admitting Dept.) MUST TAKE 50% of credit, usually 2 to 4 classes. 50% = 1 UCL unit.
- In Science, hum and social sciences .5 credits is one class
- In Engineering classes are usually .25 credits
Credits Continued

• Students in the sciences who do not take engineering will take four .5 classes to equal 2 UCL credits. (note that 7.5 ECTS = .5 UCL credits) **EXPRESS CLASSES IN UCL CREDITS NOT ECTS CREDITS!**

• Engineering students will usually have to take 4 classes (.25 each) to satisfy Admitting Dept. requirement.
UCL Subjects Not Allowed

• Students cannot take English literature classes, but can take classes in other literature departments of which there are many including the Classics, e.g., Roman Poetry.
UCL Subjects Not Allowed cont.

- Not allowed to take classes in:
  - Slade School of Art
  - English Literature (can take other hum subjects in lit)
  - Language Center
  - School of Law
  - EE (Could do CS)
  - Math (No math or applied math)
  - Statistical Sciences (No math or applied math)
  - Biochemical Engineering (occasional exceptions)
  - Management Science
UCL & Econ Classes

• Need 2\textsuperscript{nd} Admission to UCL Econ Department in order to take upper divisions econ classes – this means 2\textsuperscript{nd} or 3\textsuperscript{rd} year classes.
• And you need at least a 3.7 to compete for this – very DIFFICULT to get a 2\textsuperscript{nd} admit
• However – the Slavonic Studies teaches many econ classes and do not require a 2\textsuperscript{nd} admission, e.g., Topics in Financial Management or the Economics of Entrepreneurship
Questions?
How to get to class lists

- KU: http://kurser.ku.dk
- DTU: http://www.kurser.dtu.dk/
- Edinburgh: http://www.drps.ed.ac.uk/16-17/
- UCL: http://www.ucl.ac.uk/prospective-students/study-abroad-ucl/study-abroad-guide/subjects