

# CANADIAN SCHOOL Counsellor

MAGAZINE

Inside:

Crossing  
Borders

MAGAZINE

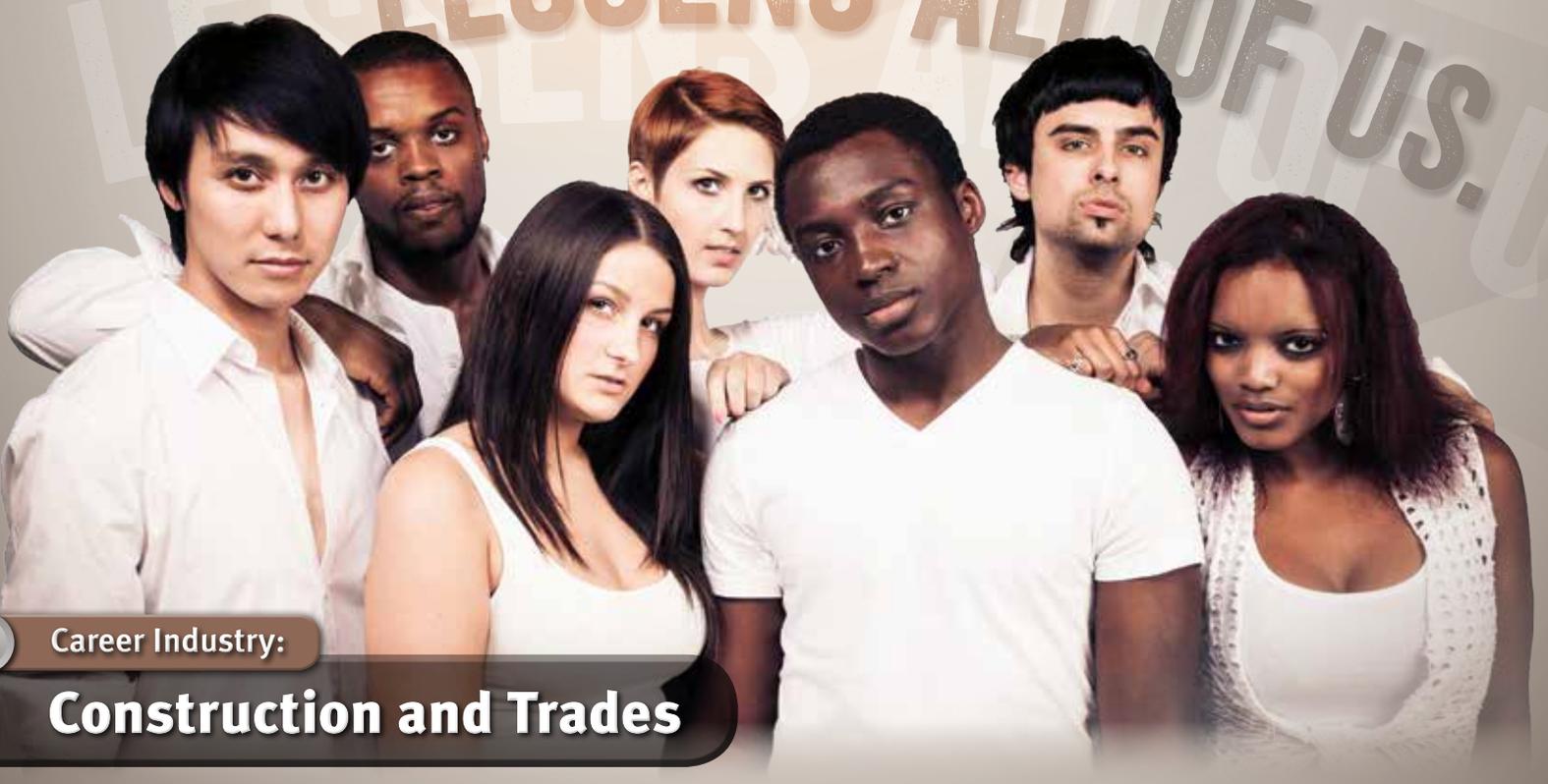
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**FOR EDITORIAL INQUIRIES:**

Donna Billey  
donna@mzpinc.ca

**FOR ADVERTISING INFORMATION:**

Stephanie Duprat  
stephanie@mzpinc.ca

**FOR SUBSCRIPTION INQUIRIES  
AND MAILING UPDATES:**

donna@mzpinc.ca

**PUBLISHER:** Donna Billey

**CREATIVE DIRECTOR:** Jessica Wolfe

**ADVERTISING SALES:** Donna Billey, Stephanie Duprat, Shirley Goray

**CONTRIBUTING WRITERS:** Sean Dolan, Anna Macri, Alison Zenisek

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The time has come for systemic change

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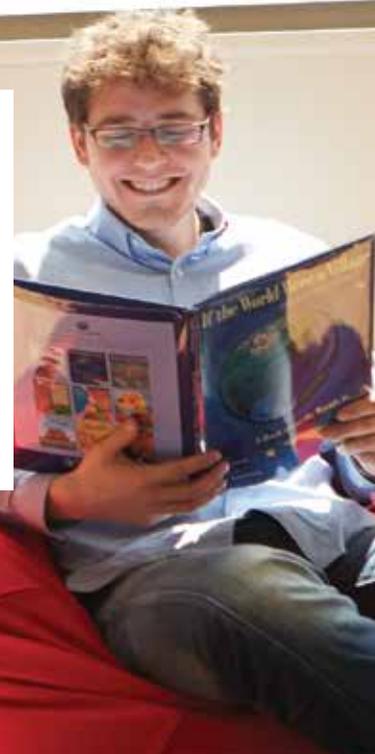


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# Guiding Students During COVID-19: The Silver Linings

By Anna Macri



**I still remember spending Ontario's Family Day weekend this past February up at Horseshoe Valley Resort skiing with my children and meeting up with friends. It was a beautiful outdoor experience as we enjoyed nature and talked about our upcoming March Break. When I got back to school, the chatter around the water cooler was all about the novel coronavirus emerging from China and how it was getting closer to North America.**

Then came Thursday, March 12, 2020 - two days before March Break - and the Ontario provincial government announced that students and teachers would not be returning to school until well after the break was over. What started as two extra weeks turned into keeping schools closed until at least May and we all know what happened after that: no return to school and remote learning for the remainder of the semester. As easy and natural as it was to fall into the negative and new reality of Covid-19, a lot of positives surfaced as well, at least for members of my guidance team.




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While teachers had to quickly learn various virtual educational tools, develop on-line lessons, assessments, labs and projects, Guidance had to create new ways of reaching out and

connecting with students and parents. We helped them with a multitude of guidance-related tasks, including course selections, course changes, summer school and e-learning applications. We

assisted students in accessing their new virtual classrooms, re-set passwords for student board wide accounts, answered questions about post-secondary acceptances and navigated a myriad of other tasks. Then there was reaching out to our students who were struggling, not only academically, but also socially and emotionally and those who struggled with mental health issues. In an increasingly technologically sophisticated world, where everything is at the student's fingertips, many struggled with accessing their class work and when they finally did, the feelings of anxiety when they saw the never ending list of assignments posted in each of their Google classes, was overwhelming, to say the least. Many students saw the quantity of work and shut down, opting to not start anything as the tasks seemed so daunting and without teacher instruction, many felt lost. As we all learned to adjust to our new way of reaching out and working, these were some of the downfalls to distance and virtual learning.



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However, among all the uncertainty with education, remote learning, COVID-19 status reports and protocols, I can take away some positive experiences my guidance team and I encountered throughout this pandemic. First, we were all "inspired" to learn how to develop a virtual classroom...quickly. In our school, we made Google classrooms for each of our cohorts of students, as well as for each of the Specialist High Skills Majors (SHSM) offered at our school. In doing so, we posted everything our students needed to know and it reached all of our students, which was something that rarely happened during school when we made announcements and did presentations. We posted information about our course change process, created Google forms for entering community service hours and requesting level changes for the semester or course changes for the upcoming school year. We also used our Google class as a platform to post mental health and scholarship information and resources; prayers and



**"The relationships we formed with students and their parents were rich and meaningful."**

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inspirational messages to help get our students through this time in isolation. We posted summer school information, applications, deadlines, courses, helped students process applications and worked on pathway planning. Due to this method of communication and information sharing, we felt confident that all of our students were getting the same access at the same time to all of this information. Because of that we had a lot of students reaching out to us virtually, asking questions and starting dialogues with us and with each other.

Another positive experience of being a guidance counsellor working remotely is that for some students, who may not have been motivated to come to our offices when school was open, felt more willing and comfortable to communicate through email. They were able to ask their questions from the security of their own homes and the safety of being behind their screens. I engaged in wonderful conversations with many students from different grades. Students that would rarely come down to see me in person were emailing me daily with

questions or touching base for a quick chat. If students wanted to talk, they knew they could just ask their guidance

counsellor to call them - and we did. We even asked the student the best time to reach out to them and honored their



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Lastly, one of the key insights I came to discover, sitting at my computer for hours, was that not everything is an emergency or a crisis. Sometimes, when we are at school, operating from our offices, parents would pop in unexpectedly with a situation that they deemed a “crisis”. Sometimes, the family truly was in crisis and, like all Guidance Departments across the country, we’d jump into action, getting the most beneficial resources involved to help the student and their family. However, throughout the pandemic, when parents reached out, it was often about assignments, access to the virtual classrooms and post-secondary questions. We posted a lot of information regarding mental health resources and links to our school website, school twitter account and our Google classrooms. Parents and students had access to those resources so we did not encounter as many “crisis” calls as we would have had we been in school. When parents and students

requests. The relationships we formed with students and their parents were rich and meaningful. The school bell, or another student or teacher waiting at our

office doors did not rush us through a phone call. In this way, our conversations became quite meaningful in nature, as we were able to take our time.

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were in crisis and reached out, we quickly connected them with our social worker, child and youth worker, and school psychologist, via a video conference call and meetings.

Although on-line learning and counselling will never replace the face-to-face experience, as we all learned to adapt, counsellors, students and parents, we really did learn a lot and ultimately have turned these lemons into lemonade. We need to be cognizant that COVID-19 is here to stay. We, as an education system are learning to adapt to this evolving virus and all its permutations. In Guidance, we are naturally quite flexible as that is the nature of the Guidance role – to roll with the punches. As we begin this new school year, I wish all my Guidance colleagues across the country the best of luck as they continue to reach out and service their students during this pandemic; in all the various forms those services take place. Our job is not to change the world, or the education system we work for, but rather, to help our students, one at a time. We're here to help them succeed academically and socially, and help them navigate life through this pandemic, together as partners. ♣csc



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The killing of George Floyd proved to be the tipping point in the crusade to demonstrate that systemic racism is real and that it permeates society in an all-encompassing manner. No longer disregarded as some intellectual phantom dreamed up by the disenfranchised, systemic racism is now being acknowledged for the insidious scourge that pits the power of privilege against the hint that that power might be threatened or taken away.

George Floyd. Accused of passing a counterfeit \$20 bill to a clerk in a Minneapolis deli. Confronted by police, detained and then forced to the ground, a senior officer's knee jammed into his neck, as he lay prone on the ground. His pleas ignored. Appeals from bystanders ignored. Fellow officers on the scene, paralyzed in the face of their colleague's aggressive act of submission as Floyd repeated, "I can't breathe." All caught on film. And, in under ten minutes, Floyd went into medical distress and died. Killed, for all intents and purposes, *because of the colour of his skin.*

# RACISM

## IN CANADA'S SCHOOLS

The time has come for  
**systemic change**

# RACISME

## DANS LES ÉCOLES CANADIENNES

Le temps du **changement**  
**systemique** est venu

By/Par Sean Dolan

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La mort violente de George Floyd s'est avérée le point de bascule pour la croisade qui vise à démontrer la réalité du racisme systémique et son empreinte ubiquiste sur la société. Le racisme systémique n'est plus considéré avec mépris comme une espèce de fantôme intellectuel imaginé par les marginalisés; on reconnaît désormais le fléau insidieux qui oppose le pouvoir des privilégiés à la crainte d'une menace ou d'une mainmise sur ce pouvoir.

George Floyd. Accusé d'avoir refilé un faux billet de 20 \$ au commis d'un magasin de Minneapolis. Interpelé par la police, détenu, puis rabattu de force par terre, le genou d'un agent supérieur lui coinçant le cou alors qu'il gît sur le sol, face contre terre. On ignore ses supplications. On ignore les appels au calme des témoins. Les collègues du policier sont stupéfaits face à l'agressivité de cet acte de soumission, pendant que Floyd répète : « J'étouffe. » Toute la scène est filmée. Puis, moins de dix minutes plus tard, Floyd, en état de détresse médicale, meurt. Tué, en somme, **à cause de la couleur de sa peau.**



### Will the system change?

No doubt educators returning to schools across Canada in the fall of 2020 – besides dealing with the safety questions surrounding COVID-19 – will be forced to deal with the Black Lives Matter protests that went international after Floyd's death. Or will they? If history repeats itself, the protests will be ignored; by many, (mostly White) educators, who believe that systemic racism and implicit personal bias against Black, Indigenous and people of colour (BIPOC) does not exist. "I am not a racist," educators will pronounce defensively. But now the implicit has become explicit. The days surrounding the killing of George Floyd were followed by reports of other deaths at the hands of police across the U.S. Meanwhile in Canada, within a week of Floyd's death, Chantel Moore, an Indigenous woman living in New Brunswick, was gunned down when police were conducting a wellness check on her. They say she was wielding a knife.

### Has anything changed?

To say that many educators will do nothing in light of the protests in the summer of 2020 is not an expression of pessimism. Instead it speaks to Canada's long-standing denial that institutional racism exists. Back in 1992, human rights champion and former leader of the Ontario NDP Stephen Lewis was commissioned by the province to write the "Report on Race Relations in Ontario." In it, he describes meeting with racialized communities and observing "there was a weary and bitter sense that I was engaged and they were engaged in yet another reporting charade. It was truly depressing." In his report, he echoes the questions of racialized students about the structure of the school system: "Where are the courses in Black history? Where are the visible minority teachers? Why are there so few role models? Why do our White guidance counsellors know so little of different cultural backgrounds? Why are racist incidents

### Le système changera-t-il?

Il n'y a pas de doute : lors de la rentrée automnale de 2020, les enseignants canadiens se verront forcés d'aborder – outre les questions de sécurité entourant la COVID-19 – le sujet des manifestations de Black Lives Matter, qui ont pris une ampleur internationale après la mort de George Floyd. Vraiment? Si l'histoire se répète, les manifestations demeureront lettre morte pour beaucoup d'enseignants (surtout blancs) qui croient que le racisme systémique et le biais personnel implicite à l'encontre des personnes autochtones, noires et de couleur (PANDC) relèvent de la fiction. « Je ne suis pas raciste », diront certains enseignants sur la défensive. Mais maintenant, l'implicite est devenu explicite. Dans les jours qui ont suivi la mort de George Floyd, d'autres cas de décès aux mains de la police ont fait surface partout aux États-Unis. Pendant ce temps, au Canada, moins d'une semaine après la mort de Floyd, Chantel Moore, une Autochtone du Nouveau-Brunswick, a été abattue par la police lors d'un contrôle de son bien-être. Les agents affirment qu'elle avait brandi un couteau.

### Y a-t-il eu des changements?

Dire que beaucoup d'enseignants ne feront rien à la suite des manifestations de l'été 2020 n'est pas un signe de pessimisme. De fait, le Canada nie depuis longtemps l'existence d'un racisme institutionnel. Dès 1992, l'Ontario confiait à Stephen Lewis, champion des droits de la personne et ancien chef du NPD de cette province, la rédaction d'un rapport sur les relations interraciales en Ontario. Dans ce rapport, Lewis décrit ses rencontres avec des communautés racialisées et observe : « Souvent, au cours des discussions, on avait le sentiment, chargé de fatigue et d'amertume, que je participais et que

NO ONE WANTS TO TAKE THE POSITION,  
"ASSUME YOU ARE A RACIST."

PERSONNE NE VEUT ADOPTER LA POSITION :  
« PRÉSUME QUE TU ES RACISTE. »

and epithets tolerated? Why are there double standards of discipline? Why are minority students streamed? Why do they discourage us from University?... How long does it take to change the curriculum so that we're a part of it?"

Almost 30 years later and, despite some efforts to improve equity and cultural sensitivity in education across Canada, the questions posed by the students Lewis interviewed still ring true. Thirty years of intellectualizing racism has led to one stark reality: most educators do not believe that systemic racism exists and wince at the inking that they may hold implicit or unconscious racist opinions.

This is not an effort to shame educators. It is simply to say that systems are in place that makes it easier for one group (White students) to thrive while others (BIPOC students) feel like they are swimming upstream. The evidence of this is startling.

mes interlocuteurs participaient à une charade de plus. C'était profondément déprimant. » Dans son rapport, il se fait l'écho des questions d'étudiants racialisés au sujet de la structure du système scolaire : « Où sont les cours en histoire des Noirs? Où est le personnel enseignant en provenance des minorités visibles? Pourquoi y a-t-il si peu de modèles à imiter? Pourquoi les conseillères et conseillers en orientation en savent-ils si peu sur les cultures différentes? Pourquoi tolère-t-on les incidents et les insultes racistes? Pourquoi deux poids et deux mesures quand il s'agit de discipline? Pourquoi regrouper les élèves des minorités d'une façon qui ne correspond pas à leurs aptitudes? Pourquoi nous décourager si nous voulons aller à l'université? [...] Combien faudra-t-il de temps avant que le programme d'études change pour que l'on ait l'impression qu'il s'adresse à nous? »

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## The “Dysfunctional” Peel Board

Case in point: Ontario’s Peel District School Board (PDSB). Lauded as a leader in equity policy in the 2013 document *Anti-Racism Education in Canada: Best Practices*, the Peel board rapidly fell from grace when parents of Black students began providing evidence of racism to officials at the school and board level. They were dismissed. The parents didn’t give up, pushing school leaders to accept the fact that racism was an issue in program delivery and in the way Black students were treated. They were continually rebuffed even though evidence of anti-Black racism continued to be revealed. Parent advocates put themselves on the agenda of nearly every board meeting and, in late 2019, the Minister of Education ordered an investigation into the allegations. Almost immediately, the three-person panel encountered stories of overt racism and systemic bias against BIPOC students. They concluded that

Près de 30 ans plus tard, malgré certains efforts pour améliorer l’équité et la sensibilité aux différences culturelles dans le milieu de l’éducation au Canada, les questions des étudiants interviewés par Lewis demeurent d’actualité. Trente ans d’intellectualisation du racisme ont débouché sur une réalité flagrante : la plupart des enseignants ne croient pas à l’existence du racisme systémique et grimacent au moindre soupçon qu’ils puissent avoir des opinions implicitement ou inconsciemment racistes.

