

# Cambridge Scholars Study Abroad Program

## Program Description and Application Requirements

Deadline Date for the 2018 Michaelmas (Fall) and 2019 Lent (Winter) Program: January 25, 2018

### Turn in all materials including transcript & references to:

Fellowships Advising and Study Abroad (FASA), Rm. 319 in the Center for Student Services, Mail Code 319-87

*Please read the following pages carefully as this information is essential for completing an application.*

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### **Introduction and General Information**

The Cambridge Scholars Program is a study abroad program in which Caltech students study at Cambridge University, England during their junior or senior year. Students can study during the fall or winter term. There are six places available for the fall (Michaelmas Term) and four for the winter (Lent Term). Students may apply for both or either term, but may only study abroad for one term.

**The fall (Michaelmas) term dates for 2018 are Tuesday, Oct. 2 through Friday, November 30. Students are required to arrive in Cambridge the Friday prior to the beginning of the Michaelmas Term.** While classes end on November 30, students must remain in Cambridge for the following week to ensure they have time to complete all supervisions and work.

**The winter (Lent) term dates for 2019 are Tuesday, January 15 through Friday, March 15.** Students are required to arrive in Cambridge the Friday prior to the beginning of the Lent term. While classes end on March 15, students must remain in Cambridge for the following week to ensure they have time to complete all supervisions and work.

These dates allow sufficient time for travel before or after the Michaelmas (fall) or Lent (winter) terms. **Due to residency rules at Cambridge, participants must remain in Cambridge for the entire term including most weekends.** Students should plan to take no more than two weekend overnight trips out of Cambridge and these require permission of the student's tutor. Weekend day trips to London or local sights are allowed. **However, Cambridge rules require students to sign out and in to their college** Students are required to attend all classes, labs, supervisions, etc., and some subjects could have classes or supervisions on Saturdays.

### **Cambridge Location, History, and Student Body**

Cambridge University is located in the town of Cambridge, England, located in East Anglia in Cambridgeshire, about 60 miles northwest of London (55 minutes by express rail from London). Cambridge is set in beautiful English countryside on the River Cam with plenty of opportunities for country walks and cycling. With a population of about 90,000, it is both a lively market and university town, abounding in clubs, pubs and cultural opportunities. The university was founded in the 13<sup>th</sup> century and is at the top of the academic league of British and world universities. Cambridge University has 16,000 students of which about 10,000 are undergraduates. Therefore, about 15% of the population of Cambridge is composed of students! Although Caltech students will only study in one of the sciences, mathematics, engineering or economics tripos, there is ample opportunity to meet and interact with students from a range of other disciplines that enrich the Cambridge experience.

### **Room and Board**

Cambridge is famous for its college system, on which Caltech's House System is based. Students live, eat and sometimes receive instruction in their colleges. There are 31 colleges in total, 29 of which admit undergraduates and all but three of which are co-ed. Our exchange involves four of these undergraduate

colleges and all are coed: Pembroke (est. 1347), Corpus Christi (est. 1352), St. Catharine's (est. 1473) and St. John's (est. 1511). Participating students live in single rooms in one of these historic colleges. Note that placements are not available at any other colleges and no special arrangements can be made regardless of individual desire regarding placements. Furthermore, students cannot specify placement in a specific college.

Each college has a dining hall, but there is no board plan. In the dining hall, students can buy breakfast, lunch and dinner on weekdays and usually brunch and dinner on weekends. Before departure for Cambridge, each student is given a check in the amount of the Caltech board fee (minus a Cambridge kitchen fee). Caltech students can use these board funds to pay for meals in their college dining hall, to eat out, or to cook for themselves. In addition to regular dinner, all colleges offer a Formal Hall dinner with a more elaborate, served meal several nights each week. The Formal Halls require that participants wear a college gown while dining, as well as nicer clothes underneath. Students bring their own wine and grace is said in Latin. These formal dinners are unique to Cambridge and students are encouraged to attend several during their term abroad! A reservation ticket is required. Students may not eat in a college other than their own unless invited by a student from that college, for any meals, formal or not.

**There may be a supplemental charge to Caltech room and/or tuition charges.** This charge varies each year based on Cambridge and Caltech fees and the exchange rate. Students on financial aid are eligible for additional funding to cover these costs depending on their individual situation.

