

Integrating Experiential and Community-Engaged Learning within the Mathematics & Statistics Undergraduate Curriculum using the ICON Transdisciplinary Classroom

Daniel Gillis, University of Guelph

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Abstract

Launched in 2015, the Ideas Congress (ICON) Transdisciplinary Classroom challenges undergraduate students to work in interdisciplinary teams to develop solutions to challenges posed by community partners. Teams are made up of junior and senior undergraduate students spanning (to date) more than 26 different academic majors. The curriculum has been designed to provide students the opportunity to develop foundation skills (e.g. communication, problem solving, critical thinking, resiliency, open-mindedness, knowledge mobilization, teamwork, etc.) that have been identified by industry as essential to succeed in the Canadian job market. More importantly, I argue that these skills are necessary to address and solve broad social challenges such as those described in the United Nations Sustainable Development Goals - all of which are multifaceted and multi-sectoral and not likely to be solved by the efforts of a single discipline.

In this talk, I will outline the structure of the ICON classroom using examples from the previous nine offerings of the course, provide student and community testimonials and outcomes, and present a plan to use the course to integrate experiential and community-engaged learning within the existing mathematics & statistics undergraduate curriculum.