Il ne s’agit pas ici d’humilier les enseignants. Il faut simplement dire que certains systèmes en place facilitent le succès d’un groupe (les étudiants blancs) tandis que d’autres (les PANDC) ont l’impression de nager à contre-courant. Les preuves de cette situation sont saisissantes.

## Le conseil scolaire « dysfonctionnel » de Peel

Un exemple concret : le Conseil scolaire du district de Peel (PDSB), en Ontario. Présenté comme un modèle en matière de politiques sur l’équité dans un document de 2013 sur les meilleures pratiques de lutte contre le racisme en éducation (*Anti-Racism Education in Canada: Best Practices*), le PDSB tombe rapidement en disgrâce lorsque des parents d’élèves noirs commencent à présenter des preuves de racisme aux directions d’écoles et du conseil. Leurs plaintes sont rejetées. Les parents ne lâchent pas le morceau : ils poussent des dirigeants d’établissements à reconnaître que le racisme pose problème dans la prestation des programmes et la façon de traiter les élèves noirs. Leurs attaques sont continuellement repoussées, même si les preuves de racisme envers les Noirs continuent de s’accumuler. Des défenseurs des droits des parents s’inscrivent à l’ordre du jour de presque toutes les réunions du conseil, jusqu’à ce que le ministre de l’Éducation ordonne une enquête sur ces allégations à la fin de 2019. Presque immédiatement, l’équipe de trois examinateurs découvre des cas de racisme flagrant et de biais systémique envers les élèves PANDC. Elle conclut que le PDSB est hautement dysfonctionnel lorsqu’il s’agit de tenter de régler (voire de reconnaître) le problème de racisme systémique qui imprègne le conseil. Voici quelques exemples mis au jour dans le rapport final des examinateurs :

- Les parents d’un élève, qui ne sont pas de même race, ont assisté à une présentation des programmes scolaires à l’école de leur enfant. Les parents recevaient chacun une brochure sur les programmes scolaires à leur arrivée : le parent noir s’est vu remettre une brochure sur les programmes d’études appliquées, menant à un cheminement collégial ou au marché du travail, tandis que le parent blanc recevait une brochure sur

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the PDSB was highly dysfunctional when it came to working to address (or even recognize) the problem of systemic racism throughout the board. Here are a few of the examples they eventually revealed in their final report:

- Parents of a biracial student attended a curriculum night at their child's school. When the parents arrived, they were each given pamphlets about the school's academic programs: the Black parent was given a pamphlet on applied programs that lead to a college or workplace destination pathway; the White parent was given a pamphlet on academic programs that lead to a university destination pathway. The report writers concluded, "This situation is cogently illustrative of the institutionalized racism that manifests in the PDSB guidance system."
- Indigenous, Black and gay students were over-represented in non-university courses and under-represented in academic courses and special enriched programs.

les programmes de formation générale qui mènent à l'université. Comme le concluent les auteurs du rapport : « Une telle situation illustre de manière convaincante le racisme institutionnel qui se manifeste dans le système d'orientation du PDSB. »

- Les élèves autochtones, noirs et gais sont surreprésentés dans les cours autres que ceux du cheminement vers l'université et sous-représentés dans les cours théoriques et les programmes enrichis.
- Les élèves noirs représentent seulement 10,2 % de la population des écoles secondaires, mais environ 22,5 % des élèves suspendus.
- Le personnel est beaucoup plus susceptible de demander l'aide de la police pour des incidents mettant en cause des élèves noirs que pour des incidents similaires mettant en cause des élèves blancs.

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- Black students, while making up 10.2% of the secondary school population, accounted for 22.5% of the students receiving suspensions.
- Staff were much more likely to call the police over incidents involving Black students versus similar incidents involving White students.
- Many students and staff believed that Black History Month activities lacked even general acceptance by the school community and were more for White people to “feel good about celebrating Black people”.
- The Ontario Human Rights Commission ruled that police discriminated against a grade one PDSB student and “race was a factor in treatment by police when she was placed on her stomach and her wrists handcuffed behind her.” The police believed the student posed a serious threat to other students and deemed the handcuffs necessary to ensure student safety.
- Despite repeated proclamations that they would do their utmost to address the problem of anti-Black racism in schools, board officials, when pressed, could not define or explain what is meant by anti-Black racism – making it impossible to describe cogent plans to eradicate the problem.

Shortly after the release of the panel’s report, the Minister of Education appointed a supervisor to oversee the implementation of anti-racist policy and practices in the Peel District School Board. In turn, the board dismissed the director of education.

The Peel story serves as an example of how racism can exist at all levels of a school system. It also demonstrates the level of advocacy BIPOC parents need to employ simply to be heard. No doubt similar (or worse) examples of system racism can be found across Canada. In the case of the PDSB, tenacious parents exposed the problem. It is too soon to tell if public awareness raised by movements like *Black Lives Matter*, *Idle No More* and *Wet’suwet’en Strong* will make advocacy less burdensome for those most affected by racism. Hopefully, those who hold the power have become more likely to respond to racism in their own communities.

### **Becoming an anti-racist educator**

Educators pride themselves on compassion and empathy when dealing with their students. This is why administrators, guidance counsellors and teachers are often quick to point out – even in the absence of any accusation – that they are not racist. They see racism as a moral failure that their self-image cannot reconcile with the good people they believe themselves to be. Many go further to proclaim that racism is not a problem in their school or in their community. Too often, educators naively cling to the notion that racism is something that exists somewhere else (with statement like, “Well, at least we’re not like the U.S.”).

- Plusieurs élèves et membres du personnel estiment que les activités du Mois de l'histoire des Noirs ne sont même pas généralement acceptées par la communauté scolaire et qu'elles permettent plutôt aux Blancs de « se donner bonne conscience en célébrant les Noirs ».
- Le Tribunal des droits de la personne de l'Ontario a conclu qu'il y avait eu discrimination de la part de la police envers une élève de première année du PDSB et que « la race [de l'enfant] avait été un facteur contributif à son traitement par la [police] lorsqu'elle a été placée sur le ventre, les poignets menottés derrière le dos ». Le policier croyait que l'élève représentait une grave menace pour ses camarades et a estimé qu'il était nécessaire de lui passer les menottes pour assurer la sécurité des élèves.
- Bien qu'ayant proclamé à répétition qu'ils feraient tout en leur pouvoir pour s'attaquer au problème du racisme contre les Noirs en milieu scolaire, les dirigeants du conseil, quand on les presse de questions, sont incapables de définir ou d'expliquer ce qu'on entend par le racisme envers les Noirs, d'où l'impossibilité de décrire un plan convaincant d'éradication de ce problème.

Peu après la publication du rapport du groupe d'examen, le ministre de l'Éducation a désigné un superviseur de la mise en œuvre de politiques et de pratiques de lutte contre le racisme au sein du Conseil scolaire du district de Peel. De son côté, le conseil a congédié son directeur de l'éducation.

Le cas de Peel illustre bien à quel point le racisme peut exister à tous les échelons d'un système scolaire. Il démontre aussi l'ampleur des mesures que les parents de PANDC sont forcés de déployer, ne serait-ce que pour se faire entendre. On pourrait certainement trouver des exemples similaires (ou pires) de racisme systémique ailleurs au Canada. Dans le cas du PDSB, ce sont des parents tenaces qui ont mis le problème au jour. Il est trop tôt pour savoir si la prise de conscience que suscitent des mouvements tels *Black Lives Matter*, *Idle No More* et *Wet'suwet'en* Strong allègera le fardeau de la défense des droits pour les personnes les plus affectées par le racisme. Espérons que ceux qui détiennent le pouvoir sont désormais plus susceptibles de réagir au racisme dans leur propre collectivité.

## Devenir des enseignants antiracistes

Les enseignants se targuent de faire preuve de compassion et d'empathie dans leurs rapports avec leurs élèves. C'est pourquoi les administrateurs, les conseillers en orientation et les enseignants sont prompts à faire valoir – même en l'absence de toute accusation – qu'ils ne sont pas racistes. Ils voient dans le racisme un échec moral que leur image d'eux-mêmes ne saurait rapprocher des bonnes personnes qu'ils croient être. Bon nombre d'entre eux vont jusqu'à proclamer qu'il n'y a pas de problème de racisme à leur école ou dans leur collectivité. Trop souvent, les enseignants s'accrochent naïvement à la notion voulant que le racisme soit un fléau qui sévit ailleurs (en disant, par exemple : « Ici, au moins, ce n'est pas comme aux États-Unis »).

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### “White Fragility”

According to Robin DiAngelo, author of *“White Fragility: Why it’s so hard for White people to talk about racism,”* it’s time for members of the dominant group to adopt a new approach to the reality of racism so that they can more fully engage in dialogue and change, and acknowledge the prevalence of systemic racism. DiAngelo, a White educator who openly

### La « fragilité blanche »

Selon Robin DiAngelo, auteure de *Fragilité blanche : ce racisme que les Blancs ne voient pas* [à paraître en français aux éditions Les Arènes], il est temps que les membres du groupe dominant adoptent une nouvelle approche face à la réalité du racisme, afin de s’engager davantage sur la voie du dialogue et du changement et de reconnaître la prévalence du racisme

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*"THERE WAS A WEARY AND BITTER SENSE THAT I WAS ENGAGED AND THEY WERE ENGAGED IN YET ANOTHER REPORTING CHARADE. IT WAS TRULY DEPRESSING."*

*« SOUVENT, AU COURS DES DISCUSSIONS, ON AVAIT LE SENTIMENT, CHARGÉ DE FATIGUE ET D'AMERTUME, QUE JE PARTICIPAIS ET QUE MES INTERLOCUTEURS PARTICIPAIENT À UNE CHARADE DE PLUS. C'ÉTAIT PROFONDÉMENT DÉPRIMANT. »*

acknowledges the privilege that comes with her race, explains, "Foundationally [we] have to change our idea of what it means to be racist. As long as you define a racist as an individual who intentionally is mean, based on race, you're going to feel defensive." She explains that, by virtue of their birth, White people are shaped by the implicit bias that comes from being born into the dominant group. With privilege automatically bestowed on them, White people do not possess an innate understanding of racism because they never experience the systemic pitfalls that make it so much more challenging to be a person of colour.

systemique. Comme l'explique DiAngelo, une enseignante blanche qui reconnaît ouvertement le privilège associé à sa race : « Fondamentalement, [nous] devons revoir notre idée de ce que signifie le fait d'être raciste. Tant que nous définirons une personne raciste comme un individu délibérément méchant sur des bases raciales, nous resterons sur la défensive. » Elle explique que l'ascendance des Blancs façonne chez eux le biais implicite associé au fait d'être né au sein du groupe dominant. Le privilège qui leur est automatiquement octroyé les prive d'une compréhension innée du racisme, car ils ne font jamais l'expérience des écueils systémiques qui compliquent tant la

A photograph of the Newcastle University building, featuring a large arched entrance and a clock tower in the background. The text is overlaid on the image.

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### Action plan: How to be an anti-racist teacher

Inspired by the work of Ibram X. Kendi in his groundbreaking book “How To Be An Anti-Racist,” renowned surgeon Dr. Andrew M. Ibrahim developed the following graphic to help people avoid the pitfalls of succumbing to racist ideals. He encourages people to move out of their fears and into learning and growth. Educators who study and embrace the advice given in this graphic would be well on their way to identifying systemic racism and changing their implicit bias. It would also be a great idea to read Kendi’s book.

Thus, DiAngelo encourages White people to assume their racism - that resides in their implicit bias shaped by a lifetime of ideas and events - is always in play when dealing with racialized communities and be conscious enough to try to inform and change that bias through action. In a school context, DiAngelo adds, “There’s a history of harm between the institution of schooling and families of colour: Our schools have not done right by children of colour. And parents of colour are delivering their precious, precious children into an institution where there’s a deep history of harm. So, their suspicion, their fear and worry are rational. It’s rational that they don’t automatically trust the teacher.” This perspective also applies to racialized students. Instead of reacting defensively, educators should acknowledge the historic wrongs done by the system and empathize with racialized families.

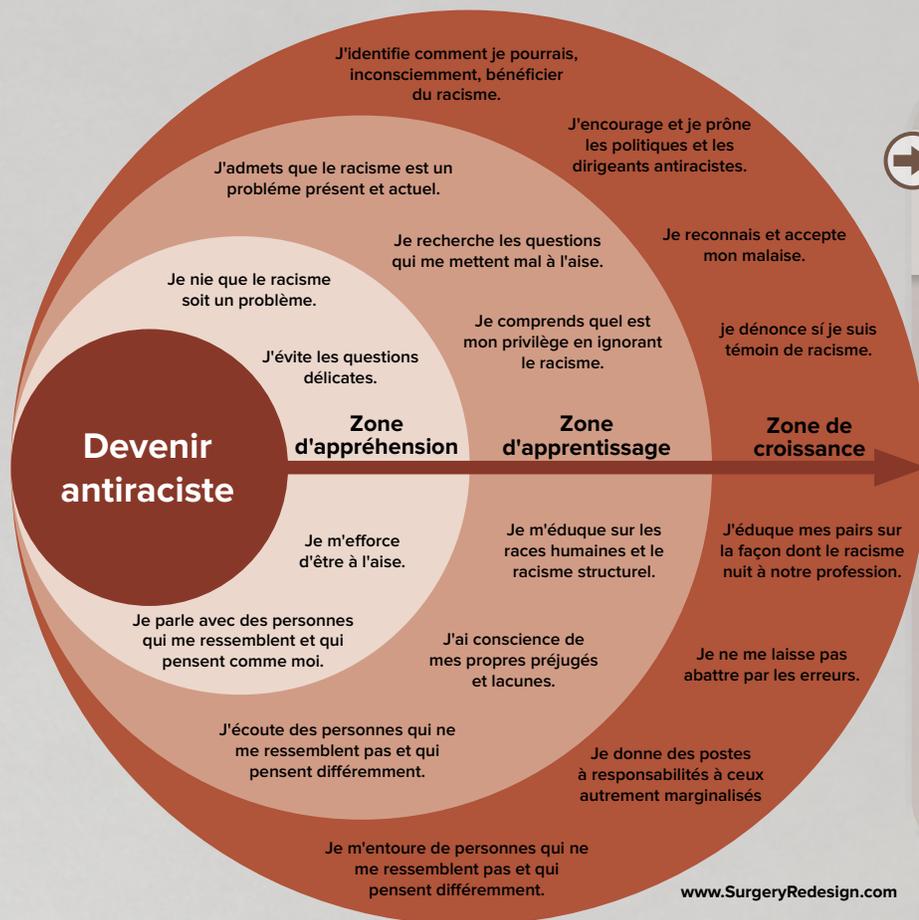
### Know your implicit bias

This perspective is particularly important for guidance counsellors. No one wants to take the position, “Assume you are a racist.” However, it is fanciful to assume that people are not shaped by their accumulated implicit bias. People hold opinions and some of those opinions are racially charged. These opinions, when left unaddressed, lead to attitudes and behaviours that perpetuate racism. In many instances, ignoring implicit bias and, in turn, living

vie des personnes de couleur. Ainsi, DiAngelo encourage les Blancs à présumer que le racisme – inhérent au biais implicite façonné par les idées et les événements de toute une vie – est toujours en jeu dans leurs relations avec les communautés racialisées, et à en être assez conscients pour tenter d’éclairer et d’infléchir ce biais par l’action. Dans un contexte scolaire, elle ajoute ceci : « Il y a un historique des torts causés par le système d’enseignement aux familles de couleur. Nos écoles n’ont pas bien agi envers les enfants de couleur. Et les parents de couleur livrent leurs enfants si précieux aux mains d’un établissement où l’historique des torts a des racines profondes. Par conséquent, leurs soupçons, leur crainte et leur inquiétude sont rationnels. Il est rationnel qu’ils ne fassent pas automatiquement confiance à l’enseignante. » Cette perspective s’applique aussi aux élèves racialisés. Au lieu de réagir défensivement, les enseignants devraient reconnaître les torts historiques du système et manifester de l’empathie pour les familles racialisées.

### Sachez reconnaître votre biais implicite

Cette perspective revêt une importance particulière pour les conseillers en orientation. Personne ne veut adopter la position : « Présume que tu es raciste. » Mais il est illusoire de présumer que les gens ne sont pas façonnés par l’accumulation de biais implicites. Les gens ont des opinions, et certaines de ces opinions ont une charge raciale. Ces opinions, si on néglige d’y porter attention, mènent à des attitudes et des comportements qui perpétuent le racisme. Dans bien des cas, le fait d’ignorer le biais implicite tout en



## Plan d'action : Comment être une enseignante ou un enseignant antiraciste

Inspiré par les travaux publiés par Ibram X. Kendi dans son ouvrage phare *Comment devenir antiraciste*, un chirurgien de renom, le Dr Andrew M. Ibrahim, a élaboré le schéma ci-dessous pour aider les gens à éviter le risque de succomber à des idéaux racistes. Il encourage les gens à délaisser leurs craintes pour privilégier l'apprentissage et le progrès. Étudier et adopter les conseils que contient ce schéma mettrait les enseignants sur la bonne voie pour déceler le racisme systémique et infléchir leur biais implicite. C'est également une excellente idée de lire le livre de Kendi.

off the benefits of systemic racism, allows educational institutions to move from generation to generation without really changing. Certainly, strides are being made in the realm of policy and programing, but the George Floyd's of the world are still being killed, Black History month continues to be greeted with rolling eyes and snide remarks, and BIPOC students keep getting shuffled into classes that suggest that they are not good enough. All that people like Robin DiAngelo are asking is that you get to know your implicit bias and, when a student is sitting across from you in the guidance office, see how that bias is informing your actions and words.

