

## 26-1 學校簡介

達姆施塔特工業大學（Technische Universität Darmstadt），是德國歷史悠久的理工科技大學，位於黑森州。德國以慕尼黑工業大學為首的九所卓越理工大學聯盟 TU9 成員之一。

總共有 13 個學院，而我交換的學院是數學系。除了這些學院之外，還設有語言中心，有各種語言可以學習。而數學系因為是較為傳統的系所，因此僅有少數課程有英文授課，大多皆為德文授課。

## 26-2 國外研修之課程生活（課內）

### 1. 語言課

剛開始九月剛來德國時，學校有開個 German Intensive Course，為期一個月，週一至週五，每天從早上九點上到下午一點多，有期中期末兩次考試，如果通過測驗，即可取的得德文 A1 證明，以備開學時可以直接選擇 A2 課程進行上課。而開始新學期時，學校除了有德文課之外，還有其他的語言課，例如：英文、西班牙文、中文、法文……而因為想加強我的英文能力，因此在每一學期皆有修習一門德文課以及兩門英文課。而語言課真的是一個非常好的機會認識新朋友，老師上課會藉由分組或各種活動，讓大家認識彼此，因此對我而言修習語言課室收益最多的，既可以學習語言，特別是口說部分，又十分容易交到新朋友。

### 2. 數學系專業

我本身的專業是數學系，而達姆數學系課程與台灣的相差許多，即使是相同的科目名稱，但上的內容也不盡相同。因此我選擇打好基礎，從大一基礎課程，重新修習「分析」、「線性代數」，可以發現，德國的進度十分快，一個禮拜共三小時，上完一個章節，並有回家作業以及小組作業要完成，而一堂課中，除了有教授授課外，還有各種練習課、助教講解課等，但不難發現的是，和台灣相比，台灣一樣也有這些練習課，但全部都是由助教來講解題目，可能是補充例題也可能是檢討家庭作業。但德國的方式是，他每堂課都有練習課，但練習課是用來和組員討論小組作業的，並如果有問題可以即時詢問助教，因此學生是有自己的時間思考問題，並也可以即時獲得幫助。而在所有人的練習課皆結束時，助教會將小組作業的答案及詳解放在網路大學供大家核對，因此即使在練習課尚未想出解答，也可以依照詳解思考，並在額外的問題時間向助教詢問，因此在德國大部分皆是依靠自學。相較於台灣的較為偏向投取式的教育方式，我似乎更喜歡德國這種有先自己摸索答案的時間。而數學系的家庭作業，每個禮拜皆有作業，必須拿到一定的比例才可以參加考試，不過達姆工大的考試十分具有挑戰，因此通過率皆不高。

### 3. 體育課

這裡的體育課是沒有學分的，只是給大家提供一個平台運動、休閒。因此參加這裡的體育課程是需要額外付費的，但因為德國人十分喜歡運動休閒娛樂，因此即使需要付費，仍然有許多人參加。

## 26-3 國外研修之生活學習（課外）

### 1. 旅遊

第一次離開台灣，到國外冒險的我完全就是一個菜鳥。不知道如何訂票，如何規劃行程，如何面對解決各種在旅行時遇見的突發狀況。在德國生活的這一年，在德國境內旅遊過，也去過其他附近的歐洲國家，因此學習如何訂到便宜的票，以及最佳的訂票時機，也是我在這一年得到的寶貴經驗。而在繳交學雜費時，其中也有一項是可以在我們學校這個州內免費搭乘所有的交通工具，因此時常在假日時前往其他的小鎮觀光。而除了訂票之外，學習如何規劃流暢的行程、找飯店、省錢又安全的玩，事前的準備工作一定少不了。看了許多網路上大家的經驗分享，排定行程，路線規劃，買各種交通票、門票、找飯店，這