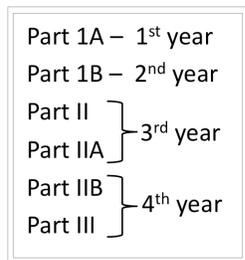
### **Academic Program**

Please also see the **Subject Information** section at the end of this document for details on each subject.

There are about 25 distinct undergraduate degree options at Cambridge in the sciences, engineering, mathematics and economics. Note that the undergraduate degree takes only three years at Cambridge, as there are no distribution requirements to fulfill in other subjects. However, some physical science and engineering subjects offer a 4<sup>th</sup> year that awards a type of non-research master's degree as a part of undergraduate training. Seniors and well-prepared juniors may take these 4<sup>th</sup> year courses, which are similar to graduate level courses at Caltech. *The Math Tripos, Computer Science Tripos, and Biological Sciences subjects such as neuroscience, physiology and zoology are strictly three-year undergraduate degree programs.*

The heart of the Cambridge curriculum is the **tripos**, which is the academic field that a Cambridge student focuses on, e.g., their option. The Natural Science Tripos, which includes 17 distinct subjects, is described below. Cambridge students take courses within their tripos/subject by year of study and all classes taken are in the tripos of that subject. In other words, students cannot take electives in the humanities or social sciences or in other STEM tripos/subject areas. Caltech students cannot take classes in the humanities or social sciences unless their tripos/subject lists them as part of their own curriculum. For example, the Engineering Tripos offers a range of elective courses within the tripos including languages, management, etc., but these are only available to students in the engineering tripos.

Each tripos is divided into **three parts**. In some subjects there is a two-year long Part I, (sometimes divided into Part IA and Part IB) and a one year Part II. In others, Part I lasts a year and is followed by a two-year Part II sequence consisting of Part IIA and IIB. In Engineering the third year is designated as IIA and the fourth year is designated as IIB. For the Natural Sciences if a subject has fourth year component it is usually called Part III. For example the third year of Physics is Part II and the fourth year of Physics is Part III.



**Students will usually take 4-5 classes total, depending on the number of lectures per class. In some subjects, students must take more due to the class structure, e.g., Computer Science. **Students are required to take the equivalent of at least 36 Caltech units.** See Tripos Information below for the breakdown of lectures and CIT units.**

**Note well:** Cambridge does not have units or credits of any kind. Instead, students must look at the number of **lectures**. Please see specific tripos/subject information below for the ratio of lectures to Caltech units for each tripos/subject. The lecture number does not include supervisions, which are usually bi-weekly with the exception of 4th year classes, e.g., Part III or IIB. However, when practicals (labs) or problem set sessions are listed in the class "contact hours" description, these may be considered in the lecture count. Note that labs are usually not counted as a separate course in Britain. Some subjects such as Physics have an experiments class that is separate.

### **Caltech Course Credit**

Credit can be earned for option requirements, electives or general credit. Most participants will earn option specific requirement or elective units, but general credit is also acceptable. All courses must be taken for credit except those designated as non-examinable, which are optional and taken as additional courses solely out of interest.

### **Supervisions**

An important aspect of a Cambridge education is the **supervision system** in which students meet typically every two weeks with a faculty or graduate student supervisor for each class and one or two other students to go over the work and discuss concepts from the lectures. Essays or problem sets are due at each supervision session. Caltech students have greatly enjoyed the experience of supervisions. Note that in some subjects such as engineering and physics, the 4<sup>th</sup> year courses are called *modules* and do not have supervisions. To fully appreciate the Cambridge system, students must take at least two courses that have supervisions. Some subjects in the biological sciences, such as PDN (Physiology, Neuroscience, and Development) have lectures and small group work, and the student must set up supervisions themselves based on their specific topics of interest.

### **Courses**

**While it is possible to take courses from the different years of a tripos, students need to be aware of schedule conflicts when taking courses from more than one part of the tripos/subject since the courses are set up to avoid conflicts as much as possible only within that part.** Classes from Part IA are typically too elementary for Caltech students, although there may be exceptions. Classes in Part IB can be taken by students in that subject if there is a compelling reason to do so such as fulfilling a course requirement.

