I'M BACK !

國立臺灣科技大學海外研習心得

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Semester：7

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Host country & university：
NUS, Singapore

Language ：
English

Exchange period：
2023/08/14~ 2023/12/10

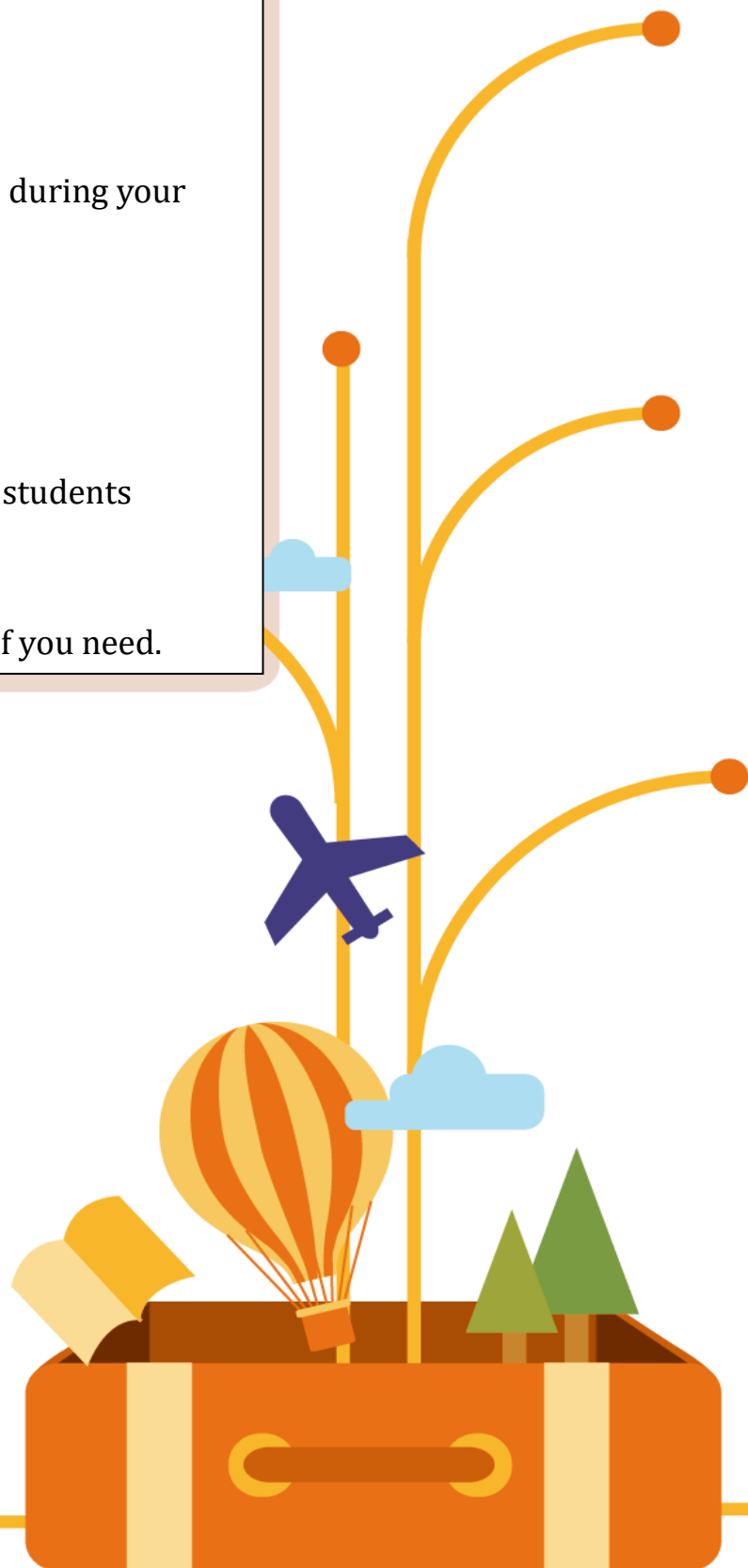**The report shall contain the following sections (at least 2000 words):**

Part A (At least 1500 Words)

1. Preparation before departure

2. Courses take at host universities

3. Difficulties and solutions you have during your

   exchange stay

Part B (200~500 Words)

