



## New Programs Enhance STEM Pipeline for Organizations Targeting Indigenous Youth

Fresh, hands-on initiatives are reaching further north and into new communities to bring indigenous youth into the STEM-based career pipeline.

As the fastest-growing population segment in Canada, indigenous workers offer employers access to a vibrant and expanding labour pool. However, they are still under-represented in many science, technology, engineering and mathematics (STEM) careers, and absent from many talent pools and pipelines in the STEM industries. Over the last few years, however, new funding and new initiatives are doing more to develop this key talent pool.

Here, some of the latest programs to build and enhance the existing talent pipeline among indigenous youth will be showcased. As more students and early career workers are reached by these efforts, it will be possible for diversity-minded employers all over Canada to connect with the talent they need for 2020 and beyond.

### [Actua's In STEM Program.](#)

One area where indigenous youth struggle is with earning their high school diploma or equivalency. To address that gap – currently estimated at 15 percent or more below their non-indigenous peers – Actua is expanding its InSTEM program in the Yukon, Northwest Territories, and Northern Alberta.

Actua is a national charitable organization that has established STEM confidence-building programs in more than 200 indigenous communities. However, thanks to a \$2.3 million grant from government of Canada's Future Skills Centre, the group is pushing into areas they have never served before and offering a unique for-credit STEM intensive that can help indigenous youth achieve their high school diplomas and give them more exposure to STEM-based curriculums. Plus, since Actua's InSTEM offers a summer session to complement academic year instruction, it is accessible to more members of the community, especially those who may have taken a break or otherwise chosen to leave the traditional school timeline.

The program piloted in late 2017 in Ottawa. In 2018, it reached youth in Six Nations, Dokis First Nation and Akwesasne. With the addition of the Yukon, NWT, and Alberta sites for 2020, Actua is hoping to not only help more students graduate, but to help more students graduate with the knowledge and hands-on experience to prove that a STEM career will be a good choice for them.

### Six Nations Polytechnique's STEAM Dual-Degree Program

Another fresh approach designed to graduate more indigenous youth into STEM programs comes from Six Nations Polytechnique, where administrators have created a curriculum to combine high



school and college-level learning. As a result, students who enroll in the Brandtford-based program graduate with a high school diploma and a two-year college degree.

This dual-degree program is the only one of its kind in Canada. Its science, technology, engineering, art and math (STEAM) courses are taught from an indigenous-aware perspective that includes language revitalization. The pilot class – limited to just 50 students – enrolled in 2017, with the first college degree recipients slated to graduate as early as 2022.

Even in the early stages, the program has been receiving national recognition for its unique model from the Indigenous Services office. Organizers expect that all students will be able to finish the full program within five to six years, and they are already expanding enrollment to other indigenous and non-indigenous applicants. While no other community has adopted this dual-degree model yet, if the first class promptly finds employment in their areas of choice, it will encourage others to test out this “fast track” certification training model.

Aurora College – Arts, Crafts, & Technology Micro Manufacturing Centre (ACTM)

Even for students and recent graduates who have had exposure to STEM in the classroom, there can be a gap when it comes to maintaining access to high-tech and cutting-edge equipment. In 2019, responding to local demand, Aurora College in Inuvik converted its former trades training centre into a micro-manufacturing space for arts, crafts, and technology.

Use of the space does not require any kind of diploma, ensuring access for those still in school and those who have left school but still want to work with high-end, high-tech tools. Seminar sessions and hands-on training days ensure that participants understand the potential of the tools, and by connecting STEM design principles to local crafting traditions, the ACTMC has seen high adoption rates for use of laser engravers, 3D printers, and computer-numerical cutting and milling machines.

By having this “maker space” available, Aurora College hopes to connect more young entrepreneurs and crafters to the equipment they need to realize their ambitions. Plus, with experience on their own or working with some of Inuvik’s 600-plus resident crafters and creators, local youth can gain the work experience they need to make themselves attractive to companies in the area and across Canada. In fact, the high early adoption of the space and enthusiasm led the college to pursue additional grants and funding, so that this new space can continue to expand and bring in new equipment.

#### [What Other Programs are Emerging Near YOUR Organization?](#)

Pilot programs for high schoolers ... combination programs for degree-seeking students ... and maker spaces open to students, recent graduates, and those who have left education. Each one plays a role in expanding the STEM awareness and interest of indigenous youth across the country, but these programs are hardly the only initiatives that have recently emerged.



There are robotics competitions; the Canada-Wide Science Fair; hands-on land use seminars; and much, much more. Many of the new programs lack a major corporate sponsor, and all would benefit from more funding, support, and positive attention from the businesses that operate in their regions.

Thus, the next time the talent pipeline seems empty, investigate! It could just be that there is a brand-new organization or initiative nearby with the potential to supply the young, interested, engaged, and highly motivated talent needed for the workforce of 2020 and beyond.