In situations where a required course cannot be taken or is not offered in Cambridge the term study, the student could take the course by correspondence or as an independent study at Caltech before or after study at Cambridge. **See the General Information Handout for further information on courses by correspondence. The permission of the Caltech instructor is required.**

As mentioned, students will take four or five courses per term. **However, in some subjects, the term is split into two halves, e.g., chemistry and in some cases chemical engineering.** See specific notes on each tripos/subject below. In Chemistry Part III, for example, a student takes 3 classes for 6 units each in each half of the 8-week lecture period.

**In most cases, students will not take final exams, but will be evaluated by Caltech and Cambridge faculty on a special evaluation form. Students will not receive grades in Cambridge,**

**only credit at Caltech. All courses are noted by name on the student's transcript and whether or not the student received credit.** All courses must be taken for credit. Courses not completed to the satisfaction of Caltech or Cambridge professors will be noted as *no credit* on the transcript.

**Again, students cannot take elective courses in the humanities or social sciences with the exception of engineers taking the engineering/management track in the engineering tripos.** It is important for Caltech students to understand that Cambridge students are actually admitted to their colleges in a particular tripos and read (take courses in) that subject for their entire university degree. There are some choice points within a tripos for Cambridge undergrads as they move from foundation courses to selecting a specific course of study (subject) to follow in their tripos. For example, a student would be admitted in the Natural Sciences Tripos and choose a focus area, e.g., Earth Sciences, in his/her third year. Cambridge students do not have distribution requirements or electives in subjects outside of their subject/tripos.

### **Web Page Information Regarding Host University & Courses**

**IMPORTANT INFORMATION — READ CAREFULLY.** A list of URL's for departments in which you can study appears below with important notes on each subject. Remember to choose courses from only one department unless the department allows crossover, e.g., physics and astronomy.

### **General Information:**

Cambridge Area: <http://www.cam.ac.uk/local/> and <http://map.cam.ac.uk/>

Cambridge University: <http://www.cam.ac.uk/> - Search for a specific field.

Host College Information: <http://www.cam.ac.uk/undergraduate/colleges/>

In the List of Colleges, choose Corpus Christi, Pembroke, St. Catharine's, or St. John's. Students do not select a host college — students will be assigned to a college if they are selected to the Cambridge Scholars Program.

A-Z Index of University Web Pages: <http://www.cam.ac.uk/university-a-z>. Click on specific departments.

University of Cambridge: Department Directory: <http://www.cam.ac.uk/colleges-and-departments>

Undergraduate Courses: [www.cam.ac.uk/admissions/undergraduate/courses/index.html](http://www.cam.ac.uk/admissions/undergraduate/courses/index.html)

University of Cambridge: Undergraduate Prospectus 2018: (Note this does not list classes – provides an overview.)

[https://www.undergraduate.study.cam.ac.uk/sites/www.undergraduate.study.cam.ac.uk/files/publications/uoc\\_prospectus\\_2018\\_single.pdf](https://www.undergraduate.study.cam.ac.uk/sites/www.undergraduate.study.cam.ac.uk/files/publications/uoc_prospectus_2018_single.pdf)

### **Subject Information**

***Note well that in Cambridge the term 'course' means course of study (subject), not specific classes.***

***Cambridge Timetable (formerly called the Lecture List):*** <https://2017-18.timetable.cam.ac.uk/>

The Timetable site has a drop-down menu for each tripos and part. Chemistry and a few other subjects do not list their lecture timetable here, although they are usually available on the department website (links below). For other subjects that do not list their lectures, first check the department website. Applicants can email the department teaching officer, course organizer, or department secretary. The FASA Library usually has a copy

as well. A contact may be noted on the Timetable link above or at the department website. Also, some departments are now only allowing registered students to access their class listings, as they require the use of CamCORS, similar to our REGIS system. Therefore, for such tripos/subjects you need to allow sufficient lead time to get specific information on what classes are offered to third and fourth year students.

**As you review class offerings, you should find the term (M for Michaelmas and L for Lent) that each class is taught and the days and times of lectures, making note of the number of lectures.**

Note that you select a subject and part from the timetable to find lecture times. Supervisions are scheduled after classes begin. Lecture times can vary from year to year, so class times may change for next year. But it would not be wise to list more than two classes that have a time conflict. Class changes are allowed with permission after a student is selected for Cambridge (or any other program.) Supervisions do not count towards the total number of lectures.