### Time for change

Exposing systemic racism is not about feeling paralyzing shame for historic wrongs (the kind where you just surrender and proclaim, "Well, what else can I do?!") but moving inward and exposing and changing our implicit bias. For guidance counsellors, it means sitting across from racialized students and recognizing the obstacles they deal with on a daily basis, both inside school and outside of school. To fail to take into account how our thoughts and deeds perpetuate systemic racism in our schools amounts to a weary and bitter sense that we are engaged in yet another charade (to paraphrase Stephen Lewis from 30 years ago!) where action is promised and none is delivered.

profitant des avantages du racisme systémique permet aux établissements d'enseignement de passer d'une génération à l'autre sans changement réel. Certes, on fait de grands pas dans le domaine des politiques et des programmes, mais les George Floyd de ce monde se font encore tuer, le Mois de l'histoire des Noirs est encore accueilli par de gros yeux et des commentaires narquois, et on continue d'orienter les élèves PANDC vers des programmes qui laissent supposer qu'ils sont inférieurs. Tout ce que nous demandent des personnes comme Robin DiAngelo, c'est d'apprendre à connaître notre biais implicite et, face à un élève dans le bureau d'orientation, de voir en quoi ce biais se reflète dans nos actions et nos paroles.

### Le temps du changement

La mise au jour du racisme systémique ne vise pas à nous paralyser de honte face à nos torts historiques (ce qui nous amène à capituler et à clamer : « Mais que puis-je faire de plus?! »), mais bien à susciter une introspection afin de révéler et d'infléchir notre biais implicite. Pour un conseiller en orientation, cela signifie, face à un élève racialisé, de reconnaître les obstacles que celui-ci doit surmonter au quotidien, à l'école comme à l'extérieur. Négliger d'examiner l'apport de nos pensées et de nos gestes dans la perpétuation du racisme systémique dans nos écoles ramène le sentiment de fatigue et d'amertume que donne l'impression de participer à une charade de plus (pour paraphraser ce qu'écrivait Stephen Lewis il y a 30 ans!), où l'on promet des actions sans en réaliser aucune.



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In an article called *How to Be an Anti-Racist Educator* for ASCD, Dena Simmons encourages educators to openly communicate about racism in the classroom and in their offices. She essentially provides a recipe for change. Simmons recommends the following:

- Engage in vigilant self-awareness
- Acknowledge racism and the ideology of white supremacy
- Study and teach representative history
- Talk about race with students
- When you see racism, do something

For a complete look at Simmons's ideas, go to:

<http://www.ascd.org/publications/newsletters/education-update/oct19/vol61/num10/How-to-Be-an-Antiracist-Educator.aspx> ♣ CSC

Dans un article écrit pour l'ASCD sous le titre « How to be an anti-racist educator » (« *Comment être une enseignante ou un enseignant antiraciste* »), Dena Simmons encourage les enseignants à parler ouvertement du racisme en classe et au bureau. Son texte est, pour l'essentiel, une recette du changement. Voici ses recommandations :

- Livrez-vous à une introspection vigilante.
- Reconnaissez le racisme et l'idéologie de la suprématie blanche.
- Étudiez et enseignez l'histoire dans une perspective représentative.
- Discutez de race avec les élèves.
- Quand vous êtes témoin d'un fait de racisme, faites quelque chose.

Pour un exposé détaillé des idées de Simmons, lisez son

article à <http://www.ascd.org/publications/newsletters/education-update/oct19/vol61/num10/How-to-Be-an-Antiracist-Educator.aspx>. ♣ CSC

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# Building Canada's Future

## Pursuing a career in the construction and skilled trades

By Sean Dolan

If you were to talk to the Coughlin brothers, they would say they have no regrets. While their friends were scrambling to get into colleges and university, they were wondering what the fuss was about.

Adam didn't want to squander his parent's money on a university degree that he wasn't committed to and Liam knew for certain he wanted to be a carpenter and cabinetmaker. They found their trades – Adam after a bit of searching and Liam pretty much right out of the gate – and are currently well established in their careers while earning a substantial income. Meanwhile many of their college and university friends are scrambling to find employment and pay their debts. With so much emphasis among parents and educators on the university destination pathway in particular, one has to wonder why more students aren't choosing the trades as a viable and economical option after they graduate from high school.

### Not the “easy way out”

For the most part, it isn't from a lack of coaxing from guidance counsellors from coast to coast to coast. Often counsellors are met with resistance from students and parents when the trades are suggested as a legitimate option for students looking for a career. There is a myth out there that choosing a trade is a form of settling, a way to give up on academics and take the “easy way out.” Nothing could be further from the truth. Construction involves all of the critical academic skills: literacy, numeracy, problem solving, creativity, dexterity, determination and perseverance. Informed counsellors are quick to recognize this perspective. If the construction sector were the “easy way out,” how do you explain the fact that the industry currently employs 1.4 million Canadians and accounts for 7% of Canada's GDP. The sector is composed of 380,000 firms and maintains and repairs nearly \$3 trillion in assets across the country. In fact, construction installation, repair and renovation work totals \$239 billion annually. Canadians are builders and the construction industry is an essential part of our lives, our lifestyles and our culture.



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Plus, construction sector workers enjoy a high sense of job satisfaction. It wouldn't surprise Adam and Liam Coughlin to hear the results of a JobTalks.org survey demonstrated that 64% of tradespeople feel they have "really accomplished something worthwhile" when reflecting on their work. Construction workers feel their work is creative, interesting, challenging and skillful. It is a sector of the economy that allows workers to evolve into their positions, master their trades and earn a very good living.

And here's the crux: the construction industry needs workers. According to Bill Ferreira, the executive director of *BuildForce Canada*, between 2020 and 2029, close to 260,000 people will retire from the construction sector, but only 230,000 new workers are expected to take up those spaces. In addition to this, as the sector grows, the need increases to over 300,000. That means the industry is forecasting a significant worker shortfall in the coming decade.

## The recruiters

This is why outfits like Ferreira's *BuildForce Canada* and the Canada's Building Trades Union's *BuildTogether* are helping the industry set their sights on active recruitment to fill the coming void. Their target is not only people who are naturally drawn to the trades (aka. young men like the Coughlin brothers) but also women, Indigenous and newcomers to Canada. This is the right time for counsellors to demonstrate to students of all abilities that construction is a pathway that is so sensible in so many ways.

## Why construction?

Guidance counsellors are trained to see proficiency and aptitude in their students – a skill they use to gently nudge students in the direction of their gifts and talents. Too often that nudging is slighted toward the college and university destination pathways. It's time to start informing students that they can graduate high school and start earning an income and building their careers right away via the trades. In a perfect world, students destined for the construction industry could



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“ Their target is not only people who are naturally drawn to the trades but also **women, Indigenous and newcomers** to Canada.

leave high school and enter an apprenticeship where they can accumulate hours toward their journeyman status. They'd be paid along the way with occasional pauses to

attend trade school. In fact, 80% of the time they would be getting paid a good hourly wage, thus alleviating the debt load brought on by tuition fees had they chosen college or university as a destination. According to Statistics Canada, the average debt load of a college graduate is just over \$14,000 while a university graduate can be in debt by close to \$25,000. An apprentice earns while they learn – on the job and in the classroom.

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This is not to say that students should not be encouraged to attend post-secondary programs. However, counsellors would do well to start to recommend programs that will land a student in the construction sector. For example, a student earning a college diploma or certificate in a trade earns almost \$60,000 a year within five years of graduation – about \$2,000 more than students graduating with an undergraduate degree. In light of the recent economic impact of COVID-19 on Canada, Bill Ferreira says, “No industry is pandemic proof but the construction industry has proven, time and again, that it is resilient.” If counsellors want to steer students toward a resilient career, they need look no further than construction.

### Adam's story

Let's return to the Coughlin brothers for a minute. Adam, the older of the two, says he received no encouragement from his school to pursue the trades despite the fact that he did a full semester co-op placement with a licensed electrician. After graduating high school, he elected to forgo post-secondary education and work for a year before



**The Coughlin brothers: Adam (left) and Liam (right).**

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- ✓ Complete an apprenticeship (7,200 hours over a four year period).
- ✓ Attend 8-10 weeks of training.
- ✓ Pass the carpenter's test with a minimum grade of 70%.
- ✓ Some carpenters can earn their Red Seal by working outside of an apprenticeship (they still have to verify their hours) and then challenge the carpenter's test.

returning to formal schooling, earning an advanced diploma in business at college. Then came the moment of truth: a candid conversation with his uncle that directed him away from business and toward a career as a millwright. Adam wishes he had talked to his uncle sooner. He says he could have gotten a multi-year head start on his career and earned his journeyman papers sooner. Nonetheless, as a young man in his early 30s, he is a homeowner and accomplished tradesperson. Today, as a millwright working at Ontario's Darlington Nuclear Generating Station, Adam is in a trade that earns an average of over \$70,000 a year with experienced millwrights earning over (sometimes well over) \$100,000 a year.

### Liam's story

Meanwhile, Liam knew right away he wanted to pursue a career in construction. Since his parents wanted him to pursue a post-secondary education, Liam enrolled in a full year certificate program in carpentry and cabinetmaking. Within days of finishing his program, he was working for a local cabinetmaking company before joining the carpenters' union and starting his apprenticeship. Over the course of his apprenticeship, Liam built houses in a subdivision in Norwood, Ontario, eventually completing the requisite number of hours and passing the test to become a Red Seal carpenter. Since then he has been on work crews that have completed concrete form work for buildings on the site of an Ontario mine and, when the pandemic hit, continued working as an essential worker in the construction of a seniors home. For the ten years since he completed his college program (at the age of 19!), Liam has been earning a wage and developed competencies that range from the

micro world of cabinetmaking to the macro world of full scale building – skills that have allowed his employers to give him more responsibility on the job site. As a Red Seal Carpenter, Liam is in a trade that earns an average of nearly \$70,000 a year with many experienced carpenters earning well over \$85,000 when overtime comes into play.

### Women

While Adam and Liam Coughlin represent many in the construction industry (males make up the overwhelming majority of construction workers), there are also some members of society that the trades will need to attract if it hopes to avoid the pitfalls of a worker shortage: namely women, Indigenous people and new Canadians. Traditionally steered away from construction, women have started to creep their way into a prominent position in the industry. Incremental increases in female employees over the past number of years have led to 200,000 women in the construction workforce, now accounting for 13% of workers across the country. Industry insiders like the people at BuildForce Canada

## Becoming a Millwright (Journeyman)

- ✓ Complete an apprenticeship (as many as 8,000 hours over a four year period depending on the province).
- ✓ Attend four eight week blocks of technical training.
- ✓ Pass the final certificate exam with a minimum grade of 70%.

## Some incentives for people considering the trades

- ✓ Apprenticeship Incentive Grant for Women - \$3,000 taxable grant per year up to a maximum of \$6,000 per person (paid to the student)
- ✓ Apprenticeship Incentive Grant: \$1,000 per year to a maximum of \$2,000 (paid to the student)
- ✓ Apprenticeship Completion Grant: \$2,000 upon completing certification in a Red Seal trade (paid to the student)

say it's important to follow the data when marketing a construction career to women. Breaking down the 13% of women in the construction workforce shows that 41% are working off-site in professions like accounting, law and management while almost 5% are on-site working in mostly finishing trade positions. Women in the construction trades have shown a clear preference for working inside performing skilled tasks. Bill Ferreira says, "If we focus our marketing for women on career opportunities as electricians, plumbers, painters, welders, crane operators and heavy equipment operators, we might see high levels of uptake in the on-site female workforce."

### Indigenous people

Indigenous workers make up 5% of the construction workforce with higher representation in western Canada and very little representation in eastern Canada. The disparity, while

a reflection of Indigenous population distribution, also demonstrates that provinces like Manitoba (whose workforce is comprised of 16% Indigenous workers) actively recruit Indigenous people while eastern provinces

need to step up their game. For example, the construction workforce of Ontario and Quebec are made up of a little over 2% of Indigenous workers. With a little bit of marketing, these numbers could easily be raised and, this often marginalized group, could be working in a profession that brings with it plenty of job satisfaction. Bill Ferreira cautions, "this requires working closely with Indigenous communities and Indigenous role models to ensure that young Indigenous people identify with the industry and can see themselves welcomed within it." Whenever possible, guidance counsellors across Canada should be promoting the varying professions within the construction sector to Indigenous people.

### Newcomers to Canada

Canada welcomes over 300,000 immigrants into the country every year. Most land in the major metropolitan areas of Vancouver, Toronto and Montreal. These newcomers arrive from varying circumstances: some have means, others are sponsored by families or groups within Canada and some are seeking safe haven as refugees. The Canadian economy thrives and grows as a direct result of the hard work of immigrants and the wealth they generate after they arrive. The construction industry has been a work destination for many newcomers and, once again, counsellors would be helping the Canadian economy by directing new Canadian students to a career in construction.

### The Future

With a substantial worker shortfall anticipated between now and 2029, Canada needs to employ as many strategies as possible to address the construction sectors labour requirements. Outfits like *BuildForce Canada* are



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Waterloo Wellington Flight Centre professional programs are approved as vocational programs under the Private Career Colleges Act, 2005 (PC# 105919).

doing their part to promote the trades and guidance counsellors can do their part as well. They can demonstrate to students that a career in construction offers a variety of work experience and expertise. They can demonstrate that the construction industry needs workers and that a career in the sector brings with it, not only a steady income, but also a high degree of job satisfaction. In the end, counsellors can show students that construction is a viable career for motivated individuals who are intent on building (literally) Canada's future. 🍁 CSC

Special thanks to *BuildForce Canada's* Bill Ferreira, Executive Director, and Pamela Feeny, Editor and Digital Content Manager, for their expertise and insight in the preparation of this article.

**Resources:**

- BuildForce Canada - [www.buildforce.ca](http://www.buildforce.ca)
- BuildTogether Workforce Development - [buildtogether.ca](http://buildtogether.ca)
- Canada's Building Trades Union - [buildingtrades.ca](http://buildingtrades.ca)
- Careers in Construction - [www.careersinconstruction.ca](http://www.careersinconstruction.ca)
- The Construction Institute of Canada - [www.tcic.ca/pub/index.html](http://www.tcic.ca/pub/index.html)
- Opportunity Knocks - [opportunity-knocks.ca/](http://opportunity-knocks.ca/)



**Bill Ferreira,**  
Executive Director of  
*BuildForce Canada*

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Powerline Technician (434A)	✓			
Sheet Metal Worker (308A)	✓	✓		
Sheet Metal Installer (308R)	✓	✓		
Plumber (306A)	✓	✓		
Refrigeration and AC (313A)	✓	✓	✓	
Electrician (309A)	✓	✓	✓	
I&C Technician (447A)	✓	✓	✓	✓

\* Ex. Chemistry, Biology, Electrical Shop, Manufacturing or Transportation Technology

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## Returning Skilled Trades to the High School Curriculum

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The Iron Workers' (IW's) Joint Apprenticeship Training Committee (JATC) is tasked with looking at the current workforce development situation to determine what should be done to prepare young adults to be career-ready after high school — not just college-ready. This challenge is not an easy one, but it is a vital one to meet.

When I was in high school, preparing for a career in the trades wasn't called "career technical education" or CTE. It was called "industrial education," better known as "shop." I was taught to use a torch, and I did a little welding and drafting in other shop classes. This was in 1986, and when I left high school, I was prepared to go on to become an apprentice. At 23 years old, I was the second-oldest guy in my apprenticeship class. Now, let's compare that to the current average age of a student in apprentice class: 28 years old. Why the dramatic increase in the age of these students over the years? It's because technical education courses in high schools have been eliminated.

We owe it to these young people to get career technical education back into high schools. Rising to this challenge, IW's JATC has formulated a plan. In the short term, we need to establish and strengthen awareness of current career opportunities in our nation. Furthermore, we need to revitalize our work-based learning programs and nationally promote apprenticeship. It's important to advertise what we're doing. The building trades are often overlooked by young people as a place where they can build their careers. We also need to measure performance and involvement in workforce development when awarding construction contracts. One way to do that would be to more frequently award contracts to contractors who participate in workforce development by hiring apprentices.

### Looking to the future

The Ironworkers have established long-term workforce development policies as well. We need to redefine how we measure the quality of our nation's secondary education system by career and college readiness. Again, we want all high school graduates to be career ready. We also need to increase the participation of underrepresented groups in CTE programs. Our apprenticeship coordinators across North America do a great job of recruiting, but we need to do a better job when it comes to hiring, women, veterans and members of ethnically diverse groups.

In October 2018, the National Training Fund launched a three-week pre-apprenticeship program. The program was initially designed for veterans and women. After successfully completing this three-week course of study, these women and veterans were prepared for direct entry into the training programs.

In March, we started our sixth pre-apprenticeship program for women. Having offered six women's courses and one veterans' course, we have maintained an 85-percent retention rate. This high rate of success tells us something we already knew: pre-apprentice training works.

But our work isn't finished. We need to establish and expand collaboration between industry, education and government. We also need to develop more balanced funding between post-secondary CTE and higher education. Currently, 95% of educational government funding goes to programs designed to get young folks into college. We need to change that funding, because we need to educate teens about the building trades.

We hope that our efforts inspire new approaches of communicating to high school students the abundance of new opportunities available for secondary and post-secondary education.

Ironworkers who "only" have high school diplomas are running multiple multimillion-dollar projects. They can do the work if we train them.



For more information, please visit [www.ironworkers.org](http://www.ironworkers.org)

# OPENING FALL 2020



Covid-19 Update Online programming is available. Contact for details.

## TRY THE TRADES

No need to wait for annual career fairs,  
Students can Try The Trades for no cost, all year long.

- ✓ 3 hour workshops for Manitoba high school students grades 9-12.
- ✓ Fully equipped with hands-on simulators and virtual reality experiences.
- ✓ 13 interactive building trade stations staffed by expert tradespersons.
- ✓ Maximum of 20 students per session. Students are guaranteed an in-depth exposure to over 30 different careers in the skilled construction trades.



Book your visit to the Manitoba Building Trades Exhibition Hall.

# TryTheTradesMB.ca

## Try The Trades

How many of your students do you expect to enter a career in construction? Now, imagine how they got there. Did they demonstrate a keen interest and ability in a specific skilled trade? Or, did they eventually resigned into accepting that a job in the skilled trades may be their only option? Too often in Canada, our secondary education environments foster the latter scenario. This is not only a disservice to many students, but also to our skilled construction workforce and the critical infrastructure they build and maintain.

