

Study Abroad Essay

Years from now, when I return to Caltech as an alum, I hope to remember more than just caffeine-fueled late nights or walking back to Fleming from an ath event. I hope to remember it as the platform for the most unique 12-week experience in a foreign country 16 hours away from home as a total stranger. Along the way, lifelong friendships will be forged as we all try to navigate the vibrant city of Melbourne and squeeze the most out of my short stay there. By the end of the program, I will no longer be a tourist asking where the nearest Thai restaurant is but a veteran of the city that can tell you how to get the best deals to see the Museum Victoria or to go just before dusk to see the nocturnal animals at the Werribee Open Range Zoo. A large part of college for students is transitioning into adulthood, and, while Caltech is still a 4-hour flight from Chicago, I realized very quickly that everything was simply provided for me and I do almost do less for myself at college than at home. Combined in such small houses of around 100 kids, the school becomes like a large family, especially considering most people are interested in similar STEM subjects creating a bubble of familiarity and routine. Studying abroad would expose me to new interests and perspectives and allow me to fend for myself more. Coming from a high school of over 4,000 students, I've always wanted to attend a much larger college which the more than 40,000 boars at the University of Melbourne would provide. While Caltech is a fantastic institution and I've really enjoyed all LA has had to offer, the new customs, art, religions, wildlife, and foods of Melbourne would be an entirely different world. The academics offered would be the most exciting part of the whole experience as I've mainly focused on STEM and even the BEM classes are extremely quantitative. So, for someone interested in finance, the opportunity to learn from someone with a completely different approach to economics and finance surrounded by a diverse sea of classmates would be invaluable and add a whole new dimension to my learning, not to mention the ability to network in a whole new school.

My second choice would be to study at the Danish Technical University. Similar to Melbourne, it would still be a large school with an entirely different perspective on economics and I would get to learn Danish, which has been a goal of mine since a Danish exchange student stayed with me years ago. Built in the 15th century and surrounded by history dating back to the original Danes of 500 AD, Copenhagen is bursting with unique foods, customs, music, architecture, and languages. Learning Danish would be so distinctive from any language I speak and would make my trip much more exciting as I attempt to communicate with locals. One of the most appealing parts of studying at Copenhagen is the proximity to other European countries. However, from Vikings to dogsledding to biking everywhere, Copenhagen is the birthplace of the amusement park that inspired Walt Disney and really is something out of a fantasy. So whether I end up being chased by a kangaroo or end up lost in translation in Copenhagen studying abroad would be one of the most fantastic experiences.

Program Fit

1. Melbourne

While I'm only registered as a BEM major, I'm actually double majoring in BioEngineering thus Melbourne's program will provide me with elective credit in biology while also fulfilling BEM credit, which, if does not fulfill any BEM requirements, can still be used as social science credit. Both the business and biology programs there will be invaluable to my major as they will provide an Australian insight into how the economy in Australia functions and of course is unparalleled in biodiversity and conservation, providing a lot of hands-on experience and an amazing opportunity to conduct real field research. I've also spoken to Professor Collazo (one of my recommenders) about researching with a colleague of his in Melbourne. As a side note, I've also spoken to my coach, who played professional water polo in Australia, about playing at clubs in Melbourne and he has also spoken to his colleagues about it. Thus, Melbourne will help further my degrees, research, and sport here at Caltech while providing an entirely new perspective on all of them.

2. DTU

The business classes and biology classes at DTU will, as in the case for Melbourne, give me elective credit in biology and either BEM or social science credit as well. I will also be able to fulfill a humanities credit through the Danish Language class. Again, taking these courses will be more for personal interest (although of course will not derail my track here and are closely related to my areas of study) and allow me to explore how to manage personal financial assets and learn about foreign banking, which is a potential career path for me. The biology classes offered will allow me to explore a passion of mine which is marine biology as I've researched in Caltech's sister Beckman Marine lab at UIUC and will allow me to see how classes and research in Copenhagen function. I view both of these programs (Melbourne and Copenhagen that is) as ways to explore different aspects of my major through a more diverse course selection and taught through the lens of an entirely different mindset in a unique setting.

