

學校簡介

瑞典皇家理工學院KTH Royal Institute of Technology（瑞典語：Kungliga Tekniska högskolan，縮寫為KTH），位於瑞典首都斯德哥爾摩，為一所公立大學，並成立於1827年，除了位於斯德哥爾摩東城的主校區外，另外還有Kista、Flemingsberg和Södertälje幾個校區。皇家理工學院是瑞典公認最負盛名，也是歷史最悠久、規模最大的科技大學，世界大學排名常駐百大之列。歐洲培養創新與科技人才的主要中心之一，其理工科享譽歐洲甚至全世界。

國外研修之課程學習（課內），另外推薦受益最多/最喜歡的課程

瑞典教育的學制與台灣非常不同，會將一個學期再分成兩個period，由於我是下學期交換的，因此學期分為P3和P4，課程大部分都會集中在一個period結束，而少數的課程是會貫穿兩個period，這樣的教學方式十分密集，一週會上好幾次相同的課，在短時間學習大量的知識，也讓學生更專注在學習一門課程，除了學習以外也會利用閒暇時間參加各式各樣的活動。關於課程其每週上課的地點及時段也都不相同，都需要在上課前自行上網確認課表，這也是在選課時我非常受到衝擊的部分，由於時間地點不固定，不免就會有衝堂發生，但在瑞典學生可以自由決定要去上哪門課，在選課時期末考時間就已經決定了，因此只要確保不要選擇衝堂太多的課程以及考試不能撞期即可，是否參加考試則是會在課程進行到約一半時要自行上網登記註冊，這些都是與台灣非常不一樣的地方。

我選修的課程有兩門是與自己的專業相關，分別是X-ray Physics and Applications與Solid State Physics，而另外兩門則是與瑞典相關的瑞典語Swedish A1 for Engineers與瑞典文化Swedish Society, Culture and Industry in Historical Perspective。

X-ray Physics and Applications 這門課除了教授授課以外，每週都會有回家作業，除了複習上課學到的部分，也需要花很多時間自行找資料自主學習以完成課題，也有個人的獨立報告，必須在全班同學面前報告教授所指定的主題，且時長約三十分鐘，這對我來說是一大難題，畢竟要在英文都很好的瑞典同學前單獨報告三十分鐘，這需要花大量的時間去做練習，結束後其他同學會給予反饋，大部分同學都不會給予太苛刻的評價，最讓我驚訝的是這堂課的評分是由最後的oral test來決定，以學生回答的深度去做評分，需要單獨與教授當面一對一考試，考試內容則是自己報告的主題，以確保學生是真的了解自己所報告的內容，而不是上網搜索資料後沒有消化吸收就報告。

Solid State Physics這門課教學的內容大致上與在台灣所學的差不多，但瑞典非常頻繁的使用電腦作為輔助工具幫助學習，無論是線上小考，繳交小組的實驗報告，報告需與外國同學一起分組討論，由於我沒有使用過Matlab所以在其中一次的實驗報告花了不少精力，期末考也十分有難度，不過最後還是順利通過課程。

最推薦的課程是瑞典語課，我覺得非常有趣，老師的教學模式非常好，不僅僅是單純授課而已，在課堂上會讓我們與其他同學相互練習，很強調彼此之間互動學習，經過整學期的課程，學會基礎的對話以及了解瑞典語的發音，雖然離開瑞典後，這門語言就無處可使用，但學習一門新的語言非常的有趣。瑞典文化課讓我們學到許多關於瑞典的特色，讓我們更深入去了解當地特有的文化。