些看似簡單的事情，實際上卻充滿著大大小小的學問。而出門在外，即使行程排得再怎麼完美，一定會遇到各種意外，當下要自己想辦法解決也是一件需要時間與經驗磨鍊出來的。

## 2.下廚

以前在台灣時，並沒有什麼自己下廚的經驗。但在德國，到餐廳用餐十分昂貴，因此大部分留學生會選擇自己做飯，而我也例外。從一開始只會自己泡泡麵、煎蛋、洗米煮飯，這種最基本的，到最後因為實在太想念台灣的味道，開始自己研究食譜，自己找食材，做肉燥、可樂雞翅、燉湯、炸雞。而剛好在這次的交換期間，遇到了新型冠狀病毒，當時在家隔離了幾乎快三個月，每天就是看食譜做料理，想辦法變出各種食物，也因此在那段時間學會了更多料理技巧。而除了學做家鄉菜之外，也會跟各國的朋友一起做料理，像是德國風格的蛋糕、德國傳統綠醬、日本壽司、和中國朋友一起包水餃、和韓國朋友一起做韓國鬆餅、和匈牙利朋友的各種匈牙利料理，藉由互相介紹自己的家鄉菜餚，增進彼此情誼。

## 3.參加活動

德國達姆施塔特工業大學（TU DARMSTADT）學校主要有三個舉辦活動的團體，每天、每個禮拜，皆有各種不同的活動，而大部分的活動都是免費的，例如：各國文化介紹、小型聚會認識新朋友、德國文化介紹、附近城市爬山、旅遊、公司參訪、歐洲議會參訪等。每天都可以依照自己的時間、喜好，選擇參加的活動，而每次參加活動可以認識新朋友，與更多國家的人交流，體會更多不同的文化。

## 26-4 交換/研修之具體效益（請條列式列舉）

### 1.外語能力提升

以前在台灣，因為生活中都是台灣人居多，因此幾乎沒有使用英文的時機，因此英文程度大概停留在高中畢業時的程度，但因為在德國絕大多數的人都聽不懂中文，而在一開始我也並沒有德文基礎。因此英文則成為我溝通的最主要語言，在這樣的環境下，從一開始的，許多英文詞彙話許多時間，想不出來，而我的朋友們也都聽不懂我在說什麼，到最後終於能跟外國朋友們順暢的溝通。而在德國的這一年，因為生活中皆為德文，且許多時候與較為年長的爺爺奶奶溝通時，他們並不會講英文，因此為了使得溝通更為順暢，也強迫自己學會更多第二外語——德文。

### 2.體驗更多文化

在德國一年裡，體驗到最多的是德國文化。在與德國政府機關打交道時，完全感受得到他們的民族特色「一板一眼」，規定說什麼，就是什麼，並沒有任何討論空間。但也因為這樣，他們也很聽政府的話，依照規定走，因此在德國整個城市十分的井然有序。而他們的臉也時常繃緊、面無表情、甚至到兇狠，給人的感覺並不是很親切，但如果你有問題，主動詢問他們，他們還是會跟你說明、幫助你。而在疫情期間，最讓我印象深刻、不可思議的是，他們對待疫情的態度與政策。政府在一開始就鼓勵大家一次屯十天份的食物。然後如果有人「確診」，輕微症狀的會給予藥物治療，並「居家隔離」，目的是為了確保醫療體系不一夕之間崩塌。而也開始討論要不要停止足球賽，並非一開始就停止。

### 3.結交外國友人

在德國這一年，結交了許多朋友，有來自亞洲的、歐洲的，甚至是非洲、美洲的。因為來自的生活圈不同，因而碰撞出不同的驚喜。這也讓我開始反思，我們覺得理所當然的事情，在其他國家、其他文化背景下的人看來，卻是那麼的不同與新奇。

### 4.個性的轉變

以前從不覺得我是一個喜歡交朋友，是一個喜歡參加活動的人。但因為這次來到德國，發現他們的活動都十分有趣，遇見的人也因為來自不同文化背景，因此相處起來十分有趣，可以比較之間的文化差異，從他們的口中，認識他們的國家，從他們的社群網站，可以發現他們國家的生活方式，藉此體驗他們的生活習慣。也因此對參加活動、交朋友，對這些事情越來越有興趣，也越開心參與這件事情。

## 5.思考事情漸漸詳盡

以前對待許多事情都是能過就好，凡是只要不是太重要都沒有差，但在的德國這一年，因為自己在外生活，需要想的是，做這些事情之前會不會有危險，要怎麼做比較好，有沒有更好的方法解決。因此想的也比較多、比較詳細。