You *do not need* to consult Caltech faculty to get permission to take a class at this time - permission will be granted after a student is selected for a particular study abroad program.

Consultation *is wise if it is not clear* to you whether a class can fulfill a specific Caltech requirement in your option. Most options are liberal about granting credit for option elective credit provided you have chosen a 3rd or 4th year class.

**You need to go to the specific class lists in the teaching area of each subject/tripos.** Also note that the web pages designed for undergraduate admissions are very general. You need to look for specific classes in the **department pages or in the information we have posted if subject class information is not available online because it requires a log-in.** Do *not* look in the admissions or prospectus sections as these sections do not list classes. Look for links to information for **current** versus **prospective students** and use the department links given below or links to PDFs we have obtained from a department as a starting point to find classes.

*A few things to note well - please read as related to your option:*

\* The term **course** is **equivalent** to the Caltech term **option** or the term major and **does not equal an individual class.**

**Since you can ONLY apply in one subject in the Natural Science Tripos or one tripos in the other fields you only need to click on the links that apply to your option with the exception of ChemE students that may wish to look at the biotechnology classes in the Engineering tripos.**

Note well: Next fall and winter's class schedules **are not yet set. Therefore, you must use the current year's listing to make class choices for your application.** Students will be allowed to make changes later on with the permission of the study abroad director and the relevant Cambridge department if they are selected to study in Cambridge.

Most subjects will list a course organizer. The course organizer is not the instructor for a particular class, but the faculty member who has oversight of that part of the tripos and all classes within it. Note that most classes at Cambridge are not taught by just one instructor — therefore, the need for a course organizer, who acts as the contact point for questions about the courses in that part of the tripos.

You can usually find an email address for a course organizer or department contact at the department website (typically under the teaching section. Sometimes the name of a department administrative assistant or secretary may be listed as a contact. If no email is listed, you can search for email addresses at:

<http://www.cam.ac.uk/> — choose *Email and Phone* located at the top right of the page.

**As noted previously, PART II, IIA, IIB OR III CLASSES are equivalent to junior and senior level classes. In some cases, Part IB classes may be a suitable choice. Note that when choosing courses from different parts of a tripos, there can be time conflicts. At this point, since the teaching times could change next year, do not concern yourself about the lecture times.**

### **NATURAL SCIENCES TRIPOS (Note that Mathematics is a separate Tripos)**

NatSci Overview: <http://www.natsci.tripos.cam.ac.uk/subject-information>

NatSci Courses: <http://www.natsci.tripos.cam.ac.uk/contacts/course-websites>

**Students can only take classes in their specific subject within the Natural Sciences Tripos**, e.g., biological sciences (PDN, Zoology, Plant Sciences, Neuroscience) Chemistry (Part III only), Geological Sciences, or Physics.

**For the Natural Sciences Tripos, choose one subject and select courses from the third and fourth year of that tripos (i.e., Part II, IIA/B, or Part III level courses). In cases where a student wishes to take a course taught in Part Ib, this is permissible provided the student controls for time conflicts.**

Natural Science subjects available to Caltech students: Astronomy; Astrophysics; Chemistry; Earth Sciences; Neuroscience; Physiology, Development and Neuroscience (PDN); Plant Sciences; Physics; and Zoology. There is no Biology Tripos, but students may select Part II of: Zoology, Neuroscience, Plant Sciences, **or** PDN, which are all grouped under the department of Biological Sciences (which is not a tripos).

**Note that students cannot take Anatomy, Biochemistry, Clinical or Veterinary Medicine, Genetics, Material Science, Pathology, or Pharmacology. *No exceptions can be made!***

*A class that is designated as non-examinable may be taken, but not for Caltech credit and does not count towards the 36 unit required minimum.*

Some subjects, notably in **Biological Sciences**, do not have a Part III, e.g., PDN, Neuroscience, Plant Sciences, Zoology etc. For others, such as **Mathematics**, which is a separate tripos from Natural Sciences, Part III is a one-year graduate program also referred to as the Master of Mathematics / Master of Advanced Study **Caltech students are not allowed to take courses from Part III Maths, as these have no assigned work and are solely assessed at the end of the academic year by a series of examinations.**

If a department, e.g., **Chemistry**, has *different tracks* for those pursuing either a three-year or four-year degree program, it is best to choose courses from the list for those pursuing the four-year degree track, as those are more comparable to the level of Caltech courses.

