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Diving

Diver

DP1&2, 4Hrs/Wk

In the first semester we mainly did pool training and only one ocean dive. Next term we will get our certificate and can dive into the ocean to help the school seawater table collect samples and control the sea animal population. In my first ocean dive in the 5 degree water with wetsuit, I realized what extreme cold is really like. And the almost dead greenish seawater surrounding confront me with the disparity between imagination and the reality, forced me to reflect upon the consequences of ocean acidification. This is a completely student run activity. Besides diving, we devote a lot of time and energy in the maintenance of gears and refilling of tanks. Also, we raise funds by ourselves.

Diving is the most interesting and meanwhile toughest activity I could think of here. This is the only CAS that requires an application form. In the form we need to fill out the reasons for choosing. It also includes a list of pledges which discouraged most people. By ticking all the boxes and signing my names again and again, I knew it would be time-consuming, freezing, and even life-threatening. I feel lucky to be chosen as a diver. On the first day, I realized I was the only Asian among these divers. I was too weak even to carry the gears to the pool. I was not as a good swimmer as most of them were. I couldn't even skin dive to the bottom of the 3 meters pool. But now I can carry all my gears without help. I won't panic anymore even if I lose my primary second stage (what I breathe through). I was so eager to dive in the ocean whenever I watch the bottomless dark blue of the ocean from the boat. I thought I would see how great swimmers those sea lions are under water. Or I might see a sea star of some sort. But I saw none but the muddy dark green seawater. At one point, I lost control of my inflator and I started to ascend. I didn't notice that I saw thousands of white bubbles moving away from me. I looked up and the cold seawater flew through my nose and my brain, into my body. That is disgusting, I thought. Finally, I was back to sea level again. It was like a rebirth. I was right there in the middle of vast area of open water, with a diving boat not so far away from me, against the grayish sky. Then I felt my face burning in the frozen air and my hand was shaking so hard that I couldn't even take off and clean my goggles. There was no bird in the sky. It was only the dark blue, the grey, the boat, and me. Everything was still and frozen, but the gentle waves rocking the boat.

强行一波thoughts:

很喜欢一个人呆在大自然里然后被自己的渺小以及自然的庞大震撼到的感觉；第一次海潜特别绝望就一个人在那里浮浮沉沉也不知道该怎么办；上船上了好久因为整个人冻得没有知觉了，被连拽带拖搞上船之后缓了好久才能站起来；船回来的路上海风拂过我湿掉的wetsuit的人生体验不想再有第二次，不知道当时怎么撑下来的；最后吐槽老外教人的时候真的就是把你扔进水里自己扑腾自己学着调节浮力。于是就出现了那天diver们在海里像浮子一样不断浮浮沉沉的神奇场景。

Biodiversity

Member

DP1, 2Hr/Wk

Our schedule is designed fit to the seasonal changes in our environment. We conduct field research and experiments. We learn about both theoretical knowledge and practical skills. At the beginning of this semester, there was huge amount of plankton bloom. We went out to sea to collect plankton samples from different places and observe them under microscope. Later was the season for salmons' return. We watched

documentaries, and went to several salmon spawning sites to observe their behavior. Eagles and gulls hovered around for the dead body. In this way, we got to know the huge food chain behind salmon, ranging from krill to humpback whales. In addition, we often go to local aquariums and go to Race Rocks for field trips.

In biodiversity CAS week, I lived on Race Rocks for a whole week. It is a small rocky island belonged to the indigenous people. All our food and fresh water supply was sent by secondary energy. There are thousands of sea lions on the island. They bark and groan restlessly. Everyday I fell asleep and woke up with the sounds of sea lions, gulls, Canada goose, Black turnstones... I didn't miss any sunrise nor sunset that week. Everyday it was different. Sometimes the wind can increase from none to 40 knots in just one minute, and I could be pulled up from the ground by the wind at any time. In the lighthouse, I witnessed the wonder of nature when the sun was rising from the east while dark clouds shaded the whole western sea. The whole island was soon engulfed in the clouds. They digested the brightness while the sun ray penetrated. I made a video collection of all these sunrises. After the sunrise, I made my own food and climbed the lighthouses over seven times every day. On the lighthouse, I recorded the number and distribution of sea lions on the island, making a comparison with the abiotic factors including wind speed, wind direction, and time of day. Beside this data analysis, I made a topographic map of the island, describing biological distributions. This is not only a visual feast but also a great learning opportunity.

I always found the life of a lighthouse keeper hard to imagine, especially when on such a small island with no fresh water supply, especially a girl as young as she is. She is a Pearson student years ago and had just finished her university. She lives on the island with her sea lions most of the time. She speaks softly and remembers the name of each humpback she recognize from a far distance. She hates the tourist boats that come too close and disturb the sea lions. She contacts organizations to help the sea lions get rid of the plastic rings on their necks. She is the guardian of this indigenous land.

Astronomy

Member

DP1, 2Hrs/Wk

We do anything related to astronomy. We learn about different fields of Astronomy, their objects of study, the usage of basic tools, etc. We watch the stars, take astrophotography, upgrade our equipments, watch documentaries, and do researches. We mainly have three parts: engineering, outreaching, and researching. For engineering part, we are planning to automize our telescopes so that anyone can access them remotely. For outreaching, we will take astrophotography and upload it on social media.