We know that the demand for skilled labour will only be increasing over the next decade, and there will be a skilled labour shortage. While the solution to this problem may seem simple – more demand for workers means sending more students into trades training – this solution ultimately creates a dilemma of quantity over quality. Encouraging students en masse to choose a career in trades does not produce good results long term.

Proof of this can be seen while examining Canada’s skilled trades apprenticeship programs. Nationally, less than 50% of Canadians who start an apprenticeship go on to become a journeyed tradesperson. Further, the average Canadian apprentice is 32 years old and has been out of high school, in the general workforce, for over a decade. By comparison, the average apprentice in Germany is 21 years old, with a completion rate of 85%. This tells that there are real barriers to apprenticeship completion, and academic readiness and career fit are critical to success.

The Manitoba Building Trades Institute intends to change how skilled trades work is perceived by younger students. By increasing the depth of exposure to the skilled trades, we hope to help students make earlier and more informed choices about the career they want to pursue. That’s why we are opening the Manitoba Building Trades Exhibition Hall, where students can participate in our Try The Trades programming.

During a three-hour workshop, groups of 10 to 30 students will participate in a variety of hands-on demonstrations at 13 different skilled trades booths featuring over 30 skilled trades professions. Booths are equipped with trade specific tools, hands-on training simulators, and virtual and augmented reality headsets. All booths will be staffed by tradespersons who are experts in their field and specially trained to work with students.

To enhance the continuum of learning, MBTI is developing an online portal for trades exploration and education. Educators will have access to teaching materials and assessments; students will be able to explore quizzes, skill tests, and view extensive career information for individual trades. Use of this portal and assessment tools will help students determine their own interest and aptitude for the skilled trades—the online portal is intended to complement a visit to the trades exhibition hall.

MBTI has designed our Try The Trades program to provide earlier and more meaningful skilled trades exposure to students. By creating an immersive and fulsome trades experience, students will get a better understanding of what the construction skilled trades industry entails and whether the work appeals to them. Our hope is that informed students have a higher success rate within the apprenticeship system, and find a career they aspire to, not a job they resign to.

### 10-year workforce outlook for Canada

**257,100** retirements

**227, 600** new entrants

**+4.5%** employment change

**Source:** BuildForce Canada

### Distribution of Construction Employment in Canada 2020

**10%** Non-Residential Maintenance

**23%** Engineering

**17%** Industrial, Commercial, Institutional

**23%** New Housing

**27%** Residential Renovation and Maintenance.



For more information, please visit [www.trythetradesmb.ca](http://www.trythetradesmb.ca)

# A Career with Huge Demand. A Secure Future. And Students Earn While They Learn.

**C**areers in the finishing trades come with a great salary, health and retirement benefits. Through paid apprenticeships, your students can become highly skilled commercial, or industrial painters, wall coverers, drywall finishers, glass workers (glaziers), floor coverers, or sign and display workers.

After all, in an age where university leaves many students with staggering debt and no job offers, earning while you learn in the finishing trades provides virtually unlimited opportunities.



International Union of  
Painters and Allied Trades

[IUPAT.org/JoinUs](http://IUPAT.org/JoinUs)

## The International Union Of Painters And Allied Trades

We are the International Union of Painters and Allied Trades, or IUPAT. We represent men and women in Canada and the United States who work in what are called the Finishing Trades – Industrial & Commercial Painting, Drywall Finishing, Glazing & Glass Work, Sign & Display and Floor Covering Installation, and many more successful careers in the construction industry and public sector.

When you are a part of a union, what you do for a living is more than just a job – it's a career! As a union member you receive training, benefits and a pension. The best part is that you have a job while we train you, so you earn while you learn!

Although a typical apprenticeship lasts four years, if someone has experience in a craft it can be much shorter.

Take a closer look at what the men and women of the IUPAT work in as a career in the Finishing Trades:

**Painting:** Painters are responsible for preparing, protecting, and decorating interior and exterior surfaces by applying paint, wallpaper and various special coatings. These can be applied in a number of different settings, and are generally divided into commercial and residential.

**Drywall Finishing:** Drywall finishers work on new walls and ceilings, and repair pre-existing walls. They may work in the commercial or residential industry, either for a contractor or general construction company.

**Glazing:** Glaziers are responsible for selecting, cutting, installing, replacing and removing all kinds of glass.

**Hazmat:** Hazmat or hazardous materials removal workers, remove materials that are harmful to people and the environment. They respond when hazardous materials need to be located and removed.

**EIFS/Stucco:** A stucco worker, also called an exterior insulated finishing system (EIFS) mechanic, works on the exteriors of buildings. Stucco workers apply coats of plaster or stucco to walls, ceilings, or partitions of buildings.



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Want to learn more about what we do and hear from some of the young men and women who work in our trades? Visit [www.IUPAT.org/JoinUs](http://www.IUPAT.org/JoinUs)



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YOU AND YOUR STUDENTS.**

**[fanshawec.ca/guidance](https://fanshawec.ca/guidance)**

## Three reasons to explore skilled trades careers with your students

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### 1. The demand for skilled trades is skyrocketing

Did you know one in five jobs in the next five years will be trade-related? According to Statistics Canada, the workforce is aging at a faster pace in this industry. For workers who had a certificate of apprenticeship or a certificate of qualification, 26.1% were aged 55 years and older, which will continue to contribute to the demand for skilled workers into the future.

Students have a wide range of industries to choose from: there are more than 150 trades in Ontario in the construction, industrial, motive power and service sectors.

Fanshawe College offers more than 40 skilled trade and apprenticeship programs with small class sizes and hands-on learning in a variety of formats: full-time, part-time, block release, day release or online.

### 2. Earn while you learn

Apprenticeships are employment-based training for people seeking a career in a skilled trade. Apprentices are paid while they work and their wages increase as they progress through their apprenticeship training. Apprentices work on the job the majority of the time and then spend the rest learning in-class. The government also offers grants and loans to help offset the training costs.

### 3. Opportunities to advance

Not only are skilled trades well known for their strong salaries, but there are many opportunities for career advancement.

The Red Seal program is the national standard of excellence for skilled trades. With a Red Seal endorsement, certified tradespeople can apply for jobs anywhere in Canada, without the need to complete additional testing to prove their skills.

Fanshawe offers Red Seal Trade programs in a variety of areas:

- Agricultural Equipment Technician
- Agricultural Equipment Technician – John Deere
- Auto Body and Collision Damage Repairer
- Automotive Service Technician
- Automotive Service Technician - GM ASEP
- Truck and Coach Technician
- Brick and Stone Mason
- General Carpenter
- Electrician - Construction and Maintenance
- Cook
- Hairstylist
- Industrial Electrician
- Industrial Mechanic Millwright
- Horticultural Technician
- General Machinist
- Plumber
- Refrigeration/Air Conditioning Systems Mechanic
- Sheet Metal Worker
- Tool and Die Maker

### Maggie Friesen's journey to represent Canada at WorldSkills competition in Russia.

Maggie Friesen (Auto Body and Collision Damage Repairer, '18) likes to work with her hands. Through a pre-apprenticeship program at Fanshawe she discovered her interest in auto body work, especially painting—the last step in restoring a dented or damaged vehicle to its former beauty. “The look of a freshly polished, scratch-free finish is super satisfying,” she says.

Painting is something Maggie does well. So well that one of her instructors encouraged her to compete in the Skills Ontario competition, a unique opportunity for top students to demonstrate that they are the best in their field. After winning gold at Skills Ontario and placing in the top three at Skills Canada, Maggie beat out the competition in Halifax to represent Canada at the 45th WorldSkills competition held in Kazan, Russia in 2019.



For more information, please visit [fanshawec.ca/guidance](https://fanshawec.ca/guidance)

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EST. 1903

## The Labourers' International Union of North America (LiUNA)

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The Labourers' International Union of North America (LiUNA) is the most progressive and fastest growing union of construction workers and various sectors across North America. Representing over 130 000 Members across Canada, LiUNA members are at the forefront of building stronger communities across our municipalities. United through collective bargaining agreements LiUNA fights for the rights of all workers ensuring competing wages, the best health and wellness benefits and career building opportunities for a pathway to a stronger, prosperous future.

LiUNA stands for fairness for all working people, regardless of colour, gender, race or ethnicity, no matter our country of origin. LiUNA stands for advancement, building rewarding opportunities in the skilled-trades. We stand for the collective power of working people ensuring their voice and their rights are heard and respected. As a proud member of LiUNA, we ensure you have the opportunity to earn a fair wage, health and safety protections, the right to safe working conditions, respect and the freedom to join together in union, and access a dignified retirement.

Established in 1903, LiUNA was built on the foundation of diversity, a Brotherhood and a Sisterhood that continues proudly today, united in the fight for racial, economic and social justice. We are a united union family who are the foundational pillars of the Canadian Economy.

When you build a career with LiUNA, it is more than just a job. With over 17 Training Centers across the province of Ontario, LiUNA provides comprehensive skills training and health and safety training dedicated to providing innovative training programs across the industry. Embracing new technologies and methods of training delivery, LiUNA ensures you, our future workforce, are job-ready and most importantly safe, with boots on the ground building essential infrastructure across our communities. Through LiUNA apprenticeship programs, we recruit and train an inclusive workforce for our contractor partners and remain proactive to the health and safety needs of the industry, central to our goal to exceed industry standards.

With a LiUNA Local Union in every major city across Canada, LiUNA Members have boots on the ground ready to build critical infrastructure across our communities. From roads to bridges, tunnels to high-rise buildings, sewer and watermain, schools and hospitals, the highly-skilled, diverse members of LiUNA get the job done right. Join us today and build a rewarding career as a member of the Labourers International Union of North America. Feel the Power!



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Visit [www.LiUNA.ca](http://www.LiUNA.ca) and follow us on social media @LiUNACanada



## Constructing the future

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How digital technology is changing the way we learn and work in construction

Nearly every sector in Calgary has felt the effects of COVID-19. The construction industry is no exception. Companies are enforcing physical distancing, investing in personal protective equipment and taking the time needed to safely complete jobs.

But those working in the virtual side of construction are adapting seamlessly to the “new normal.” Building information modeling (BIM) — which involves creating 3D models of buildings — and virtual design construction (VDC) are two areas proving particularly resilient during a time of more digital and remote work.

Instructors at SAIT believe that to better prepare tomorrow’s trades workers, this technology should be reflected in the classroom — and they’re taking the steps to make it happen.

A better way of teaching the trades

Pipetrades instructor Fred Bretzke and his colleagues believe the future of teaching construction is digital.

Traditional construction labs give students hands-on experience as they construct a 10-foot by 10-foot segment of a house using real materials, but limited space means it’s harder to see the bigger picture. Incorporating 3D modeling and AR software into the learning experience enables students to produce to-scale miniature and virtual models of residential and commercial properties before they do the real thing.

“This kind of technology builds more comprehensive understanding for the student,” says Bretzke, who in addition to teaching at SAIT works in the industry.

With 3D modeling, classes can see how the plumbing for a whole house comes together using G.I. Joe-sized fittings made from the correct materials. Creating an AR holographic overlay using special glasses brings the model to life in an interactive way.

“Using AR, students can create a building and then virtually step inside and walk through it,” says Bretzke.

The biggest advantage of a more digital classroom? The same technology is being used in industry, on real jobsites. Construction projects use AR overlays as a way of checking for accuracy and sharing data between trades. Introducing students to both concepts early on will give them a clear advantage as they enter the workforce.

The biggest advantage of a more digital classroom? The same technology is being used in industry, on real jobsites. Construction projects use AR overlays as a way of checking for accuracy and sharing data between trades. Introducing students to both concepts early on will give them a clear advantage as they enter the workforce.

“I’m already incorporating this technology into my teaching and students love it,” says Bretzke. “They want to see more of it.”

This fall, Bretzke plans to continue familiarizing students with 3D and AR capabilities through both in-class and online learning opportunities.

*Across the construction industry — and beyond — the world has changed, but SAIT is one step ahead. A SAIT education equips students with the mindset to lead and with the skills — technical and human — to create, to evolve, to make a difference. Learn more about how we’re preparing students for future-proofed careers at: [sait.ca/future-proof](http://sait.ca/future-proof).*



For more information, please visit [sait.ca/future-proof](http://sait.ca/future-proof)

## Growing Career Prospects for Young Women

In Canada women make up more than half the workforce and - even though there are more than 1.2 million construction workers - women represent only about four per cent of the people working in the construction trades. Unfortunately, young women in this country often don't know about the many opportunities available to them in the trades. That's where guidance and career counsellors come in.

### Here To Help

The Office to Advance Women Apprentices has been established in six provinces (Newfoundland and Labrador, Nova Scotia, New Brunswick, PEI, Manitoba, and Saskatchewan) to help women to find and build upon opportunities in the skilled trades. We work with many government, school, and community partners to identify young women interested in trades, as well as women already working through their trades education, and offer support and services to help increase women's participation in skilled trades sectors across the country.

As skilled trades shortages impact our economy and our ability to achieve great heights in the construction, manufacturing, automotive, mining, and welding sectors, our office works to reduce stigma and increase women's success rates with wrap-around services like resume building and mentoring.

### Opportunity Abounds

Companies across the country recruit from our office and database of qualified, local female workers. Career and guidance counsellors are in a unique position to demonstrate the many advantages of careers in the trades to so many future female leaders. Want to help us achieve our goals? Get in touch and schedule an appointment or ask for information for your school's career planning programs.



For more information, please visit [womenapprentices.ca](http://womenapprentices.ca)

## TRADES CAREER PLANNING FOR STUDENTS

The Office to Advance Women Apprentices works to promote and support young women in the pursuit of skilled trades as a career path. **Get in touch with us for information young women can avail of to discover a career in the trades.**



OFFICE to ADVANCE  
**WOMEN**  
APPRENTICES



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PEI: (902) 201-2922 MB: (204) 942-6069 SK: (306) 565-4470

FIND OUT MORE AT  
[WOMENAPPRENTICES.CA](http://WOMENAPPRENTICES.CA)

## Graphic and Print Technician Certificate at Manitoba Institute of Trades and Technology

High school graduates seeking an education that taps into their creativity and prepares them for a range of careers in manufacturing should check out MITT's Graphic and Print Technician (GPT) certificate program. GPT is the only program of its kind in Manitoba to teach flexographic printing and feature an onsite large Heidelberg press.

Program prerequisites for domestic students include a grade of 50% or higher in Grade 12 (40S) Math and English, and in just one year, students develop knowledge and skills across the spectrum of design, pre-press, printing, and post-press finishing.

Students can expect a diverse learning experience, led by industry veteran instructors, that blends classroom theory, hands-on training in various techniques (including vehicle wraps), and experiential learning through a work practicum placement. Sample courses include: Introduction to Graphic Design and Print, Digital Drawing, Digital Printing, Bindery and Finishing, Digital Design I, Introduction to Specialty Printing Applications, Digital Design II, Lithographic Printing, and Flexographic Printing. All MITT students also gain a foundation of employability and essential skills through MITT's Work Skills Series workshops, which help them successfully bridge from classroom to career.

Because MITT builds its programs with industry, focusing on the in-demand skills they need in their workforce, GPT graduates enjoy consistently high rates of employment at graduation in careers that range from desktop design to print press operation.

Find more details on career and salary information under the career information section of GPT's program page: [mitt.ca/gpt](http://mitt.ca/gpt). And if you are a student requiring financial assistance, MITT can help, we have a range of options you can explore at [mitt.ca/student-success](http://mitt.ca/student-success).

Start here to get there!



For more information, please visit [MITT.ca/start](http://MITT.ca/start)



### Help your students plan their career or education path at MITT.

Our programs are developed with industry and most have graduates career ready in a year.

Blended online and in-class delivery provides learners as much hands-on experience as is safely possible.

And our student success and career development advisor teams are available by phone, email, Zoom or Skype to help students achieve their academic and career goals.

Learn more  
[MITT.ca/start](http://MITT.ca/start)

## Teaching skilled trades in a digital domain

The COVID-19 pandemic has compelled colleges and universities to embrace teaching delivery methods compatible with digital technology and online modalities so that students can learn from the safety of their homes. Well-designed online learning can be robust, interactive and engaging education within an environment that supports a collaborative learning community.

But how does a college go about teaching the skilled trades, such as aviation technician or auto body repair, solely online? As good as digital simulators are – such as software that can reproduce the task of MIG welding joints precisely – nothing can replace the experience of doing the real thing.

Faculty at Toronto's Centennial College met the challenge of shifting their curriculum online as soon as the pandemic lockdown was declared. Indeed, many of Centennial's full-time programs are exclusively online offerings today in career areas such as accounting and finance, event planning and paralegal.

Centennial's programs with significant hands-on activity offer "hybrid" instruction delivery, which permits lab or studio time on campus in strict accordance with public health protocols. While campuses are essentially closed to visitors, lab participants receive a personal invitation to attend their lab and learn in a tightly controlled environment to ensure personal safety.

Before entering any campus, registered students must complete an online Campus Re-Entry Guidelines and Protocols training course. The web-based module provides basic safety awareness training when on campus, including such protocols as wearing the appropriate PPE, maintaining social distancing and health hygiene practices. After course completion, students provide a proof-of-completion certificate to enter the campus. Students also do a simple COVID-19 pre-screening health assessment each day they attend a lab.

Centennial has made significant investments in the development of quality online courses and provided faculty with the extensive resources and training they need to teach at a distance. Whether by online or hybrid delivery, Centennial's programs in the skilled trades deliver the rich academic content and high quality teaching students need to ensure their future career success.



For more information, please visit [www.centennialcollege.ca](http://www.centennialcollege.ca)

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# Wheels of Hope

## Les roues de l'espoir

By/Par Alison Zenisek



Veronika and Roslava in 2013 during Veronika's first trip to Guatemala. Roslava was a recipient of a wheelchair through the organization.



Photos courtesy of Veronika Copping

Veronika holding a bag of juice boxes that the Juice Box Project collected.



Veronika and a girl who had just received her first wheelchair. Wheelchair was sponsored by the Juice Box Project. 2017.

