Study Abroad Proposal 2018/2019

Have you ever bit into a sandwich and had your eyes opened in a way you never could've expected? That's my Caltech education: a combination of different fillings surrounded by the bread of science, friends, and hard work, that's opened up my mind to a range of new possibilities.

Through studying abroad, I hope to find a new filling for my Caltech sandwich. This particular search all started with my parents, specifically my father. His time abroad some 30 odd years ago left a lasting change on his personality. When my dad, an English major, talks about Shakespeare, he talks about his time in Oxford and the Shakespeare courses he took there. Every year around Christmas my family make a traditional English trifle, snack on Jammie Dodgers, and open Christmas crackers. Every New Year's we watch Notting Hill. All because of one year my dad spent abroad. I want to discover the same passion and broaden my college experience in the same way.

The primary way I intend to find this is through a differing academic experience. Caltech geophysics is unique in that it is fairly theoretical. I currently intend to pursue a career in industry (although I do not yet know what industry that will be). Having met with the option representative and having discussed my coursework for the next two and a half years, it seems like I would currently be taking mostly theoretical courses. The study abroad program I am applying to would allow me to take courses specific to possible industry applications and broaden my science education thusly.

In addition to an expanded opportunity for geophysics specific courses, studying abroad would allow me a unique opportunity to take English courses. Although Caltech's English program is amazing, due to our small size there is not a huge diversity of courses available. A term abroad would allow me to take unique English courses taught differently than Caltech and at a very high level. Especially of interest are some of the English courses specific to the regions of the schools at which they are taught. This would round out my Caltech English education as well.

Beyond academics, I hope that a term abroad would open up new cultural horizons for me as well. Although I have travelled to other countries in the past, I have never spent an extended time of period away from the U.S. Through a term abroad, I would hope to meet a diverse group of people with both similar and different cultural ideals. Living in this different culture would allow me to develop a broader global mindset and view the problems I deal with in class and in life in a global manner.

Finally, I am hoping that a term abroad would allow for different and unique experiences in general. I try to live life to the fullest: I love trying new foods, going to random events (e.g. the national alpaca convention), making new friends, and maintaining my current friendships. Over the last year and a half in L.A. I've gone to concerts, farmers markets, comedy shows, (more than 50!) boba stores, and everything in-between. Being abroad would allow for even more amazing opportunities like this. A quote I live by is that "a writer is the sum of their experiences". I am constantly trying to grow as both a writer and as a person; studying abroad would allow me to do both.

In a lot of ways my Caltech education is a sandwich. A metaphor for personal growth surrounded by walls of learning and friendship. And studying abroad would be the pickles to its peanut butter banana. It's something that sounds a little scary at first, but I'm always looking for that combination that will change my life.

Program Fit

University of Edinburgh

The University of Edinburgh is a perfect fit for the extension of both my geology and English education. Their applied geology/geophysics courses provide an ideal extension of my theoretical courses that I take at Caltech. Additionally, there would be an opportunity for fieldwork and/or research depending on how the schedule worked out. This program is also one of very few that would allow me to take English courses. Taking these at a high level (and with a specific focus on the region of Scotland) would provide a unique facet to my Caltech English major.

Proposed Course List

Total Edinburgh Credits (60-80 Edin. Credits): 80

Total CIT Units: 45

Course by Correspondence/Units: 0

Course Name and Number: EASC10094 Ore Mineralogy, Petrology and Geochemistry
College: Science and Engineering
School: Geosciences
Department: Earth Science
Level 10
Semester: 1
Credits: 10
Caltech units: 9
Caltech evaluator: Victor Tsai
Type of Caltech credit (option, general, etc.): Option
State CIT equivalent course, if applicable:
Course description (paste in): An introduction to metalliferous ore deposits, including the use of reflected light microscopy for identifying ore minerals. Mineral deposits formed in a wide variety of geological environments are introduced, emphasising their relationship to petrological processes and geological settings. The importance of rock associations will be emphasised. There are 10, 4-hour sessions, consisting usually of 1-hour lecture, break and 3-hours' practical. Practical sessions will be concerned with the examination and interpretation of materials discussed in the corresponding lectures.

Course Name and Number: EASC10101 Applied Hydrogeology and Near Surface Geophysics
College: Science and Engineering
School: Geosciences
Department: Earth Science
Level 10
Semester: 1
Credits: 20
Caltech units: 9
Caltech evaluator: Victor Tsai
Type of Caltech credit (option, general, etc.): Option
State CIT equivalent course, if applicable:
Course description (paste in): The following topics will be covered:
Introduction to Applied Geoscience Foundations
Soil description for Applied Geoscience Purposes
Aquifer Investigation Techniques
Physical property contrasts
Electromagnetic methods, including EM34, VLF.
Resistivity, self-potential and induced polarisation/complex resistivity methods
Magnetics.
Gravity.
Ground probing radar.
Seismic refraction.

Field data acquisition, processing and interpretation
Groundwater Flow
Groundwater Geochemistry
Case studies for Groundwater Issues
Modelling Groundwater Flow
Contaminant Transport

Course Name and Number: MATH08066 Probability
College: Science and Engineering
School: Mathematics
Department: Mathematics
Level 8
Semester: 1
Credits: 10
Caltech units: 9
Caltech evaluator: Victor Tsai
Type of Caltech credit (option, general, etc.): Option
State CIT equivalent course, if applicable: Ge/ESE 118
Course description (paste in): Probability theory, the mathematical description of chance, is a subject in its own right but also the bedrock on which Statistics and Data Science are built. We are surrounded by important questions involving chance but our intuition on the subject is often wrong. This course aims to give an understanding of the subject that will help you understand issues where chance plays a central role as well as preparing you for further study.

The course covers fundamental concepts and basic examples, assuming no previous knowledge of the subject. Some knowledge of calculus and basic combinatorics and set theory is assumed.

The central topics will include:

- Fundamentals of mathematical probability: sample spaces; events; independence; conditional probability and Bayes' Theorem. Discrete and continuous distributions.

- Random variables: expectation; variance; sums and products.

- Fundamental distributions: uniform; normal; binomial, Poisson, exponential and their application.

- The idea and applications of the central limit theorem.

Course Name and Number: ENLI08012 English Literature 2
College: Humanities and Social Science
School: Literatures, Languages and Cultures
Department: English Literature
Level 10
Semester: 1
Credits: 20
Caltech units: 9
Caltech evaluator: Christopher Hitchcock

Type of Caltech credit (option, general, etc.): Option (English)
State CIT equivalent course, if applicable: En125
Course description: The Scope of Literature: the study of a range of literature written between 1700 and 1850, with an emphasis on 1) literary kinds, movements and contexts, and 2) a variety of claims regarding literature's capacities and limits.

Course Name and Number: ENLI08017 Scottish Literature 1A
College: Humanities and Social Science
School: Literatures, Languages and Cultures
Department: English Literature
Level 10
Semester: 1
Credits: 20
Caltech units: 9
Caltech evaluator: Christopher Hitchcock
Type of Caltech credit (option, general, etc.): Option (English)
State CIT equivalent course, if applicable:
Course Description: An introduction to the study of literature, in particular questions of genre, form, and interpretation, with texts drawn from a variety of historical periods and literary modes.