***Astrophysics, Chemistry, Geological Science, Experimental and Theoretical Physics*** have a fourth year of study for which Cambridge students earn a non-thesis masters. This 4<sup>th</sup> year is typically referred to as Part III in the Natural Science Tripos.

**NST Subjects:** <http://www.cam.ac.uk/cambuniv/natscitripes/links.html> and <http://www.cam.ac.uk/about/natscitripes/ps/> (select the appropriate part from the left). For a general description of the Natural Sciences Tripos Subjects go to:

<http://www.cam.ac.uk/admissions/undergraduate/courses/natsci/part2.html>.

**NST Interdisciplinary Classes:** These courses are an aspect of the Part III course in either Chemistry, Earth Sciences or Physics. Only a small number of such interdisciplinary courses are offered. Students in any NST subject where the courses are relevant to their studies may opt to take an NST Interdisciplinary class. Descriptions of these classes can be found in the Chemistry Part III guide. And note that Interdisciplinary classes are only taught Lent term: [http://www.ch.cam.ac.uk/sites/ch/files/users/jhk10/III\\_main.pdf](http://www.ch.cam.ac.uk/sites/ch/files/users/jhk10/III_main.pdf)

**NST Astronomy/Astrophysics:** 18-24 lectures is equal to 9 Caltech units. Students choose courses from Part II or III. Part II Lectures: [http://www.ast.cam.ac.uk/students/undergrad/part\\_ii/lectures](http://www.ast.cam.ac.uk/students/undergrad/part_ii/lectures)  
Part III Lectures: [http://www.ast.cam.ac.uk/students/undergrad/part\\_iii/lectures](http://www.ast.cam.ac.uk/students/undergrad/part_iii/lectures)

**NST Biological Sciences:** see Neuroscience, PDN, Plant Sciences or Zoology (the only allowed biological subjects) directly below. Students choose only **one** of these subjects below and cannot take courses from any other subject. However, there is often some content overlap between these subjects, especially between Neuroscience and PDN. These are three yearlong programs and do not have an optional master's level 4th year. Most applicants in these subjects will take Part II classes, but may take Part I classes, however schedule conflicts often result between parts in any subject. Applicants must choose one of these subjects and choose all classes from that subject - only 4 classes are allowed for 36 units. Note that the biological sciences subjects are primarily essay writing classes.

- **NST Neuroscience** is an interdisciplinary course of study that is organized jointly by four departments (Experimental Psychology, Pharmacology, PDN and Zoology). Most classes for the Neuroscience Course can be found within PDN (see below). There is no Part III, so students will take courses from Part II only. Students must set up supervisions upon arrival, and should have at least 2 per class. Students cannot substitute a presentation for a supervision. Most classes have 24 lectures which is equal to 9 units. Part II modules: <http://www.bio.cam.ac.uk/undergraduate/courses/neuroscience/modules>

- **NST Physiology, Development, Neuroscience (PDN):** There is no Part III, so students will take courses from Part II only. Students must set up supervisions upon arrival, and should have at least 2 per class. Students cannot substitute a presentation for a supervision. Most classes have 24 lectures which is equal to 9 units. (Link on next page)  
PDN Part II: <https://www.pdn.cam.ac.uk/documents/FINALPartIIPDNBrochure20172018.pdf>

- **NST Plant Sciences:** Select Part II (there is no Part III). Students in this subject are also allowed to take Part Ib classes. Most classes have 24 lectures which is equal to 9 units.