國外研修之生活學習（課外）

剛來到瑞典時真的很難適應這邊的低溫，常常下雪需要穿著靴子防滑，但每天看到雪依舊覺得很浪漫，但隨著待在斯德哥爾摩越久後，越來越耐寒了，漸漸不需要手套、圍巾和帽子。北歐的物價普遍偏貴，在餐廳用餐也不便宜，基本上都是自己下廚，一開始不太會控制份量，調味也不太對，但漸漸地掌握煮飯的技巧，料理也進步許多。對於短期出國的學生，瑞典真的是個很棒的選擇，瑞典是個雙語國家，只要會英文，在生活上並不會遇到任何的問題。在國外生活的日子，我變得更加獨立也更有耐心，因為瑞典生活節奏不快，買東西結帳店員也都慢慢來，並不會為了趕著幫所有客人點餐而加快速度，因此我也變得更有耐心能夠慢慢等待，瑞典地方廣闊，常常要從

一個地方到另一個目的地都需要半小時以上，無論是在等車或者是走路也都需要很多的耐心。來到北歐當然也不能錯過看極光，因此我們搭乘夜舖火車來到瑞典北部的Abisko跟Kiruna，由於已經進入北極圈看極光的機率也大大提升，看到極光後也算是完成人生清單中的一件大事。除此之外其他像是溜冰、滑雪、餵麋鹿、看冰上曲棍球等寒冷國家才有的活動也都一一嘗試了，真的是很特別的體驗。

想到瑞典就會想到IKEA，但實際來到這邊後發現IKEA的數量其實很少，甚至要搭車兩個小時才能抵達，還有瑞典有名的肉丸，但其實IKEA的肉丸跟台灣吃起來的差不多，但另一家有名的肉丸店，每種口味吃起來都不一樣蠻有特色的。瑞典著名的FIKA文化，讓喜歡喝下午茶的我，在瑞典都過得非常開心，各式各樣的麵包、肉桂捲都非常好吃，還有一款甜點叫做semla，只有每年的一二月有販售，非常特別！

交換/研修之具體效益（請條列式列舉）

- ☐ 開拓視野、增廣見聞
- ☐ 勇於嘗試新事物，對於不同的文化充滿好奇
- ☐ 獨立自主且具備解決事情的能力
- ☐ 提升語言能力與社交能力，與不同文化背景的人結交朋友，進行交流
- ☐ 在不同學制下學習更多的專業知識

海外生活期間是否曾遭遇困境，及是否解決問題？如是，請說明如何解決問題；如未解決，請說明事件最大的啟發及思考未來可以怎麼解決？

在旅行期間遇到葡萄牙鐵路罷工，我們是到其中一個小城鎮轉車，在當地並沒有訂住宿的飯店，如果沒有當天搭車離開就要流落街頭，因此我們馬上找到櫃台退票並詢問有沒有任何替代方案，後來順利買到巴士的車票。

海外生活期間是否曾遭遇文化衝擊，您如何去面對及適應？

在瑞典基本上用不太到紙鈔，但剛出國的時候我換了不少紙鈔，但一般的店家甚至是小攤販基本上都不收現金，後來為了入境隨俗基本上全部改成信用卡付款了。在疫情期間的瑞典，也幾乎沒有人戴口罩，一開始會擔心所以還是戴著口罩，但是過了一個禮拜就融入當地也不戴口罩了。

海外生活歷練是否為您人生帶來不一樣的改變或者個人特質上的轉變，最大的成長是什麼？

海外生活真的讓視野變得更寬廣了，體驗各地不同的文化，也更願意踏出舒適圈去嘗試各種新事物，而且獨自在外，凡事都需要自己處理，所以也會變得更獨立！

您認為獎學金對您海外研修最大的幫助是什麼？有無獎學金是否會改變您的出國計畫？

可以補貼一些在國外的生活費。

但有無獎學金並不會太大影響我出國的意願，因為本來出國交換就算是人生規劃中的一環，但是如果獎學金提高會更吸引及加強出國的意願。

感言及心得感想

在瑞典交換的這五個月，第一次真正離開家獨立生活，去了許多不同的國家，體驗各地不同的文化氛圍，吃了各式各樣的美食，學著獨立解決生活中遇到的大大小小困難，也認識很多來自不同國家的朋友，彼此之間的交流更是開拓了我的視野，也讓我在面對新事物有更寬廣的心態去做任何的嘗試，這段經驗讓我收穫滿滿，真的是人生中最難忘的回憶！