**“Although I am seventeen years old, I am not your typical teenager.”**

The story of Veronika's life certainly lends weight to her words. Author of the Juice Box Project, she has become a gifted speaker and extraordinary leader in the world of nonprofit organizations. Veronika Copping was the originator of the popular Juice Box Project in her elementary school when she was only in grade one. Upon noticing that all the drinking containers the children brought to school ended up in the trash, Veronika received permission to collect and recycle them with the proceeds going to Hope Haven Canada. Her grandfather, whom she calls 'Opa,' just

**« J'ai 17 ans, mais je ne suis pas une ado comme les autres »**,

affirme Veronika Copping. Compte tenu de son parcours, difficile de la contredire. Fondatrice du Juice Box Project, Veronika est aussi une conférencière douée et une leader qui se démarque dans le secteur sans but lucratif. L'idée du populaire Juice Box Project lui est venue en première année du primaire. À l'époque, elle avait remarqué que tous les récipients à boisson que les enfants apportaient à l'école finissaient à la poubelle. Avec la permission de l'école, elle a entrepris de les recueillir et de les recycler, et de remettre ses recettes à l'organisme Hope Haven Canada. Veronika a de qui retenir, puisque c'est son grand-père, qu'elle appelle

happens to be the founder of Hope Haven Canada and it seems the apple doesn't fall far from the tree. Veronika has always believed that "even as kids we have the power to make a difference."

Hope Haven, a branch of Hope Haven International, is a Christian charity operating in 109 countries. Their primary mission is to advocate and provide services for people of all ages with disabilities. According to Veronika, "Honestly, it is just something I've grown up around. I was volunteering before I knew what the word meant. When I was young, both of my parents worked full time, and I spent most of my childhood with my Opa and Oma. My Opa was collecting used mobility aids from around Metro Vancouver and the Fraser Valley and I spent my days travelling with him." These mobility aids are then shipped to Guatemala and around the world where they are repaired and redistributed. "This was how I was first exposed to Hope Haven and the work they were doing."

Veronika's primary focus through the Juice Box Program is to fund wheelchairs for children in Guatemala. She has accomplished that through recycling refundable beverage containers. Accomplishing this work has been, according to Veronika, "one of the most significant parts of my life." The organization has grown from only collecting them in her classroom, to collecting all refundable beverage containers in the school and from other local organizations. She and her family then sort them and return them for cash, which is used to provide wheelchairs for the disabled children of Guatemala. The Juice Box Program has sponsored over 100 wheelchairs to date. Her love for Guatemala's children was also born of her grandfather's vision for the country. He had travelled to Guatemala with Hope Haven International in the early 2000's and had never flagged in his desire to help their people.

Veronika has visited Guatemala several times and hopes to visit it again. "Guatemala is a beautiful country, yet home to much poverty. Due to the lack of health care and the ability to afford it, there is also a large population of people with disabilities. I have travelled to Guatemala four times and hope to travel there again in the near future." Veronika was ten years old when she experienced Guatemala for the first time. She was working at Camp Guatemala when she met a young girl who would establish the trajectory of Veronika's life. "I will never forget meeting Rosalva who received a wheelchair from The Juicebox Project. Upon meeting her, with the help of translators, I was able to explain that it was the money we received by returning juice boxes that was used to purchase her wheelchair. When she understood this, she was filled with joy and wrapped her arms around me and said, 'muchas gracias por la silla de ruedas,' which in English means, 'thank you very much for the wheel chair.'"

That watershed moment opened Veronika's eyes to just how much a wheelchair could change a child's life. The opportunity for mobility can mean the difference between being stuck at home all day or going to school, making new friends, finding employment, and generally living a more fulfilled life. She has never looked back. Her creativity, determination, and her willingness to step up and give of herself when needed all make her an exceptional young woman. "When needed, I am always there wholeheartedly, stepping up above and beyond what is required of me and ready to make a positive difference." She is a tireless advocate for the less fortunate and her leadership skills are apparent to all who meet her.

« Opa » qui a fondé Hope Haven Canada. Elle-même est convaincue depuis toujours que « même les enfants sont capables de faire bouger les choses ».

Hope Haven Canada, une section de Hope Haven International, est un organisme de bienfaisance chrétien actif dans 109 pays. La mission première de l'organisme est de défendre les droits des personnes handicapées de tous âges et de leur fournir des services. « Honnêtement, ça fait partie de ma vie depuis toujours, dit Veronika. Je faisais du bénévolat avant de même de savoir ce que ça voulait dire. Quand j'étais jeune, mes parents travaillaient à temps plein, et je passais le plus clair de mon temps avec mes grands-parents. J'accompagnais mon Opa, qui passait ses journées à recueillir des dispositifs d'aide à la mobilité usagés dans la région de Vancouver et de la vallée du Fraser. » Ces dispositifs étaient ensuite envoyés au Guatemala et ailleurs dans le monde pour être réparés et redistribués. « C'est comme ça que j'ai appris à connaître Hope Haven et sa mission. »

Le Juice Box Project vise d'abord et avant tout à financer l'achat de fauteuils roulants pour des enfants du Guatemala grâce au recyclage de récipients à boisson consignés. « [Ce travail] est l'un des aspects les plus importants de ma vie », dit Veronika. Alors qu'au début, la collecte était limitée à la classe de Veronika, elle s'étend maintenant à toute l'école et même à d'autres organismes locaux. La jeune femme et sa famille s'occupent de trier les récipients et de les rapporter pour se faire rembourser la consigne. L'argent recueilli sert à fournir des fauteuils roulants aux enfants guatémaltèques. Le Juice Box Project a ainsi commandité plus de 100 fauteuils roulants à ce jour. L'amour de Veronika pour les enfants guatémaltèques lui vient aussi de la vision de son grand-père pour ce pays. Ce dernier, qui s'est rendu au Guatemala avec Hope Haven International au début des années 2000, n'a jamais perdu son désir d'aider ce peuple.

Veronika elle-même n'en est pas à son premier voyage au Guatemala, ni à son dernier. « Le Guatemala est un pays magnifique, dit-elle, mais il y a beaucoup de pauvreté. Comme les gens n'ont pas les moyens de se payer des soins de santé, il y a beaucoup de personnes handicapées. J'ai fait quatre voyages au Guatemala et j'espère y retourner bientôt. » Veronika a fait son premier voyage au Guatemala à dix ans. Elle travaillait au Camp Guatemala, où elle a rencontré une jeune fille qui a changé le cours de sa vie. « Je n'oublierai jamais ma rencontre avec Rosalva, qui a reçu un fauteuil roulant du Juicebox Project, dit-elle. À notre rencontre, j'ai pu lui expliquer, avec l'aide d'interprètes, que son fauteuil roulant avait été acheté grâce au recyclage de boîtes de jus. Elle a réagi avec beaucoup de joie et m'a prise dans ses bras en disant "muchas gracias por la silla de ruedas", ce qui veut dire "merci beaucoup pour le fauteuil roulant". »

C'est à ce moment-là que Veronika a compris à quel point un fauteuil roulant pouvait changer la vie d'un enfant. Avec la mobilité vient la possibilité de sortir de la maison, de fréquenter l'école, de se faire des amis, de se trouver un emploi et, en général, d'avoir une vie plus satisfaisante. Veronika n'a jamais regretté son choix. Sa créativité, sa détermination, son engagement et son don de soi font d'elle une jeune femme exceptionnelle. « Lorsqu'on a besoin de moi, je réponds de tout cœur à l'appel, dit-elle. Je suis toujours prête à aller au-delà des attentes et à changer les choses en mieux. » Les qualités de leader de Veronika, qui travaille sans relâche pour les moins fortunés, sautent aux yeux.

Veronika attended a Christian school for the last years of her high school education and was raised in a church community. When asked how her faith instructed her world view, she said, "my faith has allowed me to see that everyone is loved, no matter what. Disabilities are simply different abilities, and often times even special abilities." Veronika herself has struggled with health issues which has further sensitized her to the pain of others. "Throughout my life I have dealt with and continue to deal with a number of different health conditions. These experiences have allowed me to better understand and have compassion/empathy for those that also have complex medical needs and the day to day challenges that come with that."

Nevertheless, Veronika has dreams for her future. She will be attending the University of British Columbia at the Okanagan Campus and is interested in courses in the social sciences. Veronika has already achieved an outstanding academic record and has multiple awards for her excellence in public speaking, performing arts, and service leadership. She is also the recent recipient of the Trevor H. Shirliff Scholarship. Trevor was the founder of Canadian School Counsellor magazine. Veronika anticipates that as she steps forward in her education she will discover new areas of interest. She is determined to acquire the skills to grow The Juice Box Project. An education degree is also a possibility in her future. "I intend to work in a sector that allows me to continually create change in the lives of others and make the world a better place for everyone." She is an unstoppable force for good and lives up to her life philosophy, "together we are stronger, and with care and creativity we can make the world a better place for everyone." Chances are we will hear more from this remarkable volunteer. ♣ csc

Veronika a terminé son secondaire dans une école chrétienne. Elle a aussi grandi dans une communauté religieuse. Lorsqu'on lui demande comment sa foi a influencé sa vision du monde, elle répond : « Ma foi m'a permis de voir que tout le monde jouit d'un amour inconditionnel. Les personnes handicapées ont simplement des capacités différentes, parfois uniques. » Veronika souffre elle-même de problèmes de santé qui l'ont sensibilisée à la souffrance des autres : « Je dois composer depuis toujours avec un certain nombre de problèmes de santé. Ces expériences m'ont amenée à avoir de l'empathie et de la compassion pour les personnes qui ont des besoins médicaux complexes, et m'aident à mieux comprendre ces personnes et les défis qu'elles doivent surmonter au quotidien. »

Veronika a aussi des projets d'avenir. Elle fréquentera l'Université de la Colombie-Britannique (campus Okanagan) et s'intéresse aux sciences sociales. Son brillant dossier scolaire est déjà rempli de prix d'excellence en art oratoire, en arts de la scène et en service par le leadership. Elle a d'ailleurs récemment reçu la bourse Trevor H. Shirliff, nommée en l'honneur du fondateur du magazine Canadian School Counsellor. Veronika s'attend à se découvrir de nouveaux champs d'intérêt pendant ses études. Elle tient par ailleurs à acquérir les compétences nécessaires pour développer le Juice Box Project. Un diplôme en éducation est une autre possibilité. « Je veux travailler dans un domaine qui me permettra constamment de changer la vie des autres et de bâtir un monde meilleur pour le bien de tous », dit-elle. Inarrêtable force positive, Veronika vit selon sa philosophie : « L'union fait la force, et il suffit d'un peu de bienveillance et d'imagination pour bâtir un monde meilleur pour le bien de tous. » Parions que cette remarquable bénévole n'a pas fini de faire parler d'elle. ♣ csc



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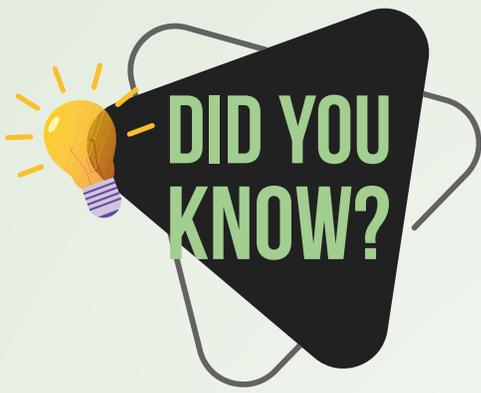
A Canadian School Counsellor's Guide to Supporting U.S. Bound Students

# Crossing Borders

MAGAZINE



## Navigating the Border Amid Covid-19



In 2018-2019, the **total number of international students** studying in the United States increased by **0.05%** to **1,095,299 students**.

In 2018-2019 the **total new international student enrollment** was **269,383**, representing an overall increase of **7%**.

The **top 5 U.S. states hosting international students** were:

1. **California** with a total of **161,693**, down **-0.2%** from the previous year.
2. **New York** with a total of **124,277**, up **2.5%**
3. **Texas** down **-2.9%** with a total of **81,893**
4. **Massachusetts** had **71,098** for an increase of **4.3%** over last year
5. **Illinois** enrolled **53,724** to achieve a very slight increase at **0.7%**

It's important to note that the above figures may represent **enrolled international students** or **Optional Practical Training** (with the exception of new enrollments).

The **top 5 places of origin of international students** are:

1.	<b>China</b>	369,548	<b>(33.7%)</b>
2.	<b>India</b>	202,014	<b>(18.4%)</b>
3.	<b>South Korea</b>	52,250	<b>(4.8%)</b>
4.	<b>Saudi Arabia</b>	31,080	<b>(3.4%)</b>
5.	<b>Canada</b>	26,122	<b>(2.4%)</b>

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Despite its lesser population, **Canada rounds out the top 5 countries of origin** for students choosing to pursue education in the United States and remain an **important demographic** for schools across the US.

**Source:** [https://opendoorsdata.org/fast\\_facts/fast-facts-2019/](https://opendoorsdata.org/fast_facts/fast-facts-2019/)

# COVID-19 Related Travel Restrictions across the U.S. Borders with Canada

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## Borders with Canada

- On August 14, the United States and Canada announced a mutual agreement to extend the limitation of non-essential travel at our shared land ports of entry through September 21.
- “Non-essential” travel includes travel that is considered tourism or recreational in nature. “Essential travel” still permitted includes: work and study, critical infrastructure support, economic services and supply chains, health, immediate medical care, and safety and security.
- Trade and business travel will continue to operate across our borders, ensuring workers and goods are not impeded.
- U.S. citizens, lawful permanent residents, and individuals with valid travel documents will be exempted.
- Land borders are operating at reduced capacity and with limited hours.
- In addition to restrictions on non-essential travel between the United States and Canada, a number of provinces and territories have put in place specific restrictions for travel across their borders, including for domestic travelers

## The following categories do not fall within the definition of “essential travel:”

- Individuals traveling for tourism purposes, such as sightseeing, recreation, gambling, or attending cultural events in the United States.

## Who is considered an “essential” traveler?

- Citizens and lawful permanent residents returning to the United States.
- Individuals traveling for medical purposes (e.g., to receive medical treatment in the United States).
- Individuals traveling to attend educational institutions.
- Individuals traveling to work in the United States (e.g., individuals working in the agriculture industry who must travel between the United States and Canada or Mexico in furtherance of such work).
- Individuals traveling for emergency response and public health purposes (e.g., government officials or emergency responders entering the United States to support federal, state, local, tribal, or territorial government efforts to respond to COVID-19 or other emergencies).
- Individuals engaged in lawful cross-border trade (e.g., truck drivers supporting the movement of cargo between the United States and Canada and Mexico).
- Individuals engaged in official government travel or diplomatic travel.
- Individuals engaged in military-related travel or operations.

Source: <https://ca.usembassy.gov/travel-restrictions-fact-sheet/>

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# EDUCATION FOR EMPLOYMENT

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The background features a stylized landscape with rolling hills in shades of blue and purple. A white line-art plant with long, thin leaves is positioned in the upper right corner. The overall aesthetic is modern and artistic.

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FOR EDITORIAL INQUIRIES:  
Donna Billey  
donna@mzpinc.ca

FOR ADVERTISING INFORMATION:  
Stephanie Duprat  
stephanie@mzpinc.ca

FOR SUBSCRIPTION INQUIRIES  
AND MAILING UPDATES:  
donna@mzpinc.ca



Tel: 1-888-634-5556  
Email: donna@mzpinc.ca  
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# RESPONDING TO COVID-19

# RÉAGIR À LA COVID-19

By/Par Jackie Fritz

***Realizing the devastating affect the Covid-19 pandemic has brought, and continues to bring, to our country and the world, staff and students at Canada's colleges and institutes have stepped forward to offer their skills, expertise and facilities to help their fellow citizens in many different ways.***

From applied research to community support and information management, many institutions of higher learning are utilizing their staff, students, alumnae and equipment for practical use in dealing with our current situation.

The ways they are helping are as diverse as the courses and programs Canada's colleges provide to their students.

Many colleges are using their equipment to produce Personal Protective Equipment (PPE) for health care providers on the front lines.

3D printers are being utilized to make face shields and components of other equipment. Other manufacturing equipment has been redirected to fabricate medical masks including N95.

Other colleges are offering to redeploy manufacturing equipment and labs to aid business in their production of medical devices and supplies.

College alumnae are also stepping up with their contribution of medical equipment made in their factories and other workspaces. One alum from BCIT developed a lightweight face shield that attaches to the brim of any standard ball cap.

Colleges with medical courses have donated the hospital beds, PPE and lab equipment that would normally be used by the students to hospitals in our communities that are fighting the crisis.



***Prenant acte des effets dévastateurs que la pandémie de COVID-19 a eus et continue d'avoir sur notre pays et sur le monde, le personnel et les étudiants des collèges et instituts canadiens ont pris l'initiative d'offrir leurs compétences, leur expertise et leurs installations afin d'aider leurs concitoyens de toutes les façons possibles.***

De la recherche appliquée au soutien communautaire et à la gestion de l'information, bon nombre d'établissements d'enseignement supérieur mettent à contribution leur personnel, leurs étudiants, leurs anciens et leur équipement pour trouver des solutions pratiques à notre situation actuelle.

L'aide qu'ils apportent est aussi diversifiée que les cours et les programmes offerts par les collèges canadiens à leurs étudiants.

De nombreux collèges se servent de leur matériel pour produire des équipements de protection individuelle (EPI) aux prestataires de soins de première ligne.

Les imprimantes 3D servent à fabriquer des visières et des composantes d'autres équipements. D'autres outils ont été réorientés sur la fabrication de masques médicaux N95 et autres.

D'autres collèges proposent un redéploiement de leur matériel de fabrication et de leurs laboratoires afin d'aider les entreprises à produire des fournitures et appareils médicaux.

Des diplômés font également preuve d'initiative en offrant du matériel médical fabriqué dans leurs usines et autres espaces de travail. Un diplômé du BCIT a développé une visière légère qui se fixe à l'avant de n'importe quelle casquette standard.

Des collèges offrant des cours de médecine ont fait don des lits d'hôpital, de l'EPI et de l'équipement de laboratoire – normalement utilisés par leurs étudiants – aux hôpitaux de nos collectivités qui luttent contre la crise.

Some colleges with Respiratory Therapy courses have donated the ventilators used by their students and have even sent their students to the front lines, monitoring Covid-19 patients who need this equipment. 117 respiratory therapist students from Ontario colleges were called into service for this purpose.

One graduate from Seneca College even converted his 25,000 square foot brewery, All or Nothing Brewhouse, into a hand sanitizer manufacturing facility.

Colleges are opening their residences to provide temporary housing options for healthcare professionals, or even converting some of their existing space into emergency field hospitals.

Other students and alumnae are working to make PPE more comfortable to wear by designing and donating items such as ear savers and headbands for the country's essential workers.