4. Experiences learned and sharing

5. Suggestions to potential exchange students

6. Picture * 12

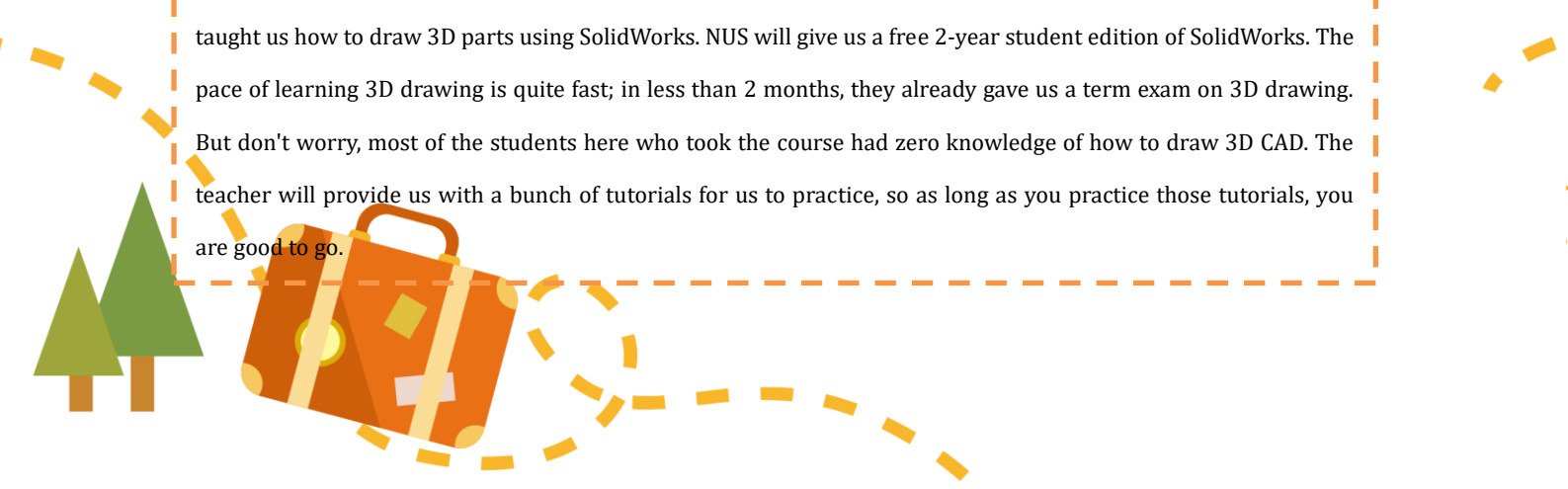   ✧ You are free to add more page if you need.

Report:

This student exchange program is a new adventure for me, and the host university is probably one of the most admired universities in the world for me. I chose to participate in the exchange program at NUS, Singapore. I learned a lot of new things while I was there; the culture is quite different from Taiwan. So, when I first arrived at NUS, I was a little bit shocked, but I managed to overcome it quite well since I also faced such problems when I first came to Taiwan 4 years ago.

Before I departed for NUS last year, there were a few things that I prepared for. Since Singapore uses English as its medium of instruction, I suggest that for those who would like to go to this university in the future, they should really prepare their English skills, because everything is taught in English. However, for local students, there's no need to worry if they cannot communicate with them because most of the Chinese descendants there can speak Mandarin, and also, most of the students there are from mainland China. So, the first thing I prepared was my English skills, especially my listening skills.

Another thing to take note of is choosing the dormitory at NUS. In the early stages of registration, they will give options to choose the type of room we want. Most of the dormitory rooms there are much more expensive compared to NTUST. But trust me, even though the dormitory seems to be very expensive, it is much better compared to living outside of school because outside of school, the price per month is very expensive, reaching a minimum of 20,000NT/month. So, I suggest that you either secure your accommodation at the school's dormitory or if you have friends or family who live in Singapore; otherwise, the price is overpriced, in my opinion.

For the courses that I took, I took 3 courses, all related to mechanical engineering. At NUS, they give us the freedom to choose what courses we want to take, pretty much like NTUST. So, even though you are not from that specific major, you can still take their courses. For me, I took 3 mechanical engineering courses. They have a minimum of 3 courses that you should take (if I am not mistaken). A quick review of what I learned at NUS includes 3D CAD drawing using SolidWorks, writing CNC code, and learning the concept of DFMA.