We sometimes organize astronomy events for everyone to come. Once, we sent messages to the whole school inviting them to watch the meteor shower. We didn't expect that many people to come. People sit on the grass at the top of the hill. Everyone was staring up and there was always a little moment of joy when a meteor came. The best night was even before I joined the CAS. It was the third day I came to this campus. They gathered all of us first years and took us on a path. We walked confusedly for half an hour. We reached a harvest wheat field. We formed a circle and followed the instruction to lie down. That was on the most awe-inspiring tour of the starry night. The second years told us about the indigenous land we are living on and the local food we are eating. We are one among the millions of stars, and we should do our part to contribute to the community the way every single star in the vast night sky. I could hear my breath and the singing of crickets from far distance; I could smell the straws and soil; I fell in love with the stars in the night.

Metchosin house community service

Member

DP1, 2Hrs/Wr

Every week we go to our community to help the elderly living alone. They can ask us to help them with anything they need, but most of the time, they like to have a little chat with us. They are very different from the elderly in my country, where most of them live with a big family and are highly respected. They own little money and live a simple life. However, here I saw a completely different group of people. The elderly I visit are all over 90 years old. They usually live alone, in a huge villa. They wear bright clothes, play classical in their house, plant flowers, and watch the birds. There are usually a lot of finches around an old person's house. They put their feeder outside their window. Clare told me she loves watching them while doing the dishes. She was always so excited to tell me whenever she found a new bird coming to her house. She hates a kind of bright colored bird. She chases them away whenever she saw it. It is a cuckoo, a thief, she told me. She is 96 this year. She loves wearing blue. She fainted on her 90th birthday and received a severe operation. She showed me her upper chest. It felt hard. There is a machine inside. She walks with a stick but she exercises everyday. She loves writing poems; there is a pile of notebooks she has used up; now that she couldn't use her right hand anymore, she is learning to write with her left hand. She loves flowers; every time I go, there is always a vase filled with fresh flowers from her garden. She loves baking cakes and cookies for her children and I love her chocolate cookies. She has a whole wall with the pictures of her children and grandchildren. She loves puzzles also, but she is playing less these days because she cannot see as well. Her husband died around a few decades before. He was a pilot and she is always proud of him. She has a boyfriend now. He usually comes to her house for dinner. Sometimes some elderly don't watch birds. Christ watches the sea and the ships passing by. He lives in a fancy house near the sea shore. I was asked to help him with some technological problems. It was an APP that he didn't know how to use. It is an APP for searching for ships passing by. There was updated information on the routes, names, destinations and so on. He could tell all of those by just looking at the routes. He was a navy captain in the second world war. There was a wall full of his awards. He used to bike all the way through the Aisan continent and published a book about it. He doesn't like cats but he has one in his room. He found her as a kitten in his garden. He had no choice but to take her. He never shows her to strangers because she doesn't seem to like it.

Math tutoring

Tutor

DP1, 1Hr/Wk

Every week I arrange some time for math tutoring, but everyone can ask me math problems whenever I'm available.

I was at first reluctant to do so. I thought they could ask the teachers or search online, but then i realized the huge need of this voluntary work because almost everyday people come to me for help. I realized that some students are really struggling to learn math because people are from different educational systems they are at completely different pace. I was actually a shock to me that some students, even from developed world like Danmark, don't even know the fundamental algebraic rules like associativity. I suggested this problem to the math teachers but the reality is our school don't have enough math teachers and IB only offers two levels of math. So I began my math tutoring every week. It is a pain for me to explain those basic things over and over again. It is even more painful to see their confused eyes after my explanation. It was so hard the week before the finals. So many people came for help and even though I had my own things to worry about, I had no choice but to help them. For so many times I wanted to stop there and leave them alone, like other Chinese students. But I remained. I was so happy when they came to me after the exams and told me that they did a great job on the finals.

U-CODE

Core member, 建立者之一

FP, 4Hrs/Wk

U-CODE is a community service consists of females and emphasizes the promotion of STEM education for local girls. In the first term we raised funds through advertisement. A company was willing to help us and sent us a teacher. We learned coding from her. As the quickest learner, I always helped other members and based on what I learned in class, I finished my self-taught on python using online resources.

In the second term, we taught local girls from Changshu through bilingual teaching. As a core member, besides teaching, I am also the editor of the whole teaching syllabus. I read a lot of other python self-taught books and asked for advices from other teacher. I also helped with the designing of the logo and the posters. I was the photographer and used my camera to record the whole year of our service in detail and make videos for advertisement. Meanwhile, I was one of those to communicate with the students and interview them for their thoughts and advices on our program. Even though I left Changshu, I am still in contact with the program and I am glad to see they are doing even better than last year.