Paramedic students from Loyalist College were able to graduate early and hit the ground running while helping out their beleaguered colleagues.

Collaborating with local industry, faculty from the Respiratory Therapy and BioMedical Engineering Technology courses at St. Clair College teamed up to design a device that will automatically inflate and deflate a manual ventilator bag, freeing up health care providers to deal with the increasing volume of Covid-19 patients.

Several health information management students have been deployed to assist with record-keeping and tracking the spread of the virus.

It's not just equipment and supplies that colleges and institutes are providing in the battle against Covid-19, there are many community supports that now exist due to the generosity of the colleges and students.

For example, College of the North Atlantic offers free wellness supports to the public that are aimed at mental and physical health during the pandemic.

There are a number of colleges who are assisting those in need of food security. By providing kitchen space in cutting-edge facilities, they allow volunteers to prepare and distribute food where it is greatly needed.

Some emergency food banks have received monetary donations while others benefit from the student volunteers who give of their time to help others in need, like a Vancouver Community College Jewellery Art and Design student who donates profits from her small business to the local food bank.

Researchers at Conestoga College are working on a mobile software application for supply chain workers that will allow them to maintain proper social distancing regulations.

Still other colleges are offering free online learning for business community members, helping owners adapt their businesses to the changing environment of today. Virtual workshops help small

Certains collèges offrant des cours d'inhalothérapie ont fait don des ventilateurs utilisés par leurs étudiants et ont même envoyé ceux-ci en première ligne, où ils surveillent les patients atteints de COVID-19 qui ont besoin de cet équipement. Pas moins de 117 étudiants inscrits en inhalothérapie dans les collèges de l'Ontario ont été appelés en renfort à cette fin.

Un diplômé du Collège Seneca a même converti sa brasserie de 25 000 pieds carrés, All or Nothing Brewhouse, en fabrique de désinfectant pour les mains.

Des collèges offrent aux professionnels de la santé un hébergement temporaire dans leurs résidences ou vont jusqu'à convertir certains de leurs espaces en hôpital de campagne.

D'autres étudiants et diplômés s'emploient à rendre l'EPI plus confortable par la conception de protège-oreilles et de serre-tête qu'ils donnent ensuite aux travailleurs essentiels du pays.

Des étudiants ambulanciers du Collège Loyalist ont réussi à obtenir leur diplôme à l'avance afin de passer à l'action sans tarder, à la rescousse de leurs collègues débordés.

Des professeurs d'inhalothérapie et de technologies du génie biomédical du Collège St. Clair ont fait équipe avec l'industrie locale pour concevoir un dispositif capable de gonfler et de dégonfler automatiquement un sac de ventilation manuel, permettant ainsi à des prestataires de soins de santé de s'occuper plutôt du volume croissant de patients atteints de COVID-19.

Plusieurs étudiants en gestion de l'information sur la santé ont été déployés afin d'aider à la tenue des dossiers et au suivi de la progression du virus.

Les collèges et instituts n'injectent pas que de l'équipement et des fournitures dans la lutte contre la COVID-19; bon nombre d'appuis communautaires doivent aussi leur existence à la générosité des collèges et de leurs étudiants.

Par exemple, le College of the North Atlantic offre au public des services gratuits de soutien au mieux-être qui visent à préserver la santé mentale et physique pendant la pandémie.

Divers collèges aident les personnes en situation d'insécurité alimentaire. En offrant de l'espace dans leurs cuisines dotées d'équipements de pointe, ils permettent à des bénévoles de préparer des repas et de les distribuer aux gens qui en ont grand besoin.

Certaines banques alimentaires d'urgence ont reçu des dons en argent, tandis que d'autres bénéficient de l'appui d'étudiants bénévoles qui donnent de leur temps pour aider les gens dans le besoin, telle cette étudiante en art et design de la bijouterie au Vancouver Community College, qui verse les profits de sa petite entreprise à la banque alimentaire locale.

Des chercheurs du Collège Conestoga sont en voie de développer une application logicielle mobile qui aidera les travailleurs de la chaîne d'approvisionnement à respecter les règles de distanciation sociale.

D'autres collèges encore offrent des cours en ligne gratuits aux gens d'affaires, afin de les aider à adapter leur entreprise à l'évolution forcée de l'environnement commercial. Des ateliers virtuels aident les propriétaires de petites entreprises à revoir

business owners in re-working and revamping various areas of their business. Courses will cover everything from setting up a new business to project management and business analysis.

And in the race to defeat Covid-19, biotechnology researchers from Lambton College have begun collaborative work with a bioceuticals company on a mini-string DNA-based vaccine designed to simulate an immune response artificially.

It's not just book learning going on at Canada's colleges. The leaders of tomorrow are coming together, helping each other and touching lives across the country. Now, more than ever, these are the qualities that come shining through in our colleges and institutes. 🙌

et à refondre divers secteurs de leurs activités. Ces cours traiteront de sujets variés allant de la création d'entreprise à la gestion de projet et à l'analyse opérationnelle.

Pour ce qui est de la course au vaccin contre la COVID-19, des chercheurs en biotechnologie du Collège Lambton ont amorcé une collaboration avec une société biopharmaceutique sur un vaccin à mini-chaîne d'ADN conçu pour simuler artificiellement une réponse immunitaire.

On n'apprend pas que dans les livres dans les collèges du Canada. Les chefs de file de demain se rassemblent, s'entraident et sont présents dans la vie des Canadiens, d'un océan à l'autre. Plus que jamais, ce sont des qualités qui transparaissent dans nos collèges et instituts. 🙌



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# Open For Business:

Photo credit: Northern Lakes College

## Adapting During the Covid-19 Pandemic

By/Par Jackie Fritz

During the unprecedented times created by the COVID-19 pandemic, Canada's colleges and institutes have had to make adjustments to the way they offer their courses, the way they house their students, even the programs they offer for student supports.

From quickly making adjustments to their existing programs and courses, to coming up with new community and student support services, colleges are adapting to social-distancing changes that affect their students.

Some colleges have begun applied research related to COVID-19 and its global impact. For example, one researcher at Mohawk College in Hamilton, Ontario is exploring how 3D mapping and drones can create virtual access to places that are closed due to COVID-19. Several colleges held applied research showcases virtually this year, still allowing students the important opportunity to share their work.

In fact, online learning has become the new reality for most colleges at this time. In many cases, switching to online learning occurred in a matter of days. College of the North Atlantic in Newfoundland and Labrador implemented a plan to move 181 of its 205 programs online in only four days.

British Columbia Institute of Technology has created an online fast-track education course for frontline nurses and healthcare providers to help them acquire the specialized knowledge they require to support critically ill patients, including those on ventilators. Since the program began, almost 4000 healthcare workers have registered.

Even courses that would generally require "hands-on" training have successfully transitioned to online learning. At Camosun College in Victoria, BC, their Automotive Service Technician Program utilized very specialized and specific software that allowed students to virtually simulate running diagnostics, repairing wiring, replacing components and more.

Saskatchewan Polytechnic Culinary Arts students were provided with ingredients in a socially-distant manner, collaborated online with their instructors and prepared their assigned dishes at home, with assessment based on photos of the finished product.

Community supports are important to Canada's colleges and institutes.

Canadore College in North Bay, Ontario is offering the general public free access to six general education courses, ranging from astronomy to world culture, film and the science of everyday life as a thank you to people who are self-isolating by giving them something productive to occupy their time.

Lethbridge College is offering a freely available open course on facilitating online learning for instructors, offering practical strategies to engage students in online classrooms.

Que ce soit en adaptant rapidement leurs programmes et leurs cours ou en offrant de nouveaux services aux étudiants et à la communauté, les collèges travaillent à contrer les effets négatifs de la distanciation sociale sur les étudiants.

Certains mènent des recherches appliquées en lien avec la COVID-19 et ses effets planétaires. Par exemple, des recherches menées au Mohawk College de Hamilton (Ontario) utilisent la cartographie 3D et des drones pour créer un accès virtuel à des endroits fermés à cause de la COVID-19. Dans plusieurs collèges, les événements visant à mettre en valeur la recherche appliquée sont passés en mode virtuel cette année pour que les étudiants aient la chance de présenter le fruit de leur travail.

En fait, dans la plupart des collèges en ce moment, l'enseignement en ligne est la nouvelle norme, une transition qui, dans bien des cas, s'est faite en quelques jours. Le College of the North Atlantic (Terre-Neuve-et-Labrador), par exemple, a mis en œuvre un plan pour faire passer 181 de ses 205 programmes à l'enseignement en ligne en quatre jours seulement.

Le British Columbia Institute of Technology (BCIT), quant à lui, a créé un programme accéléré pour préparer les infirmières et autres travailleurs de première ligne en santé à soigner des patients gravement malades ou branchés à un respirateur. Près de 4000 travailleurs de la santé se sont inscrits à ce programme depuis sa création.

Même les cours qui ont une composante pratique ont été adaptés avec succès à l'enseignement en ligne. Au Camosun College de Victoria (Colombie-Britannique), les étudiants en mécanique automobile ont pu utiliser un logiciel de simulation hautement spécialisé pour s'exercer à exécuter des diagnostics, réparer des câbles, remplacer des pièces, etc.

Les étudiants du programme d'art culinaire de Saskatchewan Polytechnic, quant à eux, ont reçu des ingrédients dans le respect de la distanciation sociale, ont travaillé avec leurs professeurs en ligne et ont cuisiné à la maison les plats demandés. Leur évaluation était basée sur des photos du produit fini.

Les collèges et instituts ont aussi à cœur d'aider la communauté.

Le Canadore College de North Bay (Ontario) offre gratuitement au grand public six cours d'ordre général allant de l'astronomie aux cultures du monde en passant par le cinéma et la dimension scientifique de la vie quotidienne pour remercier les personnes en auto-isolément et leur offrir une façon productive de s'occuper.

# Ouverts pour vous servir :

## les collèges s'adaptent à la pandémie

La pandémie de COVID-19 a créé des circonstances sans précédent pour les collèges et instituts du Canada, qui ont dû modifier leurs méthodes d'enseignement, la façon dont ils hébergent les étudiants et même leurs services d'aide.

A New Brunswick Community College Information Technology: Programmer Analyst student is helping local business by assembling a data base of sensory-friendly Corona virus shopping accommodations, products and services.

Another example is Centennial College's continued ACCEL (Accelerator for Centennial College Community Entrepreneurs) program for small businesses, offering online workshops and coaching to help aspiring business owners develop or evaluate a successful business idea.

Not all support services are academic when it comes to a college education during a pandemic. Finance, housing and mental health are all important factors to college students.

Bursaries, emergency relief funding and zero percent tuition increases have been established at many colleges and institutes across Canada. In fact, Douglas College is aiming for an emergency fund of \$1 million to provide aid to its students.

At Red River College the Indigenous Student Supports department quickly organized deliveries of computers and emergency food hampers, and are also preparing traditional medicines such as sage and cedar for students to be able to smudge at home.

As campuses were closed students in residence, especially international students, became concerned about where they would live. Many colleges have made exceptions for international students, or have assisted them to attain housing off-campus. Loyalist College in Belleville, Ontario, is moving nearly 200 students into local hotels as well as providing funding for food and other necessities.

New processes relating to international students had to be developed such as priority study-permit processing, updates to eligibility for post-grad work permits and a temporary 2-stage approval process for those students who cannot submit all required documentation due to pandemic-related closures. Colleges continue to work with Immigration, Refugees and Citizenship Canada, as well as other federal departments and provincial governments to ensure the safe return of international students who left the country during the pandemic.

With increasing isolation and self-distancing, mental health concerns have come to the forefront. Many colleges are offering virtual tips, resources and workshops on dealing with stress and anxiety, as well as online one-to-one counselling.

Le Lethbridge College offre aux professeurs un cours en libre accès sur l'enseignement en ligne qui comprend des stratégies pour stimuler l'intérêt des étudiants.

Une étudiante du programme de TI/analyste-programmeur du New Brunswick Community College appuie le commerce local en constituant une base de données de commerces, produits et services liés à la pandémie qui sont adaptés aux besoins des personnes ayant des troubles sensoriels.

Mentionnons aussi l'accélérateur du Centennial College pour les entrepreneurs locaux (ACCEL). Ce programme pour les petites entreprises offre des ateliers en ligne et de l'accompagnement pour aider les futurs chefs d'entreprise à développer ou à évaluer une idée entrepreneuriale.

Les services d'aide des collèges en temps de pandémie ne sont pas tous d'ordre scolaire. Les finances, le logement et la santé mentale sont aussi des facteurs très importants pour les étudiants.

Beaucoup de collèges et instituts du Canada ont établi des bourses et des fonds d'aide d'urgence, et ont évité d'augmenter les droits de scolarité. Le Douglas College vise même l'établissement d'un fonds de 1 000 000 \$ pour venir en aide à ses étudiants.

Au Red River College, le service d'appui aux étudiants autochtones a rapidement organisé la livraison d'ordinateurs et de paniers de nourriture, et prépare aussi des remèdes traditionnels comme la sauge et le cèdre pour faciliter les cérémonies de purification à domicile des étudiants.

Vu la fermeture des campus, les étudiants en résidence, en particulier les étudiants étrangers, craignaient de ne plus avoir de logement. De nombreux collèges ont fait une exception pour les étudiants étrangers ou les ont aidés à se procurer un logement à l'extérieur du campus. Le Loyalist College de Belleville (Ontario) a installé près de 200 étudiants dans des hôtels locaux et leur a offert des fonds de subsistance.

Il a aussi fallu établir d'autres mesures pour les étudiants étrangers, comme le traitement prioritaire des permis d'études, la modification des critères d'admissibilité aux permis de travail postdiplôme et un processus temporaire d'approbation en deux étapes pour les étudiants incapables de fournir toute la documentation requise en raison des fermetures liées à la pandémie. Les collèges continuent par ailleurs de travailler avec Immigration, Réfugiés et Citoyenneté Canada et d'autres ministères fédéraux et gouvernements provinciaux pour permettre aux étudiants qui ont dû quitter le pays durant la pandémie de revenir en toute sécurité.



Photo  
credit:  
Keyano  
College

At Humber College in Toronto, Ontario, PASS (Peer Assisted Study Sessions) connects students in high-risk courses to help maximize their understanding of a subject in a relaxed atmosphere. Okanagan College based in Kelowna, BC has an online resource for students with coping tips and links to various sites related to dealing with COVID, as well as study skills, anxiety, sleep, resilience and guided mindfulness apps and websites. And at BCIT the Mental Health at Home program addresses issues like adjusting to remote learning, finding credible sources for information on COVID-19 and also provides telephone and video counselling services.

Colleges are integral parts of the communities they serve therefore student and community supports continue to evolve as the COVID crisis changes.

In addition to supporting students with barriers to food security, many colleges are also contributing to local food banks and programs, like New Brunswick Community College's volunteers who provided food for seniors in need. They also donated all of their perishable products that were on hand when the shut-down occurred to a local food bank. Vancouver Community College opened up its kitchens in the downtown area to convert to a meal prep and distribution centre for those with barriers to food during COVID-19. As well, a student and an instructor at Nova Scotia Community College's Culinary Management course have taken it upon themselves to provide to-go meals for essential commercial truck drivers.

Just because campus access has been curtailed doesn't mean that learning has stopped. Northern Lakes College's Continuing Education and Corporate Training is offering free or discounted training to help serve its community. Helpful online alternatives such as Introduction to Zoom and Podcasting for Business provide timely, on-point instruction.

Graduating students were affected by the pandemic and many were unable to walk across the stage to accept their diploma, after all of their hard work. Portage College in Alberta hosted a virtual convocation. Graduates were sent care packages which included a cap and tassel, scroll and information on connecting virtually for the celebration. In a much similar fashion to in-person graduation ceremonies, there were faculty and student speeches, an awards ceremony and online meeting rooms for chatting with fellow students and instructors.

These are unprecedented times and it's not just education that colleges are focusing on right now. The COVID-19 pandemic has isolated faculty members, support staff and students. Uncertainty exists for the future but seeing how effectively and efficiently Canada's colleges and institutes have responded to the initial epidemic gives confidence in their ability to change and prosper. 📱

Compte tenu de l'isolement et de la distanciation physique, les préoccupations liées à la santé mentale se sont retrouvées à l'avant-plan. De nombreux collèges offrent des conseils, des ressources et des ateliers virtuels sur la gestion du stress et de l'anxiété ainsi que des services de counselling.

Les séances d'étude assistée par les pairs (PASS) du Humber College de Toronto (Ontario) mettent en contact des étudiants inscrits à des cours où le taux d'échec est élevé pour maximiser leur compréhension de la matière dans une atmosphère détendue. Le Okanagan College de Kelowna (Colombie-Britannique) a créé un site Web où les étudiants peuvent accéder à des conseils pratiques et des ressources en ligne sur la COVID-19, les techniques d'étude, l'anxiété, le sommeil, la résilience et les exercices de pleine conscience. Le programme de santé mentale à domicile du BCIT, quant à lui, aborde des choses comme l'adaptation à l'enseignement à distance et la recherche d'information fiable sur la COVID-19, et fournit des services de counselling par téléphone et par vidéo.

Comme les collèges jouent un rôle important au sein de leurs communautés respectives, les services de soutien qu'ils offrent aux étudiants et au public évoluent au rythme de la pandémie.

En plus d'aider les étudiants dont la sécurité alimentaire est compromise, de nombreux collèges contribuent aussi aux programmes et banques alimentaires locaux. Par exemple, des bénévoles du New Brunswick Community College ont offert de l'aide alimentaire à des aînés dans le besoin. Ils ont aussi fait don de toutes les denrées périssables qu'ils avaient en stock au moment du confinement à une banque alimentaire locale. Le Vancouver Community College a converti ses cuisines du centre-ville en centre de préparation et de distribution de repas pour les personnes dont la sécurité alimentaire a été compromise par la COVID-19. Une étudiante en gestion culinaire du Nova Scotia Community College et son professeur ont quant à eux entrepris de cuisiner des plats à emporter pour les camionneurs, des travailleurs essentiels.

Même si les campus sont fermés, l'apprentissage se poursuit. Le service de formation continue et de perfectionnement professionnel de Northern Lakes College offre des formations gratuites ou à prix réduit à la communauté. Ces formations, qui visent par exemple à apprendre à utiliser Zoom ou à créer des balados, sont une source opportune de contenu pertinent.