The 3D CAD drawing course is combined with learning about the basics of mechanical engineering tools, such as how to calculate which bolts and nuts are suitable for our usage. The course is divided into 2 parts. In the first part, before the midterm, we only focus on SolidWorks. They taught us about the concepts that are used internationally for 3D CAD drawing, such as the point of view, how to read the CAD drawing sheet, etc. They also taught us how to draw 3D parts using SolidWorks. NUS will give us a free 2-year student edition of SolidWorks. The pace of learning 3D drawing is quite fast; in less than 2 months, they already gave us a term exam on 3D drawing. But don't worry, most of the students here who took the course had zero knowledge of how to draw 3D CAD. The teacher will provide us with a bunch of tutorials for us to practice, so as long as you practice those tutorials, you are good to go.

Report:

The other half of this course they taught us about the basic principles that are needed for mechanical engineers, but I believe most of the topics are already covered in NTUST's required courses, such as Mechanical Design course, Material Engineering Course, etc. And in this part, the tests will mostly be computational-based problems, and for the difficulty, I think we NTUST students can manage to do it quite well because I think our school's exams are not easy too.

The second course I took is about learning to write CNC machine code. Just like the previous one, this course is also divided into two different main topics. The first one is learning how to write CNC machine code which is the CAM part. The second part is learning about the CAD concept. In the CAM part, just as I mentioned earlier, this part focused on learning how to write CNC machine code. So, they gave us a model that we want to make, and then they told us to write a G-Code that can achieve that model. They taught us from the beginning so even though we don't have any idea about G-Code, it is totally fine.

The other part, which is the CAD part, in this one it is basically just a concept of how does a CAD works. They taught us several techniques such as B-Spline, Bezier curve, etc. The exam is not so difficult since it is pretty much similar to the previous exam questions, just a little change in the numbers that are used.

The last course that I took is DFMA, Design For Manufacturing and Assembly. This course is probably the hardest course among the three courses that I took. It is basically a whole new concept that is used in manufacturing, and I think we don't have this course at NTUST. This course basically teaches us how to have the most efficient manufacturing process, by reducing the time needed to manufacture and assemble. This concept is more of a subjective kind of concept rather than an exact correct answer because everyone will have their reasons for choosing their manufacturing process or the method of assembly. I think this course is quite fun to learn, and I think it is important.

NUS also offers us a lot of communities to choose from, such as sports, music, video games, etc., but all of them require us to pay first before we can join them. For the exact price, I don't really know, but I think it depends on which community we want to choose.

As for the food at NUS, there are a few cafeterias across the campus. Because my courses are all engineering courses, I usually eat at Techno Edge Canteen. The food here is diverse, and the canteen is also quite big. They even have Taiwanese food. As for the price, it is slightly more expensive than NTUST, but if we eat outside of NUS, it will be a lot more expensive.

Report:

NUS is quite a big university. I believe it is even bigger than NTU. But no need to worry because NUS provides us with a free shuttle bus to travel across the campus. Unfortunately, unlike Taiwan, which has U-bike, in Singapore, there is no bike rental service that is similar to U-bike, so the way of travel here in Singapore is either using the bus or MRT because if you use Uber or taxi, the price is really expensive. The bus is kind of similar to Taipei in terms of waiting time.

