

Physics Innovation for Global Learning and Leadership Development Curriculum

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*"SUMMIT prepares every student
to be an effective change agent in a global society."*



Link to talk:

First Year Courses

- LDR101: Search for Other Worlds
- LDR102: The Art of Communicating Science
- LDR102: Still a Thing Bias in STEM
- GBL102: Journeys: Manitoba

Leadership Development

- AST120 and AST121
- PHY202 and PHY203
- PHY130: Programming
- PHY240: Electronics

Global Learning

- PHY150: Waves Around the World
- SUM200: Looking Up and Around in Chile
- Study Abroad

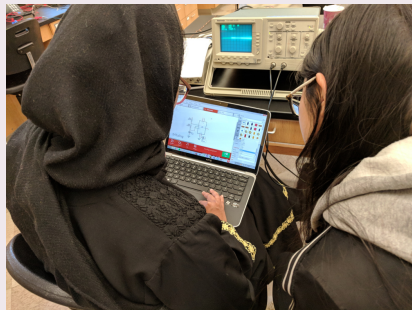


Leadership Skills: Teamwork, Public Speaking, Digital Literacy

Teamwork



Digital Literacy





Human Rights and the Scientific Endeavour in the sub-Arctic



Churchill, Manitoba, Canada

SLO: Observe changes in the length of day and apparent motions of the sun and moon; compare and contrast how phenomena differ with observer latitude



Experiential Learning!



CBC | MENU

news

Churchill 'like a ghost town' after blizzard buries town in snow

U.S. students thrilled with blizzard

Nineteen university students from Atlanta, Ga. have been stuck at the Churchill Northern Studies Centre since Tuesday.

The centre's executive director, Grant MacNeil, said the students are in great spirits and excited to be in Canada during a blizzard.

"They are pretty impressed by how much snow there is. They think this is typical, like we always have these big, long multi-day storms. I said, 'I have been here a few years and have never seen anything like this.' They are all pretty pleased to be here for kind of a historic event," said MacNeil.

The first-year students from Agnes Scott College had to do a trip abroad and chose Churchill for educational projects and work. They were supposed to go dog sledding and snowmobiling, in addition to building snow shelters.

SLO: Identify human migration and **climate patterns** that influenced settlements in and around Churchill; describe indigenous and colonial interactions



Global Music and Physics

PHY150: Waves around the World

Performances



Granny Nanny Cultural Group

Workshops





Global Music and Physics



Physics 150

Fall 2016

Homework 7

Physics Topics

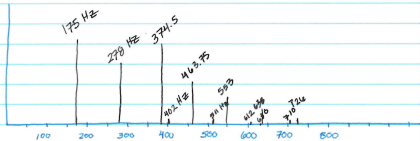
- Standing Waves
- Sound Waves
- 2D Resonance
- Sound Perception
- **FFT**
 - Recording via Vernier LoggerPro
 - Interpretation
 - Quantitative Analysis
 - Prediction

3. The *samisen* (also spelled *shamisen*) is a three-stringed Japanese instrument that is plucked with a *bachi*. One of the tuning methods is *honchosi*, where the 2nd string is an interval of a fourth above the 1st string and the 3rd string is an octave above the 1st string. While the string widths and tensions are different for each string, the string lengths are all 60 cm.



- (a) (2 pt) How far from the lower bridge should the *samisen* player press the 1st string against the neck to create the same note as the 3rd string? (This distance is the length of the string that is allowed to vibrate, shown in red).
- (b) (3 pt) How far from the lower bridge should the *samisen* player press the 1st string against the neck to create the same note as the 2nd string? Remember that an interval of a 4th is created by a frequency ratio of 4:3.

4c The relative height of the different peaks depends on where the drum is struck. If a standing wave mode has a nodal ring at the location the drum is struck, that mode won't contribute as much.



- Flexibility for students to **study abroad**
- Internships as capstone
- Teamwork-based pedagogies
- Reduced pre-requisites for programming and electronics courses
- Leadership opportunities in department



Thank You!

My Colleagues



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Professor of Physics
and Astronomy



Chris De Pree

Charles A. Dana
Professor of Astronomy



Tracey Laird

Professor of Music

Comment on Proposed Changes to Endangered Species Act

Listing Species
and Designating
Critical Habitats



Prohibitions to
Threatened
Wildlife and
Plants

