

Experiential Learning Beyond the Borders: International Field School on Microorganisms, Human Impacts, and Climate Change (Thailand)

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Background

- With the current TRU strategies' priorities being - increasing student success; increasing intercultural understanding; increasing research capacities; increasing entrepreneurial capacity and increasing sustainability, his course was designed to produce graduates, the next generation's leaders, who are globally, societally, and environmentally minded.
- We aimed to develop global citizenship skills within the young generation of microbiologists through local and international contexts – Canada and Thailand.
- The concepts of "Interconnectedness" and "One Health" were emphasized, and specific case studies on the impacts of microorganisms, human behaviors/practices, and climate change in both Canadian and Thai contexts were assigned to students at both Chiang Mai University (CMU, Thailand) and Thompson Rivers University (TRU, Canada) before departure.

Student Recruiting

Fundraising

Cultural and Pre-departure Training (TRU World and Instructors), other preparation before departure (travel document, VISA, health insurance, medical information, and necessary vaccines)

Two Weeks at TRU
Canadian Case Study
Presentation Preparation
(in designated groups)

Traveling
with TRU
instructor(s)

Two Weeks at CMU with
students from the
International Environmental
Science Program

- Lectures from CMU, TRU, and guest speakers
- Fieldwork
- Field trips
- Laboratory
- Group discussion & presentations
- Cultural events

Our Partner and Participants

Dr. Alice Sharp, the director of the International Environmental Science Program, Faculty of Science, CMU, and her team of staff and faculty members.

The student participants, including 19 students (International, Indigenous, and domestic students) from TRU Biology programs (especially Cellular, Molecular, and Microbial Biology) and 9 from the CMU International Environmental Science program (Botswana, Korea, Thailand, and Japan), jointly worked in small research teams to identify the impacts of climate change on humans, the environment, and microorganisms. The outcomes of their work proposed solutions for the impact of climate change.



Experiential Learning



Impact Statement: Goal 5 and Objective 5

The university's SIP goal 5 aligns with this work: "To lead the way in cultivating a culture of community-mindedness with a global conscience by sharing educational practices, exchanging knowledge worldwide, and taking a proactive role in addressing regional, national, and global challenges through education and scholarship." By creating a collaborative field school that brings together CMU environmental science and TRU microbiology students to learn about the global climate crisis issues that influence human, animal, and environmental health through contextualized place-based and experiential learning approaches, initial findings suggest there is an impact on student learning beyond the classroom.

Impressions from Students

In their final course reflective exit essays, students provided favorable comments, legitimate suggestions, and honest expressions regarding the course and experience as a whole. Below are some excerpts from students' essays (anonymized and used with permission).

"The classmates participating in the International Field School come from a large range of backgrounds and cultures. The diversity within the group made this experience very unique. It gave us all the opportunity to hear an idea from a different perspective that we may not have personally considered right away." **Student#3**

"Studying practices or daily mannerisms of different societies can help us figure out how to help our Earth. Different cultures or places might have different ways of dealing with things like garbage or water management. So, if one place has a way to supply clean water, it may not work in another place. This is something I think should be studied more or have a whole team for so we can all help and pitch in ideas." **Student#1**

"Overall, the International Field School course was a once-in-a-lifetime experience for me. I would have never imagined that I would be studying abroad in Thailand learning about what interests me the most. I have gained important scientific knowledge from my involvement in this course, which has inspired me to work toward solutions through my volunteer, research, and career expeditions to create mitigation for climate change and the many other issues it causes. From this experience, I learned lessons that cannot be taught in a classroom. I made many new friendships and memories that will stay with me forever." **Student#4**

"My expectations of this course were met and greatly surpassed. The extent to which we got to know many of the CMU students was far greater than I ever anticipated, such as going out to the bar or going ziplining. I also was very intrigued by the guest speakers who came in and told us about their research projects and introduced us to problems they are facing head-on throughout the world. I already had a basic understanding that human activity, microorganisms, and climate change were all interconnected from the one health concept. However, this course really opened my eyes to the reality of the situation." **Student#5**

Acknowledgements

Driven by Dr. Cheeptham's passion for teaching and learning, the connection between her mother's land and the ancestral lands of the Tk'emlúps to Secwépemc, where she calls home, and her love for her alma mater at CMU, this course was spearheaded. This course was not made possible by the authors alone – it truly takes communities (CMU, TRU, and beyond) to make this happen successfully. There are so many names that we would like to express our thanks to: the faculty members and staff at the Environmental Science Research Center, the Biology Department, Faculty of Science, Chiang Mai University, for their hard work and dedication on the ground before, during, and after the field school. We also want to thank the TRU Faculty of Science and TRU World's leadership and staff.

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