Architecture CAS

Member

FP, 2Hrs/Wk

We build architecture models by hand using recycled materials. My partner and I used wasted foam to build a bridge based on the principles of mechanics. We cut the Sprit bottle in pieces to simulate the waves. At the end of the term we made an exhibition of all our work on the topic of sustainability. In the second term, we learned how to build 3D models on computers and use laser-cutting technique to print out all the components. Using this technology, we made models for buildings on campus. Besides, we helped with the design of stage property of school shows and theater performances. We also organized a lot of workshops and invited famous architects like Mo Ping, who used to be the apprentice of Bei Yuming, to talk about his philosophy for designing.

Kayaking

Member

FP, 2Hrs/Wk

Kayaking training includes both in lake and in gym. In the gym, we mainly built up our physical fitness and train on rowing machines. On the lake we practiced our speed and balance. Also, we paid a great emphasis on team work. We learned how to balance ourselves standing on the boats and rest on the water together.

Mathcamp

Student

Summer 2019, Jun 23 - Jul 28

I got some basic understanding of undergraduate mathematics. I learned introductory courses about Group theories, linear algebra, and Category theories. At the same time, I discovered a lot of interesting fields in mathematics, like Cluster Algebra, Knot Theory, Non-Euclidean Geometry, Game Theory, Polytopes and polyhedra, Euler-Poincare Formula, Root System, Young Tableaux, Morse Theory, Markov Triples, and some introduction to Cohomology. Among them, cluster algebra, as a brand new area of math, aroused my interest and I am still investigating in this area after mathcamp.

I was hard at first and all the people around me were either genius in math that had gone to math olympiad or those who had already self taught undergraduate math in high school and were investigating into graduate level. All the teachers were from famous prestigious universities like MIT and Princeton. I could not understand the classes. They were so different from all the math classes I used to attend. This place gathered almost all the math genius and aficionados. People talked in math languages at lunch tables, and solve math

problems as activities. However, I also realized that math people are not that nerdy as everyone thought. Some of them loves violins and pianos, some loves art just like I do. They were passionate and joyful about their lives and math. For them, math is like a hobby rather than a subject, or a career. It is something that they have faith in and seek answers for throughout their lives.

Cluster Algebra

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Jul 2019 - present, 2Hrs/Wk

Originated from my interest in Cluster Algebra in Mathcamp, I have always been in contact with my teacher. After learning about the unistructurality of cluster algebras of type A, I hope to get the same results from non-orientable surfaces, or mobs stripes. In order to investigate into this area, 我每周和老师进行一至二小时的视频通话，阅读了大量相关文献。现在我能在assume Laurent Phenomenon对于non-orientable surface成立的基础上，完成此证明。然而对于Laurent Phenomenon for non-orientable surface的证明不仅我止步不前，老师也束手无策。于是我们现在在研究另一个相关课题，我希望能够有一个统一的公式能够算出the number of triangulations on mobius tripe with n marked points. 我们已经发现了很多有趣的现象，现在在进行进一步的证明。

String theory and Algebraic Geometry

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Aug 1, 2019- present, 3Hrs/Wk

我先是参加了哈佛教授Artan Sheshmani的网络课程Algebraic Geometry Online Program。现在正在尝试将我学到的代数几何知识运用到string theory上。我希望能够通过对我现有的各卡拉比丘的刻画的能级及尺度差异进行分析，从并非却低维的模型越容易被验证这一角度出发，找到更精准的数学刻画。

Cross Country Running

Member

DP1, 2Hrs/Wk

每周我们都会越野跑到学校周围的地方，有时候是个个湖边，更多的是沙滩，崖壁，和海。每一次的翻山越岭之后看到的都是不一样的自然景观，甚至是同一个地点都从来没有过一样的景色：天气，季节，时间无时无刻不在影响着潮汐，动物的活动，植物的生长。在身体锻炼的同时，更多的是震撼人心的美景与对自然力量的赞叹。除了越野跑之外，我们也有大量的对体能，技巧，拉伸的专项训练。

China Thinks Big

Leader

2019, 7Hrs/Wk, 5Wks/Yr

我们的研究主题是如何改变内向孩子对自身性格的负面看法。带领着我的成员，我们进行了大量的文献阅读和field experiment。作为一个长期心理学项目，我制定了严格的计划，利用了网络力量和身边的资源，组织联系了很多活动，包括演讲场地，实验对象，采访对象等。同时合理安排队员职务，互相监督帮助。我们最后赢得了国家二等奖。

Color run

Participant, photographer

FP的某天，4Hrs

我们陪伴了来自社区的自闭症儿童家庭一起跑步，筹集资金。跑步的途中我们用颜料喷洒参与者。我们成功让几乎整个学校的师生都参与了活动，超过10个自闭症儿童家庭参加。我也用相机记录了很多温暖人心的瞬间。

Teaching in rural China

Participant

FP的某一周

We went to a middle school in rural areas in Henan, China using bilingual teaching.

我们去河南进行双语支教。我们小组在教孩子们地理的同时，让他们了解了中国各地以及世界各国文化的多样性。我主要为我们的外国同学做了翻译。作为一个从类似的环境下出来的孩子，我认为我们的支教并不仅仅是让孩子们学习英语而是让他们看到世界的另一个可能性并且为之奋斗。