Study Abroad: 
How to Choose Classes

Copenhagen (KU & DTU), Ecole Polytechnique, Edinburgh, Melbourne, and UCL
Requirements for All Programs

- Students must take at minimum of 18 units (2 to 4 classes based credit/unit system of partner university) for credit related to their option – can be a required class or elective credit.

- If you have a double option, then the 18 credits will be in what you consider your primary STEM option-can’t split 9 & 9.
Requirements for All Programs

• Must take at least 36 Caltech units and minimum of 4 classes with max of 5 (6 sometimes allowed where classes are offered that are less than 9 unit equivalents, e.g., 3 or 6 – most often seen at Cambridge in certain subjects such as CS or physics.

• No need to get professor/instructor’s 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. UCL are all 3 years long.

• Cambridge – all biology subjects only 3 years, math only 3 years, CS 3 years, all other NatSci subjects and Engineering, include Chem Eng are 3 undergrad plus 1 master’s. Caltech students can take 4th year classes.

• Scotland (Edinburgh) – all degrees are 4 year plus some are 5 — 5th year is master’s.
Degree Structure Continued

• Denmark (U. Copenhagen & DTU) – first 3 years are undergrad. Last 2 master’s. 4th year coursework for master’s. 5th year thesis. Teachers can take master’s classes.

• KU (UCPH) — natural sciences and computer science

• DTU — engineering science, but also space sciences, computer sciences, physics, chemistry, management engineering, energy, bio-sustainability and bioinformatics, etc.
Degree Structure Continued

• Ecole Polytechnique – 4 years (3 to get degree + 1 required year away from the Ecole in France or abroad.

• Can only take classes from year 3 of curriculum due to scheduling and 4 classes in your area of specialization (programme d'approfondissement) plus French language. Can follow a lit class or take one elective in the humanities/soc sci.
Degree Structure Continued

• Melbourne Science — B.S. has over 41 majors in science and engineering fields
• 3 Year Degree, option to extend for 4\textsuperscript{th} year
• Go to this link for majors:
• If you have an official option in HSS you can apply in that option to Melbourne
Copenhagen: DTU & KU
Copenhagen: DTU & KU

• Students are admitted to either DTU or KU, and take all science and engineering classes at admitting university – can’t mix

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

• Econ/BEM: If primary option is Econ, then apply to KU, but you must be advanced. If BEM option, DTU is a better match for electives in BEM.

• E means autumn (efterår) and F means spring (forår). Be sure you are in the correct semester!
KU Option Subjects — (aka UCPH)

• KU/UCPH Subjects: Biology, Chemistry, Computer Science, Environmental Sciences, Geological Sciences, Mathematics, Physics (Nils Bohr Institute). Econ possible, but very hard to get into.
DTU Subjects

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. *(Why ONE class only in Block 2?)*

• 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?

• Please ask – we know this is complicated.
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)
• Biologie
• Bio-Informatique
• Chimie
• Économie
• Electrical engineering
• Énergies du XXIe siècle (Energies for the 21st Century Engineering Informatique
Ecole Polytechnique
Programme d’Approfondissement (PA)

• Innovation technologique (Innovation Technologies)
• Mathématiques
• Mathématiques appliquées
• Mécanique
• Physique
• Sciences pour les Défis de l’Environnement
• YOU TAKE 4 CLASSES IN ONE APPROFONDISSMENT PLUS FRENCH LANGUAGE
Avez-vous des questions?
Edinburgh
Edinburgh

• College of Science & Engineering

• College of Humanities & Social Sciences (Can apply in HSS subject if you have an option & are VERY well prepared!)

• College of Medicine & Veterinary Medicine

(Visiting students 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 – College of Science & Engineering**

• Biological Sciences
• Chemistry
• Engineering – ME, Chem E, EE, Civil, etc.
• GeoSciences,
• Informatics (Computer Science)
• Mathematics
• Physics and Astronomy
Edinburgh
Can apply in CA as main subject or take classes

• **Schools College of Arts, Humanities & Social Sciences**
• Art (Limits on what visitors can take)
• Divinity
• Economics
• Education
• **Health (New Program!)** Contemporary Health Issues & Well Being
• History
Schools: College of Arts, Humanities & Social Sciences continued

- 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)
- Max of 20 credits in College of Arts, Humanities and Social Sciences (CAHS) – usually one 20 credit class unless admitted to CAHS School.
- Take minimum of 4 classes and **minimum** of 60 Edinburgh credits. Take **max** of 80 credits & 5 classes from all Colleges.
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 and be Semester 1.*
- *Check prereqs!*
What do the availability codes mean?

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

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

- **VV1** – available to visiting need to check if taught in Semester 1
Edinburgh

• 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 3rd and 4th year students are usually level 9 and above.

• PREREQUISITES – Noted on each class description. When prereq indicates visiting students not required to have the prereq – This ACTUALLY means you need to have taken a similar class at Caltech. You are NOT exempt!
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 as students take core science Semester 1.
- Civil – level 8-11 & SV1 level 11 are available
- Electronics – (EE) levels 8-11
- Management only a few of these 8-10 and Level 11 in 2nd Semester
- Mechanical has levels 8-11 and level 11 available
- School of Engineering – redundant name – has yearlong project classes visitors **cannot** take.
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 Social Science-type classes, e.g., *Economic & Political Geography*
• 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.
• Astronomy can work well for GPS Planetary Science option students
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?
(King’s Building’s Below)
Melbourne
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
Melbourne Subject Handbook

- REMEMBER – SUBJECTS = Classes
- Courses = Degree
- Choose **Semester 2** Choose Undergraduate Subjects
- Choose Subject Study Area, Faculty & Depts.
Questions?
(Yarra River - CBD)
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, Engineering, Humanities and Social Sciences .5 credits is one class
Students 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!

- Ignore the ECTS and US unit translation. Only put .5 UCL credits.
- Pick Fall only classes, not Year or Spring
- Some subjects have fall classes, but do not give fall exams: math, stat sci, eng, etc.
UCL Subjects Not Allowed by UCL for Fall Only Students

• 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 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, or Spanish literature, etc.

• Go to Edinburgh if you want to take English lit classes!
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 \textbf{Slavonic Studies} teaches many econ classes and do not require a 2\textsuperscript{nd} admission, e.g., \textit{Topics in Financial Management or the Economics of Entrepreneurship}
Questions?
How to get find classes

- KU: [http://kurser.ku.dk](http://kurser.ku.dk)
- DTU: [http://www.kurser.dtu.dk/](http://www.kurser.dtu.dk/)
- UCL: [https://www.ucl.ac.uk/prospective-students/study-abroad-ucl/study-abroad-guide/subjects](https://www.ucl.ac.uk/prospective-students/study-abroad-ucl/study-abroad-guide/subjects)
Course List & Proposal Examples

• These are in our office library, room 319.
• You can look at them by option and then see all the programs that student applied to and get more ideas.
• Remember that you always need to check the course catalog of the host university
• After program selection you are allowed to change classes via a petition/ approval process
Questions

• Har du et spørgsmål om disse oplysninger? (Danish)
• Avez-vous une question à propos de cette information? (French)
• Hey, mate, do you have a question about this information? (Australian)
• Do you, per chance, have a question about what we have discussed? (Real English)
• Dae ye hae a quaistion aboot this speirins? (Scots)