出國期間最重要的是要懂得如何與自己相處，在國外不像台灣隨時有家人朋友的陪伴，所以要用更開闊的心去踏出舒適圈，多試著與他人交流，獨自一人的時候也可以享受自己的空間與時間，多出門晃晃也會看到不一樣的世界，而且無論遇到各種問題都要自己解決，出國一趟後會發現自己變得更獨立，也會更愛這樣的自己。

英文心得(包含學校簡介、課程學習、生活學習、具體效益、心得感想等等)

KTH Royal Institute of Technology (Swedish: Kungliga Tekniska högskolan, abbreviated as KTH), located in Stockholm, the capital of Sweden, is a public university and was established in 1827. In addition to the main campus in the east side of Stockholm, there are also campuses in Kista, Flemingsberg and Södertälje. KTH is recognized as Sweden's most prestigious, as well as the oldest and largest university of science and technology. It ranks among the top 100 universities in the world. One of the main centers for cultivating innovation and technology talents in Europe, its science and technology is well-known in Europe and even the world.

The educational system in Sweden is very different from that in Taiwan. A semester will be divided into two periods. Since I am exchanging in the second semester, the semester is divided into P3 and P4. Most of the courses will end in one period, but few courses will run through two periods. This kind of teaching method is quite intensive. One course will be held several times a week, and a large amount of knowledge should be learned in a short period of time. It makes students focus more on learning a course. In addition to studying, they will also use their spare time to participate in various activities. As for the course, the location and time of the class are different every week, and you need to confirm the schedule online before the class. This is also the part that I was very surprised about when choosing a course. Because the time and place are not fixed, there will inevitably be a collision. However, in Sweden students can freely decide which course to take, and the final exam time has already been decided during the course selection period, so just make sure the time of the exam you can attend. About halfway through the course, you have to register online by yourself. Those are very different from Taiwan.

Two of my courses are related to my major, namely X-ray Physics and Applications and Solid State Physics, while the other two are Swedish A1 for Engineers and Swedish Society, Culture and Industry in Historical Perspective.

In X-ray Physics and Applications, in addition to reviewing the parts learned in class, it also takes a lot of time to find materials and study independently. There are also individual independent reports. The topic assigned by the professor must be reported in front of the whole class for 30 minutes. To report in front of Swedish classmates who are good at English is a big challenge for me. The most surprising thing to me is that the score of this class is determined by the final oral test. Grading by the depth of students' answers, we need to take a one-on-one test with the professor alone.

I think the Swedish course is very interesting. It is not just simply teaching. In the class, we will practice with other students. The course emphasizes interactive learning with each other. After a whole semester of courses, we will learn the basics of conversations and the pronunciation of Swedish. Although this language cannot be used after leaving Sweden, learning a new language still makes a lot of fun.

When I first came to Sweden, it was really difficult to adapt to the low temperature here. It often snowed and I needed to wear boots to prevent slipping, but I still felt very romantic seeing snow every day. In northern Europe, prices are generally on the high side, and dining in restaurants is not cheap. Basically, I cook by myself almost every day. At first, I am not good at cooking but I gradually master the skill, and my cooking has improved a lot. For students who go abroad for a short time, Sweden is really a great choice. Sweden is a bilingual country. As long as you can speak English, you will not encounter any problems in life. In the days of living abroad, I became more independent and more patient, because the pace of life in Sweden is not fast.

During the five months of exchange in Sweden, for the first time, I really left home to live independently. I went to many different countries, experienced different cultures, ate all kinds of food, and learned to solve problems by myself. I have met many friends from different countries. The exchange study has broadened my horizons. I have gained a lot, and it is really the most unforgettable memory of my life!

The most important thing when you go abroad is to know how to enjoy your spare time. It's not like Taiwan where you are always accompanied by family or friends, so you should step out of your comfort zone with a more open heart, and try to communicate with others more. After a short stay abroad, you will find that you have become more independent, and love yourself more.