### 26-5 感想與建議

在德國這一年裡，結交到了許多不同國家的朋友，體驗過許多之前都沒有體驗過的活動、經驗，更遇見許多新奇古怪的事情，也因此學會靠自己的力量解決大部分的事情，也看了許多不同國家的風景。如果說對懷念德國的三件事，應該就是「朋友、天氣、氛圍」，在德國的日子裡，如果沒有朋友們的陪伴，一定不會那麼精彩，也不會體驗到那麼多文化差異性。而因為台灣的天氣真的又悶又熱了，而德國剛好跟台灣相反，夏天天氣多變，一時熱，一時雨，一時又多雲放晴。而冬天真的很冷，但因為很乾，所以即使冷或是熱，比起台灣真的還好，而且也不用再忍受夏天大爆汗的感覺了。假日的德國，所有店家皆關門，因此爸媽皆有時間可以陪伴自己的小孩，所以他們會帶這小孩，其專門在小孩的自行車，把小孩放在籃子裡，到各個地方踏青，或是到公園野餐。而德國人真的很喜歡戶外運動及休閒娛樂，夏天的德國，不論假日或平日，公園裡一定都有許多人坐在野餐。冬天的德國，大家則跑去滑雪。這種有休息又有活動的生活環境真的讓人很難不愛。

### 26-1

Technische Universität Darmstadt(TU Darmstadt) is a historical science and technical university which is in Hessen in Germany. It is one member of TU9, which means top nine science and technical university in Germany.

It is included 13 departments and my major is mathematic. In mathematic, they don't have too many classes taught in English, and most of them are German. Beside these departments, there is one language center and every students can attend the classes if they want to improve their language skills.

### 26-2

#### 1. Language Courses

We have one German Intensive Course in September before we start the semester. It is from Monday to Friday and we have two exams need to be passed to get the A1 certificate. After that when the semester begin, then we can choose A2 course directly. Besides German course, I also chose English course every semesters in order to improve my English speaking skill. I found that it is a good chance to meet and make a new friends because the teachers will let us know each others by a lot of different games or activities. Therefore, language courses are my favorite courses because it is relaxed, interesting but you can learn as well.

#### 2. Mathematic Courses

My major is Mathematic. The learning style between TU Darmstadt and NSYSU are different. Even they have same basic courses' name are the same, but the context would have a large different. Therefore, I decide to relearn the courses called "Analysis" and "Linear Algebra". The courses in Germany will teach a lot compared in Taiwan and including more proof. Beside the regular lecture, it has exercise classes. In terms of exercise classes, we need to discuss with our classmates to finish 2-3 group exercises. If we have some problems, we can ask the teaching assistances directly in class. If we don't finish our group exercises in the exercise classes, we can finish it by ourselves at home. After 2 or 3 days, the teaching assistances will put the solutions online. However, compared to the exercise classes in Taiwan, the teaching assistances will teach us the process to solve this problem or show us how to

prove it directly rather than let us to think about it beforehand. I prefer the method in Germany because we have the time to think about it beforehand, it can make us used to think a lot of methods rather than we only know one way to get the solution. Beside group exercises, we have homework as well. We need to get the specific percentage of the homework in order to attend the final exam. If we pass the final exam, then we can get the credit points of this class. However, it is so hard to pass the exam in TU Darmstadt.

### 3. PE Classes

In TU Darmstadt, PE classes have no credit points, it just give students a place and a chance to exercise, so most of classes need to pay some fee. However, most of German love exercises, so there are a lot of people attending the classes even it is not for free.

## 26-3

### 1. Traveling

First time going to another country, it is a exciting experience for me. At the beginning, honestly speaking, I don't know how to book the tickets, how to make a plan, how to solve the problems if we encounter the emergency. How to book cheaper tickets and the best moment to book it is the treasure that I learned this year. Besides booking the tickets, I also need to know how to make the schedule be better(easier to travel), how to find a cheaper hotel and it is safe at the same time. It looks not too hard, but it definitely need time to accumulate more experiences.