- **NST Zoology:** Courses in Ecology are offered this subject. There is no Part III, so students will take courses from Part II only. Most classes have 24 lectures which is equal to 9 units.  
Part II M: <http://www.zoo.cam.ac.uk/undergraduates/NST-II-Zoology/modules-MT13>  
Part II L: <http://www.zoo.cam.ac.uk/undergraduates/NST-II-Zoology/modules-LT14>

**NST Chemistry:** <http://www.ch.cam.ac.uk/teaching/course-guides> Since Part II is split into two 5-week sections, students can **only** take courses from the **first half** of Part II. The second section of Part II runs into the next term, when you will be back at Caltech. Therefore, you cannot take any classes scheduled during the second half of Part II. If you take classes from Part II (Michémas weeks 1-5 or Lent weeks 4-8), then you will have to mix them with the Part III classes, which can be difficult to schedule. There cannot be **any** time conflicts, so be sure to choose courses carefully. Part III classes are also split into two sections, but they are 4 weeks long. You can take Part III courses in both sections, as they will be completed in one term. Chemists

will take three courses per each half term for a total of six. To fully understand the schedule, you must look at the timetables for both parts. Junior chemistry majors generally do not study abroad at Cambridge due to scheduling issues. For the most part, 12 lectures is equal to 6 Caltech units.

Course Descriptions and time table information: <https://www.ch.cam.ac.uk/teaching/course-guides>

**NST Geological Sciences/Earth Sciences:** Students should know that the curriculum rotates classes every other year. When choosing modules (classes), look at the past year's Lecture List, not the current one. Most modules have 16 lectures (2 hrs per week) plus practicals. Depending on the number of hours spent in practicals, most courses will earn 9 units and practicals do not earn any additional units. Students must take 4 classes.

Part II: <http://www.esc.cam.ac.uk/teaching/general-information>

**NST Physics:** Go to Part II or III. Physics usually allows students to take math courses or astronomy courses as part of the physics subject offering, as listed in the Lecture List. Physics students should note that there is an Experiments Class and it is possible to arrange to do two experiments to meet the Caltech requirement. Physics students are advised to primarily take Part II courses, as Part III courses have no supervisions. Students can mix the two parts, assuming there are no time conflicts. Students must take a *minimum* of 18 units in Part II and a *maximum* of 18 units in Part III. Part III classes that have fewer than 18 lectures will earn 6 or fewer units. Usually, 24 lectures is equal to 9 units.

Part II Theoretical Physics 1 and 2 (TP1 and TP2) do not have supervisions and students who wish to take these classes will have to take the January or May exam. Seniors should not elect TP2 as credit cannot be granted in time for graduation. Students should note that both TP1 and TP2 are theoretically quite challenging and students taking the class must have a very strong background in both math and theory.

Physics 2017-18 Timetable: [https://www.phy.cam.ac.uk/students/teaching/copy3\\_of\\_LectureList201718.pdf](https://www.phy.cam.ac.uk/students/teaching/copy3_of_LectureList201718.pdf)

Physics 2017-18 handbook:

[https://www.phy.cam.ac.uk/students/teaching/teachingfiles/copy4\\_of\\_PhysicsCourseHandbook1718.pdf](https://www.phy.cam.ac.uk/students/teaching/teachingfiles/copy4_of_PhysicsCourseHandbook1718.pdf)

## **CHEMICAL ENGINEERING, COMPUTER SCIENCE, ECONOMICS, ENGINEERING, MATHEMATICS**

**Chemical Engineering Tripos:** The syllabus for Part IIA and Part IIB is not available online, but each year the FASA Library obtains a copy from the department. Chemical engineers may also find the Engineering Tripos of interest, which is described below. Some parts of the Chem E tripos are split into two sections, so be careful when choosing classes. Students in chemical engineering should look carefully at the number of lectures per course and the start and stop dates of a lecture series. All classes must complete before you leave at the end of the term. ChemE students may find the biotechnology track in the Engineering Tripos more appealing than the ChemEng if biotechnology related areas are of interest to them. 16 lectures is equal to 9 units.

Chemical Engineering Timetables: <http://www.ceb.cam.ac.uk/undergraduates/current-students>

**Computer Science Tripos:** CS is a three-year program, and students can take classes from any part, being careful of time clashes. Many classes are taught in fewer than 8 weeks, so students must be careful not to make their schedule too heavy on the back or front end. On the proposed course list, students must provide a chart, showing when classes start and stop during the term, and that there are no weeks with fewer than 3 classes. 16-24 lectures = 9 units, 10-12 lectures = 6 units, 6-8 lectures = 3 units.

