PIMS/UBC EMERGING ABORIGINAL SCHOLARS SUMMER CAMPS

The Pacific Institute for the Mathematical Sciences (PIMS) is dedicated to increasing public awareness of the importance of mathematics and encouraging students to see mathematics as subject that opens doors to careers in many exciting fields. PIMS is also a strong advocate for Aboriginal and First Nations students and for the past four years Melania Alvarez, PIMS' BC Education Coordinator, has worked in collaboration with UBC's First Nations House of Learning to deliver the Emerging Aboriginal Scholars High School Summer Camp at UBC. This camp has been proudly sponsored by the UBC Mathematics Department, the Government of British Columbia, the UBC Teaching and Learning Enhancement Fund, the UBC Equity Enhancement Fund, the Vancouver Foundation, as well as a number of private donors.

This five-week summer camp provides an innovative program of learning for Aboriginal students at the high school level. In addition to 90 minute classes of both math and English every morning, three afternoons each week are spent working with UBC faculty and researchers in a field of the students' choosing. With program options ranging from engineering to microbiology to forestry to human resources, the 31 enrolled students really get an opportunity to experience the university work and research environment, shape their career aspirations and interact with some amazing teachers and mentors.

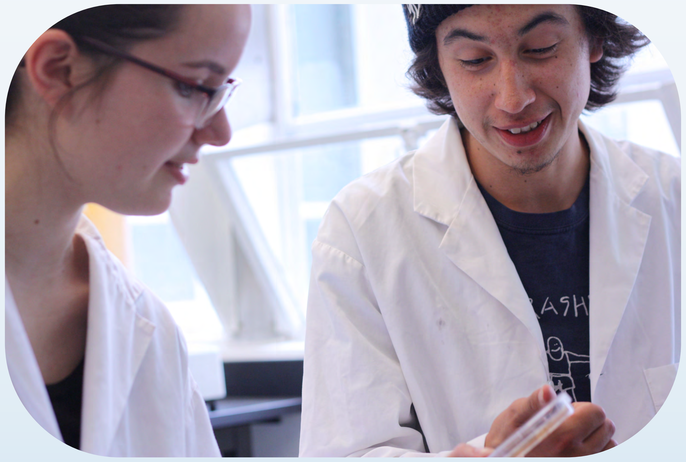
Benefits and Objectives Aboriginal Students:

- To increase Aboriginal student participation, retention and high school graduation rates by providing a more solid foundation in Mathematics, Science and English in preparation for admission and success in post-secondary institutions.
- To expose Aboriginal students to real life working experience with faculty and other members of the university community while working on a field of their choice.
- To show them the great programs and activities that are available at UBC, and hopefully get them thinking about their futures
- Expose students to research and employment possibilities in a variety of professions.
- A hands-on working experience in a setting which encourages excellence.

Work Plan:

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00am - 9:30am	Breakfast				
9:30 am - 11:00 pm	Mathematics/English (we divide students in two groups)				
1:00 am - 11:15 pm	Snack				
11:15 am - 12:45 pm	Mathematics/English				
12:45 pm - 1:30 pm	Lunch				
1:30 pm - 4:00 pm	Students work with a member of the university community in the area of their choice.			Students meet with members of the Aboriginal community who are successfully working in a variety of fields.	

The plan is for Aboriginal students to take intensive 1 ½ hours of math and English classes every day for 5 weeks with master teachers that fully understand the subject; and to expose students to research and employment possibilities in a variety of professions, mostly in science



Benefits for UBC Students:

In addition to the master teachers, a number of UBC students help the Aboriginal students with their courses. We hire four students for the duration of the summer school and welcome additional students to volunteer their time and skill to the program.

UBC students will:

- Help the Aboriginal students with their English and math courses.
- Participate (with the students) in several cultural events.
- Work with faculty and Aboriginal students on research projects.
- Improve their teaching, mentoring and leadership skills
- Learn more about the realities of Aboriginal life and culture.

This summer, six UBC students worked as mathematics and English mentors in the summer school (two volunteer and four paid) and more than 14 undergraduate and graduate students worked with faculty and mentored the students on a variety of projects. They all mentioned that this experience was invaluable! At least four of these students are now volunteering as mentors to some of the PIMS/UBC Emerging Aboriginal Scholars Summer Camp students as well as volunteering their time at a number local schools that have a substantial number of Aboriginal students.

Benefits for UBC Faculty:

Faculty from a wide range of disciplines have been eager to participate in this program. They have found the experience very rewarding and the opportunities to work with, mentor and personally engage with the students have been invaluable to many. Some faculty members continue to keep in touch with the students with whom they have worked and support them on their educational path.

> *At the 2014 camp, in the Faculty of Forestry, Lori Daniels worked with a team of summer camp and UBC students on a number of projects, including one that assisted with creating a wood "library" representing the history of forest fires in BC over many hundreds of years and involved palm sanding large discs of western red cedar and Douglas-fir, which will be used for education purposes by the First Nation coordinator at the UBC Faculty of Forestry. "It has been a pleasure having Blaise, Ocean and Keisha work with us in the Tree Ring Lab. Through their internships, they have contributed to a range of research projects that are helping to make a difference in the way we conserve and manage BC`s forests" said Daniels.*

We believe that this program fully fulfills the rationale and objectives of the TLEF project given that it provides great teaching and learning opportunities for UBC students and faculty, as well as supporting a group that up to now has been struggling to achieve equality in education. This program, together with the year-round mentorship programs provided by the UBC Mathematics Department and PIMS, helps to narrow the gap.

This program also meets UBC's objectives of increasing the number of Aboriginal students entering into mathematics and science. In fact, in 2013/2014 two of the students who had attended the PIMS/UBC Emerging Aboriginal Scholars Summer Camp were accepted to UBC – one wants to become a mathematician and the other, a nurse.

Pacific Institute for the Mathematical Sciences

PIMS - UBC Site Office
University of British Columbia
4176-2207 Main Mall
Vancouver, BC, V6T 1Z4
www.pims.math.ca