As for the library here in NUS, they also have several libraries across the campus, so we can choose which library is the most suitable for us. The library is also quite big and has tons of various books.
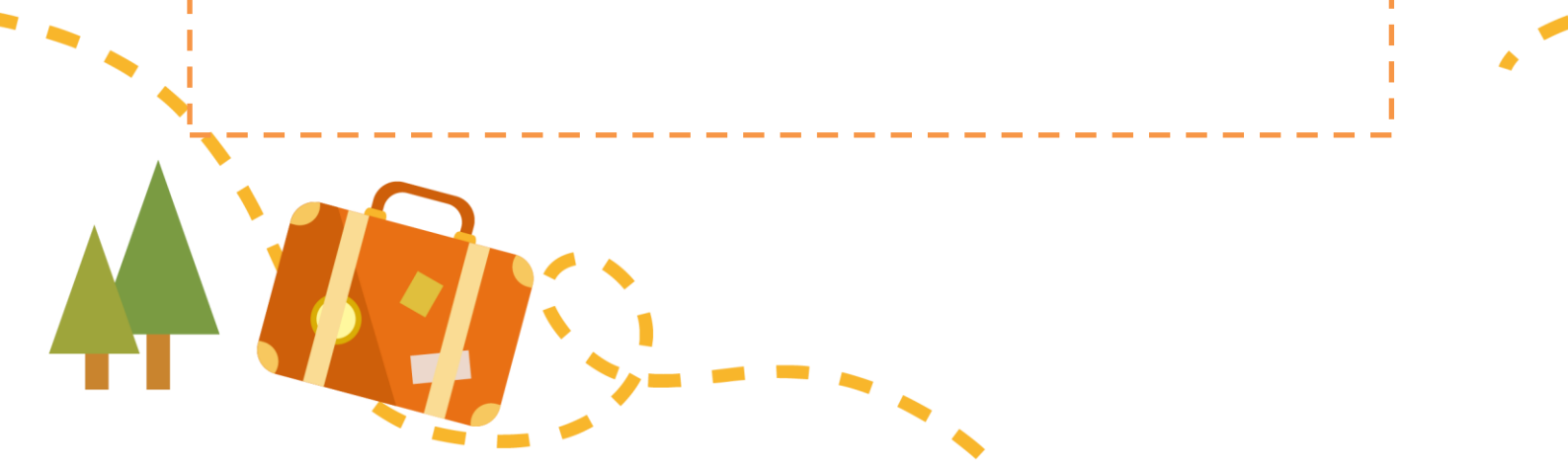
For the internet connection, they have it all across the school, pretty much the same as NTUST. The connection speed is also quite fast, but unlike NTUST, at NUS, they don't have any daily limitations, so we can use as much as we want.

For the mechanical engineering lab, I only entered there once, but from what I heard, there are some machines that NTUST has but NUS doesn't, such as the 5-axis NC machining.

As for the teachers here at NUS, mostly they are very kind. They really care for those who do not yet understand the topic during class, so as long as you have the courage to ask, they will assist you. Most of the professors here also graduated from prestigious universities worldwide. I know 2 professors who graduated from MIT.

Another thing that I want to discuss is the course teaching about languages. I actually wanted to take a Spanish course, but at the last minute, I canceled taking the languages course. However, my friend took a German course, and in this course, he said that it is very time-consuming. Almost every two weeks, they will have a quiz. The teaching topics that the teacher covers are also very broad. My friend also said that taking mechanical engineering courses is much easier than taking language courses, so I suggest that if you don't want to have your time taken away just to learn a language, then don't take a language course.

But overall, my experience here at NUS is mostly positive. I got to learn a new culture.

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你，在想些什麼？

Feedback：

Suggestions for upcoming students who want to go to NUS:

1. Really prepare your English skills, especially your English listening skills, because the teachers speak really fast during lectures.
2. Don't be afraid to ask if you have any questions because the professors are very friendly and kind; they will make sure you understand the topics.
3. Also, bring an umbrella wherever you go because in Singapore, it rains almost every day, especially if you go there during the rainy season.
4. If you take a bus in Singapore, they have slightly different rules compared to Taiwan. In Singapore, you must enter the bus from the front door near the driver's seat, and you need to exit from the back door. The first time I got there, I entered from the back door, and even though I already tapped my card, it wasn't recognized, and they charged me an extra fee in the end.

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你，在想些什麼？

Feedback：

5. Unlike in Taiwan, if you want to see what time the bus will come, you will need to download the Singapore bus app because they won't display it at the bus station.

6. For the food you buy, they have two kinds: halal and non-halal. Make sure to return the food tray to the appropriate place for halal or non-halal food.

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照片說明：

Cafeteria at NUS.

照片說明：

Swimming pool in NUS

照片說明：

Library in NUS

照片說明：

NUS engineering building

照片說明：

Exam at the auditorium

照片說明：

NUS Job Fair

照片說明：

Classroom in NUS

照片說明：

Lecture in auditorium

照片說明：

Mechanical Engineering Lab

照片說明：

Orientation Day in NUS