La pandémie a aussi affecté les finissants et finissantes qui n'ont pas pu monter sur scène pour recevoir leur diplôme en reconnaissance de leurs années d'effort. Le Portage College (Alberta) a tenu une collation des grades virtuelle. Chaque diplômé a reçu un colis réconfort qui comprenait un mortier, un parchemin et l'information pour se connecter à la célébration virtuelle. Tout comme dans une cérémonie en personne, cette célébration comprenait des discours d'étudiants et de professeurs, une remise de prix et des « salons » pour clavarder avec les autres étudiants et les professeurs.

En cette période sans précédent, les préoccupations des collèges vont au-delà de l'éducation. La pandémie de COVID-19 a isolé les professeurs, les membres du personnel de soutien et les étudiants. Personne ne sait ce que nous réserve l'avenir, mais compte tenu de l'efficacité avec laquelle les collèges et instituts ont réagi à la pandémie, on ne peut qu'avoir confiance en leur capacité de s'adapter et de prospérer. 📱

# Northern Lakes College

## ● Recovering from the Pandemic

Northern Lakes College employs an innovative Supported Distance Learning (SDL) model, which includes unique delivery options like NLC LIVE Online™ and NLC Anytime, Anywhere. This model of delivery provides students with access to their courses at home, work, or on campus. The SDL delivery model positioned the College well to respond to COVID-19 challenges, requiring fewer course delivery adjustments.

As part of its continued response to the COVID-19 pandemic, NLC has relaunch guidelines in place to support a safe, gradual return to working and learning on campus this fall. All courses delivered through the SDL format will continue as scheduled, allowing many students to study from the comforts of home or work without the need to attend a campus. The NLC LIVE Online™ model recreates the traditional classroom in an online environment, allowing instructors to deliver live lessons and for students to ask their questions in real time. NLC Anytime, Anywhere provides the ultimate in flexibility, allowing students to study at a time and location convenient to them. NLC also offers online access to learning supports and a host of mental health and wellness services for students.

For the fall 2020 term, only current students who require access to computers or broadband will be on campus. For those programs with onsite and lab program components, engineering controls, physical distancing measures, and appropriate personal protective equipment will be utilized as necessary.

Northern Lakes College is committed to providing students with a quality educational experience while adhering to public health guidelines and implementing COVID-19 protocols to ensure the safety of the College community. The College guidelines may change based on the evolving pandemic situation and updated guidance by the NLC Senior Leadership Team, the Government of Alberta, and health authorities.

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# The Michener Institute of Education at UHN

- **More than a school, Michener supports the healthcare system in troubled times**

In a normal year in March, students graduating from The Michener Institute of Education at UHN’s Respiratory Therapy (RT) program would be wrapping up their clinical placement and preparing for exams. But 2020 has been anything but normal.

In late March 2020, five weeks before the end of their clinical placement, RT students in their final year were accelerated to complete the program and get certified so they could enter the workforce immediately to care for patients with COVID-19.

A day after learning that she had graduated early, Michener grad Jaspreet Singh got a call from Toronto Western Hospital asking when she could start in the Intensive Care Unit. Hospitals needed RTs as quickly as possible to stay ahead of the COVID-19 surge, and new grads were already familiar with hospital policies and had completed most of their clinical rotations. Their skills and knowledge were as current as possible.

“It was exciting, but also surreal,” says Jaspreet. “We went from ending clinical early to becoming a frontline worker within days.”

Once Jaspreet started in the ICU, she worked alongside an experienced RT who showed her proper donning and doffing of personal protective equipment and other ways to protect herself and other patients. By the second day, Jaspreet was working independently, taking care of up to eight patients on her own.

Prior to the pandemic, Michener’s full-time programs were a balance of in-class and lab teaching supported by a web platform for hosting essential course resources and enabling communication and collaboration between students and instructors. Changing and delivering curriculum in a new environment required considerable work, including determining how to change hands-on lab components to remote delivery, particularly for methodology and patient care courses that often depend on simulation. Each of

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Michener's 10 full-time programs also needed support for web conferencing, content delivery and online assessment. Consideration for how to deliver exams in a new virtual format while also ensuring academic integrity and supporting students was also a priority.

Michener's faculty and its education support staff were able to address these challenges within a month and enable all students to complete their winter semester, while also designing a summer simulation semester that could be delivered almost exclusively online using microphones and webcams to practice interactions with patient actors and use interactive technology.

"The speed with which faculty and staff mobilized behind keeping students on track to graduate and enter the workforce still astounds me," says Dr. Brian Hodges, Executive VP of Education at The Michener Institute of Education at UHN.

"When the province made the decision to close schools, our school took one day off to confer about how to transition to online, and then very quickly made it happen. Not only was there virtually no interruption to curriculum delivery, but those learners critical to the pandemic response were fast-tracked to graduation and certification and began working almost immediately."

Michener acted quickly to support Canada's healthcare system in other ways as well. Very early in the pandemic, the province asked Michener to develop a learning platform and materials to support healthcare providers who would be redeploying to care for COVID-19 patients. The school's continuing education team delivered this within 10 days - something that would normally take six months. Equally remarkable was how quickly the team adapted as the redeployment efforts shifted to long-term care. The platform - covidcarelearning.ca - continues to adapt almost daily, and has helped more than 8,000 healthcare professionals and members of Canada's military feel safe and prepared to work on the front lines of the pandemic.

As Ontario has entered Phase 3 of the pandemic, small numbers of students are returning to Michener's downtown Toronto campus for lab work, supported by physical distancing measures, new protocols and protective equipment. Lectures are being delivered online, and clinical placements in the province's hospitals and health facilities have resumed. Michener continues to deliver the most highly qualified healthcare professionals to the health system, even through a global health crisis.

"This couldn't have happened without our deep education design expertise, the passion and commitment of our faculty and staff, and our innate agility," says Dr. Hodges.

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# Manitoba Institute of Trades & Technology

## ● Balancing safety, student success

*Tech adaptations, strict adherence to public health orders guide college campus re-opening*

The mid-March suspension of in-class learning at Manitoba K-12 schools prompted a swift response by Manitoba Institute of Trades and Technology (MITT). In a matter of days, all the college’s programs transitioned to remote delivery. In the weeks and months that followed, a campus re-integration plan, developed in lockstep with federal and provincial public health orders, was developed to strike a balance between campus safety and student success through blended delivery (in-class and online) of programs and student resources and a flexible matrix of campus activity levels.

Central to the plan, which was announced on May 29, 2020, was MITT’s purchase and college-wide implementation (slated for completion in fall 2020) of D2L’s Brightspace learning management system, which provides a single platform for continuous program delivery, assessment, as well as student-instructor interactivity during blended or fully online learning.

By early June, public health guidelines in Manitoba had eased enough that MITT could bring limited numbers of students and instructor back to campus for “intensives,” short-term in-class sessions to ensure they met graduation requirements and demonstrated skills required for various program-specific accreditations. While academic teams handled modified program delivery, the facilities team redefined MITT’s campus spaces with social distancing-specific wayfinding, revised class/lab capacities, while ensuring program-specific, as well as any new, PPE requirements were met.

At the same time that MITT modified how it could safely deliver learning to students on campus or online, similar adaptations took place within other key teams across the organization. Recruitment, domestic and international, student services, and career development services switched to virtual delivery of webinars and one-on-one consulting (via phone, email, and Zoom), while the Registrar’s Office created dedicated FAQs and updates on [mitt.ca](http://mitt.ca) regarding program status and intakes, as well as other essentials of the application process.

MITT anticipates its blended delivery of in-class and online programs will ebb and flow according to public health orders. At the same time, the college continues adding tech adaptations to enhance the student experience, such as virtual delivery of MITT’s Intro to College and Work program (previously developed for incoming international students) to all students.



### Help your students plan their career or education path at MITT.

Our programs are developed with industry and most have graduates career ready in a year.

Blended online and in-class delivery provides learners as much hands-on experience as is safely possible.

And our student success and career development advisor teams are available by phone, email, Zoom or Skype to help students achieve their academic and career goals.

Learn more  
[MITT.ca/start](http://MITT.ca/start)

# Keyano College

What was once a quiet Campus is starting to buzz five months after the world came to a halt.

Under provincial government mandate, Keyano College, like all post-secondary institutions in Alberta, closed their doors in March and moved to online learning.

Students did not miss a beat in their studies thanks to the quick work of our IT staff transitioning the College to virtual studies in a matter of days.

While navigating through the pandemic, the College and our community faced another major challenge – a one-in-100-year flood forcing the evacuation of our staff and student housing, along with our main Clearwater Campus.

Facing \$48 million in flood damages and a pandemic, providing education to our students remained a priority.

The College's mental health coordinators connected with over 460 students to check on their well-being and informed them of supports that can be accessed virtually. We opened up different lines of communication for students and staff, increased bandwidth, ran training events for instructors, and invested in new technology.

Our faculty is now equipped with state of the art laptops to be more flexible in their teaching. The College is creating flipped classrooms – a studio that gives instructors the best tools and students more opportunities learning online. Virtual gathering spaces have also been launched as a safe space for students to connect meaningfully.

Due to the flood, the College only gained access to our facilities in late-August and had a couple weeks to implement the flood and COVID-19 transition plan before the start of the fall semester.

Health protocols have been developed and implemented at our campuses and student housing. Students continue to learn virtually this fall, except where labs and shops are required.

Our priority remains keeping students and staff healthy and safe.

“We want to assure our community that we commit to provide an exceptional experience for students, one that will prepare them for a career or for further education,” said VP of Academic, Fred Russell.

Keyano continues to move forward as an institution, grow and diversify our programming, and are prepared for the pandemic as the winter months approach.



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Did you know that 3D Printing technology has come so far that it can now design and create human tissue? That the use of nanotechnology is giving properties to clothing to make them feel warmer or cooler? Or that the concept of augmented reality has wide spread manufacturing potential?

These are all examples of advanced manufacturing technology which is dependent on the use of cutting edge materials and emerging capabilities as well as established principles in physical and biological sciences. Automation, computation, software, networking and sensing are combined to manufacture new products or increase usefulness and effectiveness of existing technology.

In Canada, over 77,300 companies are involved in the advanced manufacturing sector and according to the Government of Canada's Report from Canada's Economic Strategy Tables: Advanced Manufacturing; the industry is poised to bring in around \$1 trillion in sales by 2031, with over \$540 billion in exports. Projections for employment are also predicted to rise.

The report also outlined a number of barriers that may stand in the way of Canada's goals to increase advanced manufacturing sales and exports including increasing global competition, low availability of skilled and trained workers

Voilà autant d'exemples d'application des technologies de fabrication de pointe, qui reposent sur les matériaux de pointe, les capacités émergentes et les principes établis des sciences physiques et biologiques. L'intégration de l'automatisation, du calcul, des logiciels, des réseaux et des capteurs permet de fabriquer de nouveaux produits ou d'accroître l'utilité et l'efficacité des technologies existantes.

Au Canada, le secteur de la fabrication de pointe regroupe plus de 77 300 entreprises. Selon les projections présentées dans le Rapport des Tables de stratégies économiques du Canada : fabrication de pointe publié par le gouvernement du Canada, cette industrie devrait générer des ventes d'environ 1 billion de dollars d'ici 2031, dont plus de 540 milliards de dollars en exportations. Les projections annoncent également une hausse sur le plan de l'emploi.

Le même rapport fait état de certains obstacles à surmonter par le Canada pour atteindre ses objectifs de vente et d'exportations dans le secteur de la fabrication de pointe : l'ampleur croissante de la concurrence mondiale, la pénurie de travailleurs qualifiés et spécialisés et le niveau d'adoption variable des nouvelles technologies. Or, les collègues et les

# ADVANCED MANUFACTURING – *Overview*

## LA FABRICATION DE POINTE – *Vue d'ensemble*

By/Par Jackie Fritz

Saviez-vous que la technologie de l'impression 3D a tellement évolué qu'elle permet désormais de concevoir et de créer des tissus humains? Que l'utilisation des nanotechnologies dote les vêtements de propriétés qui les rendent plus chauds ou plus froids? Ou que le concept de réalité augmentée a beaucoup de potentiel pour le secteur de la fabrication?

and uneven adoption of emerging technology. Colleges and institutes have a unique relationship with leading industries, are able to adapt and grow along with changes in technology and are poised to demolish those barriers by supplying the workforce with qualified personnel.

Puneet Kaur Johal is currently enrolled in a Chemical Engineering Technology program. She says, “colleges focus on a variety of important things. They offer great hands on experience. They have latest instrumentation in labs that students would be using while working in industries. Students are encouraged to select and use current technologies in chemical engineering tasks and projects. Students are marked on the accuracy and precision of their results, so that gives students a sense of how important it is to get good results and perform experiments right by following the procedure, with correct techniques and in a limited amount of time, therefore, teaching them that time and accuracy is money for industries, and that companies would want to hire someone who has a sense of these things. They are trained to perform all work in compliance

instituts entretiennent une relation unique avec les grandes industries. Ils sont capables de s'adapter aux changements technologiques et de s'en servir pour progresser, et ils sont bien positionnés pour abattre les obstacles et enrichir la main-d'œuvre par l'apport d'un personnel qualifié.

Puneet Kaur Johal, actuellement inscrite à un programme de technologie du génie chimique, brosse le tableau suivant : « Les collèges se concentrent sur plusieurs aspects essentiels. Ils offrent une excellente expérience pratique. Leurs laboratoires sont dotés des mêmes instruments de pointe que les étudiants utiliseront quand ils travailleront dans une industrie. Les étudiants sont encouragés à choisir et à utiliser des technologies nouvelles dans leurs travaux et leurs projets de génie chimique. Comme l'évaluation de leurs travaux tient compte de l'exactitude et de la précision de leurs résultats, ils ont conscience de l'importance d'obtenir de bons résultats et de bien réaliser les expériences dans un délai restreint, en suivant le protocole et en adoptant les bonnes techniques. Ils apprennent donc que pour l'industrie, le temps et la précision, c'est de l'argent, et que les entreprises voudront embaucher des personnes qui sont conscientes de ces aspects-là. Les étudiants sont formés à exécuter tous

“Advanced Manufacturing; the industry is poised to bring in around **\$1 trillion** in sales by 2031, with **over \$540 billion** in exports.”

« Cette industrie devrait générer des ventes d'environ **1 billion** de dollars d'ici 2031, dont plus de **540 milliards** de dollars en exportations. »

with relevant regulations, standards and guidelines. Graduates are able to solve complex problems and perform tasks by applying principles of chemistry, mathematics, physics and chemical engineering.”

Educational facilities across Canada offer over 380 programs related to advanced manufacturing, consisting of diploma, certificate, degree, and post-graduate programs.

There are three main components of the advanced manufacturing sector including robotics and automation, transportation and engineering.

The field of robotics, or automation, is advancing at such a rapid pace and Canadian robotics technology is utilized all over the world... and beyond.

Andrew Van-Martin, Automation Specialist - BID Group of Companies says, “Some of the most recognizable parts on the Space Shuttle and International Space Station are the Canadarms 1 and 2. I love this particular example because as a kid I always thought it was so cool that Canada had built a part of something that was in space and seeing the videos of the arms in action always made me feel proud to be a Canadian. Our youth getting excited about science and robotics as a career when they are young means Canada will be able to continue being on the forefront of the mechatronics and robotics sector.”

Canada's colleges and institutes are globally recognized for their advanced manufacturing educational courses.

Jagvir Singh Sandhu is an international student from Punjab, India. He is currently enrolled in an Aerospace Manufacturing

leurs travaux dans le respect des règlements, des normes et des directives en vigueur. Les diplômés sont en mesure d'appliquer les principes de la chimie, des mathématiques, de la physique et du génie chimique à l'exécution des tâches et à la résolution de problèmes complexes.»

Les établissements d'enseignement du pays offrent plus de 380 programmes liés à la fabrication de pointe, qui mènent à l'obtention d'un diplôme, d'un certificat, d'un grade ou d'un diplôme d'études supérieures.

Le secteur de la fabrication de pointe regroupe trois composantes principales : la robotique et l'automatisation, les transports et le génie.

Le domaine de la robotique (ou automatisation) progresse à un rythme effréné et la technologie robotique canadienne est utilisée partout dans le monde... et même au-delà.

« Les Canadarm 1 et 2 sont des composants particulièrement reconnaissables de la navette spatiale et de la Station spatiale internationale, observe Andrew Van-Martin, spécialiste de l'automatisation pour le BID Group. J'aime particulièrement cet exemple parce que quand j'étais enfant, je me disais toujours que c'était vraiment cool que le Canada ait construit une partie d'un vaisseau spatial. Voir des vidéos des bras en action m'a toujours rendu fier d'être Canadien. Grâce à l'enthousiasme de nos jeunes pour une carrière en sciences et en robotique, le Canada pourra demeurer à l'avant-garde du secteur de la mécatronique et de la robotique. »

Les collèges et instituts du Canada sont mondialement reconnus pour leurs cours de formation en fabrication de pointe.

Jagvir Singh Sandhu est un étudiant international venu de l'État du Pendjab, en Inde. Il est actuellement inscrit à un programme de techniques du génie de la fabrication aérospatiale. Il nous dit : « Je n'avais jamais été exposé à un programme propre à



©GettyImages/LeoWolfert

Engineering Technician program. He says, “I never had a chance of being exposed to something which would enhance my practical knowledge, instead of just theoretical knowledge. I saw aerospace manufacturing technology, the new program that Centennial College provides to students. In addition to the thrill of being among the first students to graduate from a brand-new program, I also realized that it eventually comprises of all the fundamental courses that were present in other engineering fields. So, I said to myself, ‘Why not try this?’.”

“Aerospace manufacturing engineering technology contributes about \$20 billion annually to Canada’s gross domestic product (GDP). Aviation itself is separate and not a small contributor to Canada, whereas aerospace manufacturing comprises a more widespread employment sector providing 160,000 skilled jobs,” says Sandhu.

Engineering consists of six distinct branches – Mechanical, Chemical, Civil, Electrical, Management and Geotechnical, virtually all of which contribute to advanced technology.