Cambridge (Winter Term) Proposed Course List

Total CIT Units for term abroad: 36  
Course by Correspondence/Units: 6

Course	Week								
	1	2	3	4	5	6	7	8	9
Security II									
Computer Systems Modelling									
Compiler Construction									
Topics in Concurrency									

Information:

<http://www.cl.cam.ac.uk/teaching/1718/part2.html>

Students applying to the Computer Science Tripos must prepare a chart, like the one to the left, showing when classes are taught during the term. Some Computer Science classes are not taught over the full 9 weeks.

**Engineering Tripos:** Note that there is an environmental track in Part IIB. In other parts of the tripos, students will find classes related to architecture or civil/structural Engineering. **Engineering students must take at least 2 Part IIA classes as Part IIB classes have no supervisions - the heart of the Cambridge experience.** Engineering students can study applied math, engineering, or the management/economics track of the engineering tripos (similar to BEM) and choose classes from IIA or IIB as noted above. The Engineering Tripos offers foreign language, economics, accounting, and management classes. Note that only a maximum of 50% of the student's courseload can be taken in such elective classes as management, etc.

**Engineering** students can take classes from any subject within engineering including the BEM, language or other optional classes. If necessary to fulfill an option requirement (not elective) applicants may choose a class from Part IA or IB. Note well that schedule conflicts can occur so applicants should consult the timetable for engineering - see link below.

Engineering students should also note that Part IIA (3<sup>rd</sup> yr) has 4+ hours of lab blocked out per week. Be certain to study the timetable carefully when making course choices from different parts of the tripos. 16 lectures is equal to 9 units.

Part IIA: <http://to.eng.cam.ac.uk/teaching/courses/y3/index.html>

Part IIB: <http://to.eng.cam.ac.uk/teaching/courses/y4/index.html>

Engineering Timetable (scroll down): <http://teaching.eng.cam.ac.uk/information/course-information/part-ii/content>

**Mathematics Tripos:** Math is a 3-year program.

Both Applied Math and Math option students can choose classes from Part II Maths. In special situations, where a Part Ia or Ib class must be taken, it can be with permission, but students must pay close attention to their schedules. Part Ia and Ib classes are taught about one mile from where Part II classes are taught, and the transit time must be taken in to consideration. Students cannot take classes from Part III Maths, as these courses do not have supervisions or any other method of evaluation except a final exam that is given at the end of the academic year. Dinakar Ramakrishnan, Executive Officer (EO) of Math, requires that Math option students consult with him during the application process regarding any Math option required courses, such as Math 108a. You must bring a full description of the proposed class with you. If one is not posted online, contact the math teaching office in Cambridge to obtain one. Applied Math students do not need to obtain course clearance from the Math EO.

On the Proposed Course List, math students must list whether or not a class is a "C Course" or "D Course".

Lecture Lists: <http://www.maths.cam.ac.uk/lecturelists/>

Math classes that have 24 lectures can receive up to 9 Caltech units. If a math class has only 12-16 lectures, it can only receive up to 6 units.

**Department Overviews:**

**NST Astronomy/Astrophysics:** <http://www.ast.cam.ac.uk/teaching/undergrad/>

**NST Chemistry:** <http://www-teach.ch.cam.ac.uk/>

**NST Geological Sciences/Earth Sciences:** <http://www.esc.cam.ac.uk/teaching>

**NST Neuroscience** <http://www.bio.cam.ac.uk/teaching/neuroscience/>

**NST Physics:** [http://www.phy.cam.ac.uk/teaching/.](http://www.phy.cam.ac.uk/teaching/)

**NST Physiology, Development, Neuroscience (PDN):** <http://www.pdn.cam.ac.uk/undergraduate-1/part-ii-courses/nst-part-ii-physiology-development-and-neuroscience>

**NST Plant Sciences:** <http://www.plantsci.cam.ac.uk/teaching>

**NST Zoology:** <https://www.zoo.cam.ac.uk/>

**Chemical Engineering Tripos:** <http://www.ceb.cam.ac.uk/>

**Computer Science Tripos:** <http://www.cl.cam.ac.uk/teaching/>

**Engineering Tripos:** <http://www.eng.cam.ac.uk/teaching/>

**Mathematics Tripos:** <http://www.maths.cam.ac.uk/undergrad/course/>