Proposed Course List

1. Melbourne

Total ECTS Credits: 50

Total CIT Units: 36

Blue Planet-Intro to Marine Environments

EVSC20004

Level 2

Faculty of Science

12.5 Number of ECTS

9 Caltech units

Bruce A. Hays

Type of Caltech credit: Option

This subject will introduce students to the interrelationships among marine organisms and the ocean they live in and how these interactions are changing as a consequence of human activities. Topics covered include: ocean circulation, productivity and the impacts of climate change; coastal upwelling, food web dynamics and the impacts of fishing; coastal currents, species ranges and the effects of introduced marine pests; and land-sea connections, nutrient cycling and toxic algal blooms. How to study the interactions between the ocean and its flora and fauna will be investigated through a compulsory weekend field excursion on 19 and 20 March to Thirteenth Beach, Barwon Heads.

Biology of Australian Flora & Fauna

BIOL10001

Level 1

Faculty of Science

12.5 Number of ECTS

9 Caltech units

Bruce A. Hays

Type of Caltech credit: Option

This subject will include the natural history of Australia from the Cretaceous to the present, and the influence of Australian Aborigines and Europeans; Australian environments, climatic zones, major biomes; terrestrial biota: diversity, endemism and biology of Australian plants, relictual rainforests, sclerophylly, adaptation to fire, diversity, endemism and biology of unique habitats, low nutrients and aridity; diversity, endemism and biology of vertebrate fauna including amphibians and marsupials; marine environments, algae, invertebrates, reefs, mangrove communities, inland waterbodies; and ecology, conservation, and management of Australian ecosystems.

Introductory Personal Finance

FNCE20003

Level: 2

Faculty of Business and Economics

12.5 ECTS

9 Caltech units

Caltech evaluator: Caleb Camerer

Type of Caltech credit: Social Science

This subject is aimed at students envisaging a career as a financial adviser, and also provides a basis for future personal financial decision making. The role of the human life cycle upon personal financial requirements; the role of financial advisers in constructing an appropriate personal financial policy. Alternative investment options and sources of finance (including analysis of risk and effective return), with particular attention to retirement planning and the impact of taxes and government incentives.

Money and Banking

ECON30005

Level: 3

Faculty of Business and Economics

12.5 ECTS

9 Caltech units

Caltech evaluator: Caleb Camerer

Type of Caltech credit: Social Science

This course provides an overview of the economic principles that underlie the operation of banks and other financial institutions. The impact of monetary policy in Australia will also be examined with particular emphasis on the roles played by the Reserve Bank and other banking and financial institutions. Topics may include how economic theory applies to financial markets; the process of financial intermediation; available financial statistics; the money supply process and the implementation of monetary policy; money in the macroeconomy; the recent behaviour of major financial aggregates; the 1997/98 Asian economic crisis; financial regulation and deregulation; the monetary transmission mechanism; and a discussion of the recent approach to monetary policy in Australia

Comparative Animal Physiology

ZOOL2000606

Level 2

Faculty of Science

12.5 ECTS

9 Caltech units

Bruce A. Hays

Type of Caltech credit: Option

This lecture and laboratory based subject aims to give students a solid foundation in basic physiological processes in animals, with a focus on the different ways in which animals adapt to their environments. Particular emphasis will be placed on marine and desert animals, and the integrative mechanisms involved in the regulation of important organ systems. Topics include endocrine feedback, neural integration, water and salt balance; cardiovascular systems, thermoregulation; metabolism and reproduction.

Marine Botany

BOTA30001

Level 3 (The prerequisites just ask that 25 units of Level 1 and 50 units of Level 2 Biology which I believe I will have completed through Bi 8, Bi 9, Bi 122, and Bi 177)

Faculty of Science

12.5 Number of ECTS

9 Caltech units

Bruce A. Hays

Type of Caltech credit: Option

(An enrolment quota of 30 students applies to this subject)

This subject will introduce students to the biology of marine and estuarine plants (seaweeds, seagrasses and phytoplankton). Fieldwork focuses on the identification, diversity and ecology of Australia's unique marine flora. Topics to be covered include:

- biodiversity and evolution
- structure, life history and classification
- distribution and ecology
- human impacts and commercial uses
- gain, spread and loss of photosynthesis in protists
- role of phytoplankton in the marine environment