

A 'river of experience': How many ways of knowing inform a course on the climate crisis and actions

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How can we educate about the climate crisis in a way that gives students the tools they need to move towards hopeful visions for the future?

A new kind of climate course has emerged from our collaboration at McGill University across the fields of environmental studies, biology, geoscience and [science communication](#) as we teamed up to explore this question.

[The Climate Crisis and Climate Actions](#) course is an interdisciplinary, "whole-person" introduction to the climate crisis that includes an emphasis on individual and collective actions.

Designing a different kind of course

Designing the course required reaching beyond our disciplinary boundaries, to match the [multifaceted nature of the climate crisis](#). For over two years, we consulted with researchers and educators across the campus and beyond.

The value of a holistic approach was inspired by discussions about Indigenous knowledge and pedagogy. We received early guidance and consultation around this by Kanien'kehá:ka Faithkeeper Ka'nahsohon Kevin Deer from Kahnawake, and [Stryker Calvez](#), a [Michif researcher and educator](#) and director of Reconciliation, Equity, Diversity and Inclusion at the City of Saskatoon.

We wove threads of [Indigenous perspectives and resources](#) throughout the course materials, lectures and assignments. For example, the importance of learning [physically, emotionally and spiritually, in addition to intellectually](#)—central to Deer and Calvez's teachings—was a focus in our course through weekly reflective journaling [to help students engage at these levels](#). Deer has continued to be involved in the course as a guest lecturer and advisor.

Here are some of our guiding principles for the course.

1. Collaboration and multiple ways of knowing

We wondered: Do we begin with the [science of carbon in the Earth system](#) or the [roots of colonialism](#)? Do we emphasize Indigenous knowledge, the science or socioeconomics of climate change? The problem or the possible solutions? What role should empowering our intellect versus our emotions play? [Many educators are grappling with these questions](#) as we collectively think about how to prepare the next generations for challenges ahead.

The solution for us was to value and welcome a diversity of disciplines, perspectives and approaches to understanding the climate crisis and taking climate action.

We have had lectures from academics in wide-ranging fields, including Earth system sciences, political science, biology, English literature, environmental studies, education, sustainability and more. Lectures also included [musical performances](#) and poetry readings.

We had visits by people working on climate solutions. Contributors have shared their expertise and lived experiences in relation to the climate crisis, including class visits from [Lisa Qiluqqi Koperqualuk](#), president of the Inuit Circumpolar Council Canada, Indigenous youth front line activists, as well as other speakers from around the world. We heard from a national carbon emissions policy expert, a solar industry leader, a national journalist, [Senator Rosa Galvez](#) and former NHL goalie [Ken Dryden, also a](#) former member of Parliament.

Weekly course materials ranged from [sections of the IPCC Sixth Assessment Report](#) to Potawatomi botanist Robin Wall Kimmerer's writing about mending our relationship with the Earth in [Greta](#)

[Thunberg's Climate Book](#), to [a film by Indigenous Islanders in Greenland and the Marshall Islands](#).

In small workshops, guided by teaching assistants, students benefit from peer learning as they unpack topics or work on assignments together. Towards the end of the course, students collaborate to write a proposal for a climate action on campus. With the support of McGill's million-dollar [Sustainability Project Fund](#), students can apply for seed funding and potentially see their climate project realized.

2. Bring your whole person

Academics are accustomed to approaching problems by speaking only from our formal expertise. But as researchers and teachers, we are learning if we [bring our whole selves](#)—talents, skills, passions, lived experiences, positions of power and privilege—to the table, we can do far more.

This can help build a strong community, [support learners experiencing anxiety, fear or grief](#), and better engage with multidisciplinary [course materials](#).

It can also help teachers and students to [find our place in the climate crisis and understand better the possible actions each person can contribute](#).

After a lecture on the [scientific evidence for human-caused climate change](#) that may have otherwise left students feeling despair about [the scale and severity of impacts](#), we planned an interactive activity to bring the class towards a place of hopeful action.

Inspired by marine biologist Ayana Elizabeth Johnson's climate action Venn diagram, and using [games to foster authentic ways of relating](#),

students worked in small groups. They playfully supported each other to share the strengths they bring and to brainstorm possible actions.

Each declared a next feasible step forward that they could take on one of the ideas that came up.

3. Start from where you are

... and not where you think you "ought to" be. The climate crisis is [an unprecedented, alarming, complex and multifaceted challenge](#). It can be daunting to know how to talk about it. There are multiple valid ways of approaching the problem, and there are real barriers surrounding many of the solutions people have identified. But as climate scientist [Katherine Hayhoe emphasizes](#), the most important step towards addressing the climate crisis is to talk about it.

Students join the course from diverse disciplines and contexts. Each year, we begin the course by asking students to put pen to paper to visualize and share their personal journey of engagement with the climate crises leading up to joining the course as a "[River of Experience](#)."

We ask students to represent influential experiences, people, events and more in their rivers, and by doing so we acknowledge that we all come from different places. We then create a group model to help students envision their own learning path during and after the course.

Powerful hope and community

While the course was designed for undergraduates, these [guiding principles](#) work equally well outside of academic classrooms. We as instructors and climate experts have found powerful hope, community

and paths to climate action in new ways by applying them in our own lives.

We invite readers to engage these principles and consider how you can collaborate across differences and contribute to [climate action](#). What formed your river of experience with the climate crisis, and where do you want it to go?

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