École Polytechnique Scholars Program
Program Description and Application Requirements
Deadline date to apply to study abroad Fall Term is: **January 25, 3pm**

Please note the deadline above is earlier than the other Caltech Scholars Programs. There are separate forms for the École Polytechnique Scholars Program and the application process is a bit different from the others. Please read the École Polytechnique Application Instructions handout.

ALL CLASSES ARE TAUGHT IN FRENCH AND ALL DISCUSSIONS, ASSIGNMENTS AND EXAMS ARE IN FRENCH. *STUDENTS MUST HAVE VERY GOOD ABILITY IN SPEAKING, READING AND WRITING FRENCH BEFORE APPLYING FOR THIS PROGRAM.*

The École Polytechnique Program is a study abroad program in which Caltech students at École Polytechnique for the fall term of their junior or senior year. The fall term dates for 2021-2022 are mid-September through mid-December, with a few days of orientation beforehand. There is usually a week long break in late October.

History
The École Polytechnique Scholars Program offers qualified juniors and seniors the opportunity to spend the fall term at the École Polytechnque, which is located outside of Paris near the town of Palaiseau, about 40 minutes by train from Paris.

Founded in 1794, during the French Revolution, The École Polytechnique (the "Polytechnic School"), often referred to by the nickname *"L'X"* , is the foremost French *grande école* of engineering (according to French and international rankings). In 1805 Emperor Napoléon Bonaparte settled the École in the Quartier Latin, in central Paris as a military academy and gave it its motto, *Pour la Patrie, les Sciences et la Gloire*. It was moved to Palaiseau in 1976. It is one of the oldest and most prestigious engineering schools in the world, with a very selective entrance exam. As one of the world's foremost establishments in science education, the *École Polytechnique* trains graduates to become outstanding scientists, engineers, researchers, managers and politicians. Students at EPT, "polytechniciens", also get called "X" for men and "Xette" for women. There are currently about 2000 undergraduate students and 500 post-grad students at X. There are also many research projects being conducted on the l'X campus.

Room, Board and Student Life
Students are required to live in a hall of residence on the main campus, but all are given single rooms. The four dormatories, also called «caserts» are semi-circular buildings 4-stories tall. There is no board plan. Students will receive board money before they leave to cover most of their food costs. There is a shared kitchen for each half floor (about 20 students). The shared kitchen/lounge area is called the 'bar d'etage'. Students can cook for themselves, cook as a group or set up a "food co-op". Students can also eat in the on campus cafeteria, sometimes as «magnan», but it has limited hours (7-8:30 for breakfast, 11:30-2 for lunch, 5:30-7:15 for dinner) and is not open on Sundays. Students pay with their badges (ID cards) and pay for an all inclusive meal, as opposed to each item. There is also the canteen for a la carte items.

Since the campus is only about a 40 minute train ride to Paris, it is easy to go on day trips to museums, shopping, or just for a walk by the Seine. The train that serves the surrounding Paris area is called the

RER B line and the stop, or «place de la gare» closest to École Polytechnique is Lozere Station. There is a set of 300 steps that lead to the campus from the train station, so strong legs are a must!

On campus, there are also quite a few things to become involved with. Sports are a large part of the X life, as they are required for all students (except those in exchange programs). There are competetive sports and club sports ranging from parachuting and ju jitsu to circus or hiking. There is even an equestrian center on campus. There are many other clubs on campus that are run by the Kes, a body of elected student officials that oversees all extra curriculars. The student associations, or «binets» range from artistic (*Musicalix*) to international (*X-Japon*). All of the student associations that the Kes are housed in the «Bataclan» along with a student bar and game rooms. This student center belongs to the students and is decorated by them. While the campus is somewhat isolated and not within any sort of town, it is its own sort of village over 445 acres (Caltech is 124 acres for comparison). There is employee housing on campus, as well as a hair salon, post office, and medical services. There are also several religious communities serving the student body.

The student body is represented by a committee of 14 students known as the Kès (Bureau des élèves), which is elected in December by every new year-group arrived on campus. The Kès deals with relations with teachers, management, former students and ParisTech partners. There are usually 5-6 student groups campaigning for elections in early-mid November, and it can be a lively time on campus.

Students are allowed to arrive as early as September 1 (move in date varies each year), but orientation usually begins at the end of the first week of September. There is a one-week break at the end of November. For students involved in a sports team, this is the National Sports Match week when most teams go away to competitions. There are no academic obligations during this week. Students return to École Polytechnique for a final week of lectures/review, then have two weeks of exams before the end of the term.

Academic Program
After completing the French equivalent to high school and graduating with a baccalaureate diploma, French students undergo another 2 years of post-secondary preparatory school, «classes preparatoires». This is when students prepare for the intense entrance examinations into the Grandes Ecoles, also called «concours». The information learned is equivalent to the Caltech Core. French students begin their studies at École Polytechnique with this knowledge already mastered.

The first year of the École Polytechnique program requires that all students go through eight months of leadership training and community service with the French Armed Forces, a residual testament to the military beginnings of the school. After this training, they return to campus for three months of academic work. The second year resumes more standard academic work with students being exposed to a wide breadth of subjects. They must take 6 different courses to expand their realm of knowledge. By the third year, students choose their **Programme d'Approfondissement (PA),** or in-depth study (like an option). **This is the year Caltech students will participate in.** At X, students can take courses in engineering or the applied sciences as well as the sciences, e.g., chemistry, physics, math, etc. See the list below for all of the programmes d'approfondissement.