### 2. Cooking

When I was in Taiwan, I didn't have too many experiences to cook. But when I come to Germany, I need to learn how to cook because it is too expensive to go the restaurant every day even every meals. At the beginning, I only know how to cook instant noodles, make fried eggs and cook rice. However, it is so terrible that if I don't know how to cook the hometown dishes, so firstly I decide to learn how to cook by looking up the recipes, buy some ingredients from the supermarket secondly. Fortunately, I successfully cooked a lot of dishes, such as chicken wings with cola, chicken soup and fried chicken, especially during the coronavirus pandemic. Besides cooking hometown dishes, I also cook with my foreign friends to learn more foreign dishes, such as German traditional cakes, green sauce(grüne soße), currywurst, Japanese sushi, Korean pancake, Hungarian dishes and Chinese dumplings. By introducing different dishes, we get to know more different cultures and foods in different countries and we get closer due to making different foods everytime.

### 3. Joining Activities

TU Darmstadt has three main groups to hold different activities every day. The activities are so diversity. In addition, most of the activities are for free, so I spend a lot of time to join them. For example, introducing different cultures, meeting new friends in a café, going hiking or climbing in another city, visiting German traditional company, visiting European Parliament in France. We can choose different activities depends on our interests and schedule. We can meet new friends in every activities and get different information, that's the reason I love to join the activities in TU Darmstadt.

## 26-4

### 1. Improving my foreign languages

When I was in Taiwan, I didn't need to use English or different languages to communicate with others, so I didn't have too many experiences to speak English. When I went to Germany, I need to use English to communicate with each other because I didn't have any knowledge about German. However, due to unfamiliar with English for 2 or 3

years, I couldn't speak to my friends fluently at the beginning. On the other hand, my friends couldn't understand me. But after for a long time practicing, I can talk more and more fluently.

Besides English, I learn German as well. In daily life, if I don't know German, it is so inconvenient to live in Germany, so I force myself to learn it. Therefore, before I leave Germany, I can understand some basic German conversation.

## 2. Experiencing more cultures

I experience a lot of German cultures this year. The typical famous German culture is "scrupulous attention to detail", especially their government office. They just follow the regulations to do everything. Compared to the attitude to the foreigner in Taiwan, it is not so nice in Germany, to be honestly. If you have problems, you need to ask them by yourself, then they will help you. But you will seldom see the smile on their faces when they answer your problems even you go shopping. The most impressive for me is their attitude toward Covid-19. When the coronavirus pandemic started, their government recommended people to store the foods for 10 days, and if someone infected, the doctors will give them medicine to cure them, but if the symptoms are not too serious, the patients will quarantine themselves at home rather than stayed in the hospital in order to ensure the serious patients have the place to cure in the hospital. It is so shock to me.

## 3. Making friends with other countries

Making friends with other countries is most important thing in Germany. I make friends come from Asia, Europe, Africa and America. Due to the different countries and cultures, it is a big surprise when we get together. I realize that something we thought is normal and basic, but it might be unnormal for another person from another countries because they never see that before. So finding something different is most interesting thing when I make friends with other countries.

## 4. Personality changing

I think their activities is so interesting compared to Taiwan because I can get something new. I can meet some new friends, get a lot of new information that I didn't know before and I feel so glad after I join it. For these reasons, I love to joining the activities and making friends which I didn't care so much about it before. I feel I'm more confident and optimistic now.

## 5. Dealing a lot of stuffs more carefully

I think more detail and carefully compared before and do a lot of decisions by myself.

26-5

This year, I make a lot of friends, experience a lot of different cultures, and encounter a lot of strange things as well. The most important thing is I learned how to deal with the problems by myself. If you asked me, what are the top three memorable things in Germany, I will tell you that is "friends, weather, atmosphere". If I didn't have friends in Germany, I believe I would not have this amazing and wonderful memories. The weather in Germany is totally opposite. It is so cold and sometimes have snows in winter, and it is extremely hot for only two weeks but after that, it is cool and comfortable. However, I really love the weather is super dry and not too hot because I don't need to stand for sweating in summer, and I love to build a snowman in the snowy day as well. The weekend is a holiday in Germany. People will not need to go out for work, they can take a rest and spend time with their family, so a lot of German will go to the park for picnicking or go hiking in summer. They will go snowing in winter. They really love outside activities no matter their gender compared to most of Taiwanese. That's the aspects and reasons that I love their cultures and lifestyle. It is definitely a wonderful and great memory for me in the whole life.