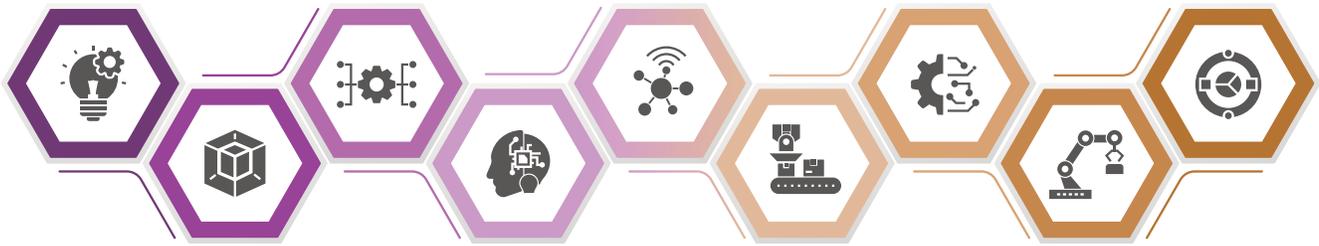
Johal says, “Chemical engineering is something that combines science and economics; using principles of science to carry out processes that generate goods for our daily use which make our life way more comfortable and easier. Some of the recent areas that have highlighted the chemical engineering research are Earth-friendly plastics, cleaner energy fuels through non-conventional desulfurization of fuels and biofuels, medical microdevices, greener chemical processes and artificial photosynthesis which I find really interesting. Mainstream chemical production in industries uses thermal energy to bring about their processes. Innovative reaction technologies involve the active and advanced control of

enrichir mes connaissances pratiques plutôt que les simples connaissances théoriques. J’ai vu le nouveau programme en technologie de la fabrication aérospatiale que le Collège Centennial offre à ses étudiants. En plus d’avoir le plaisir d’être parmi les premiers étudiants diplômés d’un tout nouveau programme, je me suis rendu compte qu’il comprend finalement tous les cours de base offerts dans les autres domaines du génie. Alors je me suis dit : “Pourquoi ne pas essayer?” »

«La technologie du génie de la fabrication aérospatiale contribue à hauteur d’environ 20 milliards de dollars par an au produit intérieur brut du Canada, poursuit M. Sandhu. L’aviation elle-même est un secteur distinct et un acteur non négligeable au Canada, tandis que la fabrication aérospatiale constitue un secteur d’emploi plus vaste, qui représente 160 000 emplois spécialisés.»

Les six grands domaines du génie (mécanique, chimique, civil, électrique, organisationnel et géotechnique) contribuent pratiquement tous au développement des technologies de fabrication de pointe.

«Le génie chimique est un domaine qui marie la science et l’économie, ajoute Mme Johal; nous appliquons des principes scientifiques aux processus de production de biens d’usage courant qui nous rendent la vie plus agréable et plus facile. La recherche en génie chimique s’est signalée récemment dans des domaines tels que les plastiques écoresponsables, les carburants propres issus de la désulfuration non conventionnelle des carburants et des biocarburants, les microdispositifs médicaux, les procédés chimiques écologiques et la photosynthèse artificielle, qui m’intéresse tout particulièrement. La mise en œuvre des procédés conventionnels de la production chimique industrielle dépend de l’énergie thermique. Les technologies réactives innovantes mettent en jeu un contrôle actif et perfectionné des électrons et des ions, afin de faciliter la synthèse et la production de matériaux. Les systèmes qui en



electrons and ions to contribute to material synthesis and production. They have developed systems to speed up the process of making life-saving vaccines for new viruses.”

Jobs in the advanced manufacturing sector are many and varied and the outlook for careers in this area continues to grow along with the advancements in technology.

“The jobs that are in high demand are the ones from nuclear energy industry and petrochemical industry because nuclear energy is getting more popular than ever because it doesn’t cause air and water pollution like thermal energy (coal using) processes, and petrochemical industries as they are a lot in demand and also because they help manufacturing a large number of useful products like synthetic fibres, dyes, plastics, wax, crude oil, synthetic rubber, drugs, dyes, fertilisers, insecticides. Other than that, process engineer jobs are in high demand. Laboratory technologist jobs are popular amongst the co-op students of the program,” explains Johal

Sandhu’s list includes, “CNC operator/machinist, CMM operator, CAM and CAD designer, quality control, non-destructive testing and aircraft assembler,” he says.

And according to Van-Martin, “There are a ton of careers available in this field. There is the PLC (Programmable Logic Controller) side of things which is generally for production lines and big machines and stuff. Then there are embedded systems which are more for mobile applications. Someone in my program got hired at the TRIUMF particle accelerator at UBC and another got a job at BC Hydro working with motors and transformers. I would say that PLC jobs are currently in the highest demand. It is a different type of programming that people tend to not like as much so the supply of workers for these types of jobs is lower than other programming jobs. I think the career outlook in this field is extremely high and there are a lot of transferable skills if you end up deciding to pursue a career in a different field.”

Advanced manufacturing is an exciting and futuristic industry attracting keen minds and pioneering principles, and Canada’s colleges and institutes are at the forefront of this new technology, preparing the workforce of tomorrow, today. 🤖

sont issus accélèrent le processus de fabrication de vaccins d’importance vitale pour contrer les nouveaux virus.»

Les emplois dans le secteur de la fabrication de pointe sont nombreux et variés, et les perspectives de carrière dans ce domaine continuent de croître avec les progrès technologiques.

«L’industrie de l’énergie nucléaire et l’industrie pétrochimique sont des secteurs d’emploi à forte demande. L’industrie nucléaire est plus populaire que jamais parce qu’elle ne pollue pas l’air et l’eau comme les processus thermiques [qui consomment du charbon]. Quant à l’industrie pétrochimique, en plus de la forte demande, elle contribue à la fabrication d’un grand nombre de produits utiles : les fibres synthétiques, les teintures, les plastiques, la cire, le pétrole brut, le caoutchouc synthétique, les médicaments, les engrais, les insecticides. Par ailleurs, il y a une forte demande d’ingénieurs en procédés de fabrication, et les emplois de technologues de laboratoire sont populaires chez les étudiants stagiaires du programme», explique Mme Johal.

La liste de M. Sandhu comprend les emplois d’«opérateur-machiniste en CNC [commande numérique par ordinateur], opérateur de CMM [machine de mesure de coordonnées], concepteur de fabrication assistée par ordinateur, contrôleur de la qualité, spécialiste en tests non destructifs et assembleur d’avions».

Enfin, selon M. Van-Martin : «Il existe un tas de carrières possibles dans ce domaine. Il y a le côté API [automate programmable industriel], qui s’applique généralement aux chaînes de production et aux grosses machines. Il y a aussi les systèmes intégrés, qui servent plutôt aux applications mobiles. Une personne de mon programme a trouvé un emploi à l’accélérateur de particules TRIUMF de UBC et une autre a trouvé un emploi dans le secteur des moteurs et des transformateurs à BC Hydro. Je dirais que c’est dans le secteur des API que la demande est la plus forte. C’est un type de programmation différent, que les gens tendent à moins aimer, de sorte que l’offre de travailleurs pour les emplois de ce type est plus faible que pour les autres emplois en programmation. Je pense que les perspectives de carrière dans ce domaine sont très vastes et que bon nombre de compétences sont transférables si on décide finalement de faire carrière dans un autre domaine.»

La fabrication de pointe est une industrie stimulante et futuriste, qui attire les esprits aiguisés et les principes innovateurs. Les collèges et instituts canadiens sont à l’avant-garde de cette nouvelle technologie. Ils préparent aujourd’hui la main-d’œuvre de demain. 🤖

# Canadore College

Skilled workers are in high demand locally, provincially and across Canada. Canadore College is on the cutting edge of innovation with its superior trades and technology programs and learning facility that has specialized labs fully equipped with industry standard training tools. Many of our highly qualified professors still work in their respective industries and are up-to-date with the current trends and continuously changing technology.

Students in our Mechanical Engineering Technician/Technologist program learn to design, develop and maintain machine components, tools, heating and ventilation systems, power generation and manufacturing plants and equipment, and much more. Mechanical engineering technicians and technologists are sought after in a vast number of industries including mining, manufacturing, and forestry.

## Your Future Career

- ★ Consulting engineering firms
- ★ Manufacturing and processing companies
- ★ Government agencies

## What You Learn (2 Years)

- ★ Computer Aided Design - 3D design
- ★ Electrical/electronic fundamentals
- ★ Fluid mechanics
- ★ Manufacturing processes
- ★ Strength of materials
- ★ HVAC

## What You Learn (3 Years)

- ★ Solid modelling
- ★ Thermodynamics
- ★ Metallurgy
- ★ Pneumatics, hydraulics and automation
- ★ Machine design



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In Lethbridge College's Engineering Design Technology program, you'll work with 3D-design software each day. In two-years, you'll be ready - to either start your career or transfer to a four-year program to pursue your degree. Our grads are building the future by developing engineering designs and drawings for architectural projects such as commercial and residential buildings.

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**BE READY.**



**Lethbridge  
College**

# Lethbridge College

## *Be Ready to Build the Future*

Students who have a knack for visualizing ideas and getting them down on paper – or on a screen – can create a blueprint for their future in the Engineering Design Technology program at Lethbridge College.

“Our Engineering Design Technology students get the benefit of working with 3D-design software every day in our state-of-the-art Trades, Technologies and Innovation Facility,” says Bill Smienk, chair of Lethbridge College’s School of Engineering Technologies. “In two years, they can start a rewarding career, building the future by developing engineering designs and drawings for architectural projects such as commercial and residential buildings. “

Smienk adds that many successful graduates work for engineering and architectural offices as well as construction and manufacturing firms incorporating mechanical designs. The average annual salary of an engineering design technologist is \$72,157, according to Alis Alberta. “There are so many meaningful professional opportunities available to grads of our programs,” he notes.

The work of design technologists is essential to all aspects of engineering and construction – and the college’s Engineering Design Technology program provides students with both the theory and experience they need to succeed on the job. Students are immersed in developing a comprehensive understanding of design fundamentals, learning how to design drawings, plans and diagrams while using 3D computer-assisted drafting technology and 3D printing to help bring ideas to life.

Lethbridge College has offered engineering technology education since 1964, and from the start, students have benefitted from opportunities to engage in real-world work experiences. For example, this past academic year, Engineering Design Technology students took part in a unique collaboration with the City of Lethbridge.

The city approached the college to see if Engineering Design Technology students could create new designs for the flagpole display outside of City Hall to allow the city to permanently fly the Blackfoot Confederacy flag, the Reconciliation Lethbridge flag, as well as having dedicated poles to fly flags celebrating other important community events and partners. Students submitted their designs for the revamped flagpole display in the fall, and in February, the city recognized two submissions. The winning student design will be considered in the final proposals for the permanent flagpole structure, which is targeted for completion before September 2020.

In addition to offering students real-world learning experiences, Lethbridge College’s Engineering Design Technology program is also nationally accredited by Technology Accreditation Canada. This endorsement assures students and their employers that the college is meeting the educational standards of Canada’s engineering technology and applied science profession.



To learn more, visit [lethbridgecollege.ca](http://lethbridgecollege.ca)

# INNOVATIVE MANUFACTURING TECHNOLOGY DIPLOMA

Apply now for Fall 2020.

Saskatchewan's manufacturing sector continues to grow and need skilled workers. With the Innovative Manufacturing diploma, you will be prepared to help meet these needs. The program offers a wide range of skill-based training in all aspects of the manufacturing industry, including design, CAD drafting, Computer Numerical Control (CNC) machining, welding, fabrication, robotics, 3-D printing and project management.

Learn more at [saskpolytech.ca/MEM](https://saskpolytech.ca/MEM)

**SASKATCHEWAN  
POLYTECHNIC**

# Saskatchewan Polytechnic

## Innovative Manufacturing Centre (IMC): Saskatoon RAMP facility

### School of Mining, Energy & Manufacturing

When Environmental Instruments Canada faced the multiple challenges involved in fast-tracking the production of a new device, while walking the tightrope of cost effectiveness and time-saving, the company turned to Saskatchewan Polytechnic's Innovative Manufacturing Centre (IMC) in Saskatoon. The centre focuses on research, additive manufacturing and prototyping, also known as RAMP.

The Saskatoon RAMP facility is the most advanced additive manufacturing (3D printer) facility in Saskatchewan, with the capacity to print in almost a dozen different materials; it contains the only metal 3D printer in the province, as well as a waterjet cutter and a portable 3D scanner.

Since its opening two years ago, the RAMP facility has undertaken several industry research projects, one of them with Environmental Instruments Canada. The company produces radiation measurement devices for the uranium industry. However, its latest product was developed for homeland security markets, and needed to be rushed to production.

The hand-held instrument had to withstand a drop test, which typically requires the production of an over-molded rubberized coating over top of a hard plastic shell. The process of making the device's shell typically involves creating two halves of the part, plus over-molds on each half, requiring the use of four separate injection molds. At \$10,000 per mold, an error or redesign could cost \$40,000, and take additional months of valuable development time. With the help of Sask Polytech Saskatoon's RAMP facility, the shell and over-mold were 3D printed on a multi-material 3D printer using a single print. The process was so successful that Sask Polytech 3D printed the initial production run of the new instrument. Additional research is now being done to improve the durability and ergonomics of the instrument using the power and design freedom of 3D printing.

Manufacturers' prototyping and research projects are the collaborative focus of the Saskatoon IMC, one of two in Sask Polytech, the other of which is in Regina. By accessing the IMCs, manufacturers are able to solve real world problems they can implement immediately. Applied research also allows Sask Polytech students to work with industry partners. In Saskatoon, the new Design and Manufacturing Engineering Technology program provides students with a combination of skills that allow employers to take advantage of new technologies related to Industry 4.0. The program combines traditional engineering design, with state-of-the-art software tools and equipment. Its specialty includes mechatronic systems that integrate electronics, sensors, motor drives, and mechanical systems. The program, and its integration with applied research at the RAMP facility, ensures students have the skills to continue solving manufacturers' challenges.



To learn more, visit [saskpolytech.ca](https://saskpolytech.ca)

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RISE ABOVE THE ORDINARY

# SEE BEYOND TODAY.

## The world needs the brilliant minds of our graduates.

Seeing beyond today, means we are committed to providing our students with learning opportunities that reflect the needs of the industries that propel our region.

Discover St. Clair College:

- + Access to state-of-the-art facilities gives students hands-on training using some of the world's most sophisticated technology.
- + Dedicated Applied Research & Development team with a focus on Advanced Manufacturing.
- + Access to \$3 million in scholarships and bursaries.



FUTURE  
LEADERS



**ST. CLAIR**  
COLLEGE

# St. Clair College

## St. Clair College's robotics program trains students for high-demand jobs

Located in the hub of Windsor, Ontario's Advanced Manufacturing sector, St. Clair College knows that technology and innovation are the main drivers of today's businesses.

These skills are in high demand in the local economy and around the world as AI and Automation become critically important elements in the world of Advanced Manufacturing.

The Electromechanical Engineering Technician – Robotics program at St Clair College is one of a kind. An amazing team of professors, fresh out of the industry, have a combined 60-plus-years-experience in the field of industrial automation.

Students in Robotics will learn valuable skills to work as designers and programmers in the automation and robotics fields.

St. Clair College has two robot labs: the newest robotic vision lab has eight ABB robots with integrated Cognex vision systems and the second lab is fully guarded and houses six ABB robots that are set up to meet industry standards, for a total of 14 ABB robots.

Students are taught applications such as robotic MIG welding and spot welding, with the use of in-house designed and 3D-printed end of arm tooling that resembles workplace tools used to accomplish these tasks.

In the new robotic vision lab, students are taught to use vision-guided robot programming, using industry-leading software and hardware. Instructors teach different lighting techniques, accompanied by different types of imaging filters to acquire the best possible image and results.

Most of the tooling used in the robotic vision lab has also been designed and 3D printed in-house with the use of the College's 3D printers. The college is continually adding to a library of video tutorials of different lab techniques taught throughout the program. By using these online video tutorials, students understand the content by visually learning, even outside of the classroom.

Upon graduation, these students will have industry-ready skills in industrial robot programming, PLC programming, machine vision, electrical design, welding, simulation, fluid power, mechanical design, and project management.

Our current challenges require us to think differently, to act differently and to move beyond what we know. The world needs tech minds that can see beyond today. Staying a step ahead requires a commitment to teach from a place of innovation and to provide learning that encourages and motivates creative thinking and solution-based applications to real work issues.

This is the essence of what St. Clair College offers in its Electromechanical Engineering program, training our future robotics technicians to rise above the ordinary.



To learn more, visit [stclaircollege.ca](http://stclaircollege.ca)

# University of Fraser Valley

## UFV's Digital Manufacturing diploma

Whether you are new to the manufacturing field or a seasoned hand who needs to upgrade your skills, UFV's Digital Manufacturing diploma equips you with the know-how to work in a high tech shop.

Explore the techniques needed to harness evolving technologies and create innovative products made of smart materials.

Increase your earning potential by adding this 1-year diploma to almost any degree or enter the high tech sector by starting your training with the Electronics Technician Common Core program.

Training will include

Using digital tools, equipment, materials, and methods, including 3D computer modelling and simulation in concert with computer numerical controlled machinery

Building and using digital manufacturing equipment

Developing and implementing new solutions to challenging problems, and — most importantly — learning how to teach yourself what you need to know now and in the future

Experienced professional engineers and technicians use a problem-based learning approach that will help you acquire the skills you need to adapt and evolve as future digital technologies emerge.

Upon completion, you will be safely and confidently able to use 3D printers, laser cutters, plasma cutters, computer numerically controlled lathes, and milling machines. You will even be able to use new digital machinery that you design and build for applications nobody has thought of yet.

Digital manufacturing grads have excellent employment prospects in a wide variety of enterprises including aerospace, mining, steelmaking, automotive, food processing, wood and paper products, and consumer goods.

This program is offered at UFV's high tech manufacturing labs in Chilliwack, British Columbia. Apply today and start in September or January.



To learn more, visit [ufv.ca/digital-manufacturing](https://ufv.ca/digital-manufacturing)

LEARN HOW TO CREATE,  
PROBLEM-SOLVE, AND EVOLVE

## Digital Manufacturing Diploma



Increase your earning potential by adding this one-year diploma to almost any degree or enter the high tech sector by starting your training with the Electronics Technician Common Core program.

- Acquire the problem-solving skills you need to future-proof your career.
- Learn how to build and operate digital hardware and create technical designs using 3D computer modelling software.
- Customize your education while getting hands-on experience by solving a design problem of your choosing using a variety of techniques that are applicable to any industry.

Apply today and start  
in September or January.

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