École Polytechnique has different academic schedules depending on the year of study. Note well that the Year 2 classes are not allowed as this year goes from the fall *through* January. Students should only look as classes numbered in the 500 range, which corresponds to the Year 3.

For courses taught at Ingenieur level, courses codes starting with **550 and 570** are generally taught in **term 1 (Fall term),** courses starting with **560 and 580 are generally taught in term 2 (Winter term)** and codes starting with **590 refers to the research internship (Spring term)**.

Caltech students can only apply to study abroad during the X Year 3. You can only take classes in one PA due to scheduling and take a total of four classes in their PA. If their schedule permits, students can take one humanities/social science course. This depends on the bloc schedule of the PA classes, and sometimes is not determined until arrival at École Polytechnique. Students should list one or two optional humanities courses.

Study Abroad students are required to take a French Language class during their term abroad. French courses generally take place once a week and last 2 hours. They are taught at different levels and a placement test will be taken in the first week to determine the best class for each student. Français Langue Étrangère (level TBD), Languages and Cultures– 2 ECTS
The French levels offered range from beginner to advanced (A1 to C2). A placement test is administered at the start of the term to determine the student's language ability and placement
level. Levels: Intermediate levels (B1, B2 levels) and thematic courses are also available for students with an advanced level (C1, C2 levels).
Only if students place out of the French class may they take another language class.

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

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

General info about EPT's study abroad program can be found here:
https://www.polytechnique.edu/en/study-at-ecole-polytechnique

When searching for courses, go to the Year 3 Scientific Specialization page to search in your PA:
https://moodle.polytechnique.fr/course/index.php?categoryid=684

Once you click on your major or PA, you will see the classes listed by period (Fall, Winter, or Spring). You will take 3 main courses listed for your PA, but some programs let you choose from a selection of classes. You will also take one compulsory specialization course for a total of 4 courses.

Students will then meet with their professor in charge of specialization to discuss courses and possible course changes on that first day. Courses are on a block or «bloc» schedule and meet once per week. Most start at 9am with a lecture that could last 2-3 hours, followed by a recitation session that lasts about 2 hours. There is a lunch break from about 1pm-1:30. The lectures could have up to 150 students, but most are on the smaller side (40-50 students). Recitation sessions are usually about 15 students, and are

always led by faculty, not grad students. Lectures are led by the professor while the tutorials are led by teaching assistants and are meant to make sure students comprehend the material that was just discussed. All courses follow a course guide which is designed to be studied and followed to comprehend all material. There is a final exam at the end of the course.

Optional HSS courses usually meet on Thursday mornings, 8-10am, and are worth 2 ECTS. They are usually taught by visiting professors.

Exams are the last two weeks of the term (term ends mid-Dec). There are sometimes midterms, but it depends on the course. This is all in the course description, which is usually available in the summer.

EPT uses the European Credit Transfer System (ECTS). Most science courses earn 5 or 10 ECTS, while the humanities and language courses earn 2-4 ECTS. Caltech students are required to earn at least 36 Caltech units which translates to approximately 20 ECTS.

If accepted into the program, all courses must be approved by Caltech faculty for their review and credit. You must find course descriptions and/or syllabi and show them to you professors. This could include some translation from French to English on your part!

Application Process

A minimum 3.3 GPA is required to apply. Eligible sophomores and juniors apply to study during their junior or senior year by the Caltech internal deadline. **Do not submit anything directly to EPT.**

Note well that students must be nominated by Caltech in order to apply and cannot apply without going through the internal Caltech nomination process, which is run by the Fellowships Advising and Study Abroad Office. Only this office can provide the required nomination. Each year application specifics will be provided to sophomores and juniors in the fall. Students will be required to complete both Caltech Study Abroad Forms and a Proposal AS WELL AS complete the École Polytechnique application forms, including a formal assessment of their French skills by Caltech's French instructor. *Also, see École Polytechnique Application Directions for more specific directions.*

Application materials from the Caltech FASA Office:
- École Polytechnique Scholars Program Application
- Core Course Checklist
- A proposal including:
  o An essay
  o A list of courses needed to graduate
  o A description of why this program fits in with your courses at Caltech
  o A proposed course list with descriptions for your study abroad program
- Official Transcript
- 2-3 Letters of Reference (with recommendation forms from École Polytechnique) – letters should be signed by the letter writer and delivered directly to the FASA Office. If brought by the students, letters must be signed on the seal by the recommender.

PLUS:

Application materials required by École Polytechnique will be provided to applicants as soon as they provide the updated link and materials in mid-winter term. Items that are typically part of the application include:

- EPT International Exchange Program Application form
- A Learning Agreement Form (same info as proposed course list above)
- A Resume (Curriculum Vitae) Form
- An Abstract of Courses listing:
    - Caltech grading system
    - All completed courses with descriptions and textbooks listed, including courses currently in session.
- An Evaluation Form from your French professor confirming your oral and written level
- Two Recommendation Forms and Letters (same letters as above, but you do need to use the forms provided by EPT)
- A Letter of Statement in French. Discuss the value of a term abroad on your personal and academic growth. (same as essay above but translated)

NOTE AGAIN, students apply to Caltech by the Caltech Campus Deadline. They DO NOT apply directly to EPT. Please also see the detailed Application Directions for École Polytechnique, available in the FASA Office or online: