



UBC Geering Up  
Engineering Outreach

# ANNUAL REPORT 2022

All youth can succeed in STEM. The only barriers to creative exploration and STEM are the ones we create or ignore. Geering Up is here to knock them down and **unleash the potential in our youth.**

Our mission continues to revolve around bridging the gaps that prevent youth from accessing STEM education and resources. We proactively reach out to equity-deserving & underrepresented groups to give them a pathway to STEM careers and a chance understand the world better and develop curiosity and meaningful relationships. We are here to nurture their love of STEM in a fast-changing world. We are here to future-proof students' minds.

Join us as we train the next generations of STEM learners, engineers, critical thinkers and leaders.

**49.5%**  
girls\* across all programs

We connected with  
**22,082**  
teens & children  
in our programs

**179,860**  
face-to-face  
hours

**37**  
communities  
reached

**621**  
Indigenous  
Youth

**\$60,627**  
in bursaries  
awarded

**137**  
sessions for  
equity-deserving  
groups

**132**  
black youth  
reached

**243**  
Undergrad  
positions

**4,255**  
teachers in our  
programs

un membre du réseau  
A network member of

**actüa**



THE UNIVERSITY OF BRITISH COLUMBIA  
Faculty of Applied Science

# OUR PILLARS

We do what we do at UBC Geering Up Engineering Outreach because every child deserves the chance to learn. However, from financial limitations and a lack of diverse representation to physical distance and marginal support for youth with learning exceptionalities, the reality is that not everyone has the same access to STEM education. Persisting gendered stereotypes and a limited understanding of the breadth of opportunities that STEM offers build even higher barriers.

Through our core pillars, Geering Up aims to address those obstacles head-on. We create opportunities for young students in British Columbia to explore their full potential and for educators to integrate dynamic STEM content in their classrooms.

## In-School Workshops

With our **in-school workshops**, we meet students where they are and take STEM education to their classrooms.

Geering Up's in-school workshops run from January through June. Led by trained instructors, these sessions promote problem-solving and curiosity in STEM fields through hands-on activities and thought-provoking exercises. Students of all levels can participate and be equipped with the tools and knowledge they need to further explore programming, engineering and science.

## Educator Professional Development

Student-centered and quality STEM education begins with our educators. That's why we've continued to invest in our teachers and empower them to understand the impact of their work through the **Professional Development program** and include them on the Geering Up mission to transform the future of education. We work with teachers to we proactively be aware of and counteract personal and societal biases about STEM.

Through Pro-D Days, online courses, summer professional development sessions and conference opportunities, our passionate Pro-D- focused instructors work with professors and the UBC Faculty of Education to share curriculum-compliant STEM activities and ideas for teachers to integrate into their classrooms.



## Summer Camps & After-School Clubs

Students learn best when they're in environments and communities where they can thrive and explore. Our **summer camps** and **after-school clubs** provide a safe place for all students to foster their curiosity, inquiry, and critical thinking with guidance from experienced educators and university students.

With multiple locations, English and French instruction, a variety of STEM subjects and themes and content ranging from elementary to high school grades, our camps and clubs create a sustained pathway of support for young students to feel like they belong in STEM.



## STEM Leadership Program

High school students hold unlimited potential. The **STEM Leadership Program** guides these Leaders-In-Training (LITs) to nurture well-rounded ambassadors who are empowered to lead in their communities and prepared for post-secondary and workforce participation.

No matter what experience level LITs come to us with, we see them through their journey of growth in core skills through workshops, mentorship, work opportunities that scaffold responsibility and community-bridging projects.



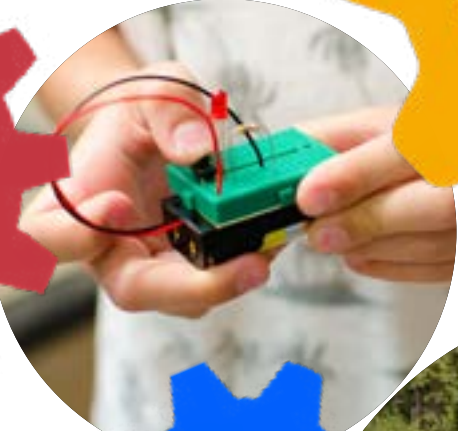




## InSTEM & Outreach

High-impact STEM education should be accessible to all students. We collaborate with community partners to develop relevant and culturally sensitive workshops that serve the underserved and provide STEM programming in rural and remote Indigenous communities.

Our specially-trained Indigenous and Rural Outreach Instructors work with communities across British Columbia to meet kids where they are.



*"This is one of the best Pro-Ds I've had in a long time. It's enjoyable, hands-on, and we did motivational activities that can be used across the curriculum and grade levels."*

— Pro-D workshop teacher participant



*"The combination of Geering Up's student workshops and teacher professional development yields a coordinated and sustainable approach to equip all students in BC with the skills and tools to succeed in STEM careers of the future."*

— Vancouver School Board



# GROWTH & EQUITY

Since our beginnings as a capstone project for UBC Mechanical Engineering student Christine Yeung, Geering Up has grown exponentially while retaining the same DNA of equity- and curiosity-driven STEM outreach.

In 2022, we are proud to have year-round administrative teams across 2 campuses—**UBC Vancouver** and **UBC Okanagan**—to support the Geering Up mission. Our programming reaches far and wide, with both in-person and virtual camps, workshops, clubs and events across British Columbia. Our dedicated student staff, student assistant and teacher teams work with a diverse base of partners to bring STEM education to educators and students wherever they are.

A  
TOTAL OF  
**22,082**  
YOUTH REACHED

**621**  
INDIGENOUS YOUTH

**10,940**  
GIRLS\*

**132**  
BLACK YOUTH

**7,210**  
GO WHERE KIDS ARE  
STUDENTS

in  
**37**  
B.C. communities  
through  
**179,860**  
delivery hours  
across  
**1,667**  
sessions

**20%** of our seasonal staff team's time with Geering Up is set aside for dedicated training! With this training, we're able to upgrade their leadership, teaching and role-specific skills to set them up for success with Geering Up and in their futures.

We supported our programming by recruiting **397** new volunteers. We also drew on the passion and talent of UBC's Undergraduate students by hosting **243** dedicated roles. 2022 also saw an addition of **99** new mentors who focused on cultivating supportive relationships, inspiring their mentees and breaking down obstacles to encourage youth to pursue STEM.

To ensure access to our programming without financial barriers, we awarded over **202** bursaries to student participants and **9** travel busaries for teachers to access our free Pro-D workshops for a total of **\$60,627**.

\* We use the word "girl" inclusively. Trans, genderqueer and non-binary folks belong at Geering Up.



## Indigenous Outreach

Our Indigenous Outreach program proactively involves and collaborates with our community partners to mentor, train and connect Indigenous youth.

The Geering Up, which launched in 2021, continued to support learning, professional development and mentorship for young Indigenous students in BC in 2022. We reached 5 Indigenous student interns—3 of whom graduated and entered into STEM programs in universities, including one who is at UBC!—in 2022 and look forward to working with more.

We've also been working hard to expand Indigenous students' opportunities to interact with UBC. With support from UBC's Indigenous strategic initiatives fund, 2023 will mark the inauguration of Geering Up's Indigenous Pathways Program, which will host indigenous community partners from across the province for a week-long campus immersion experience in the spring and summer.



*"Both Geering Up instructors we had were fabulous to have teach our school about science...They struck up a good relationship with all our kids and fit in with our community."*

*"It is a pleasure to have Geering Up in our school. I hope this can be an ongoing relationship between us and UBC. We need to show our students the diversity in the world, and that education and science can help them achieve the goals they set for themselves here and now and also in the future."*

*— InSTEM partner community school Principal*



## Black Youth Programming x Ethós

In 2022, Geering Up partnered with Ethós Lab in Vancouver to deliver STEM outreach initiatives to Black youth. Through workshops, clubs and events that integrated community and culture with engineering, technology, science and math, we engaged with over 132 Black youth to empower them and provide a fun and familiar way to use STEM skills and thinking in their everyday lives and within their communities and cultures.

*"The Geering Up instructors have such a wonderful impact on the grade 5 - 7 youth who attend our Early Explorers program. Their activities allow the youth to explore STEM in a fun and engaging way whilst inspiring them with their professional and educational careers. These experiences continue to be valuable for Black youth, girls and youth of colour as they begin to see examples and pathways into STEM fields. We truly value growing relationships with Geering Up and are excited for all that's to come."*

*— Kudzi Chitima, Program Manager of Learning and Experiences | Ethós Lab*



# IMPACT



2022 was the year that Geering Up re-launched our in-person programming in full force after nearly 2 years of health and safety precautions borne out of the Covid-19 global pandemic.

The Geering Up team adapted quickly in 2020 and pivoted to online delivery of our workshops, clubs, events, mentorship and training. This mode of programming persisted into 2022, as was evident in portfolios like our Teaching Professional Development program (which saw record-high numbers of participation thanks to our ability to reach teachers across Canada and even past our national borders) and the streamlined, hybridized hiring process that allowed us to hire more like-minded student staff.

Through it all, Geering Up has grown to keep up with the demand for high-quality, relevant and future-proof STEM programming throughout the province.

Our work continues to make an impact on British Columbian communities and our partners. We following testimonials are reflective of their interactions with us.

## BREAKING DOWN BARRIERS

### Parents & Care Providers

*"Your Okanagan team is amazing. I couldn't have done my son's camp application without your manager's help."*

*"Paper work is extremely difficult for me because I have a genetic disorder that affects my connective tissue. Having your support allowed my son to participated in a fantastic program at a rate that we can afford on my disability pension."*



### Students

*"As a grade 12 student struggling with choosing a direction after high school, I cannot thank you enough for the event you put together! It helped me so much to learn about the world of engineering and all the opportunities that come along with it"*

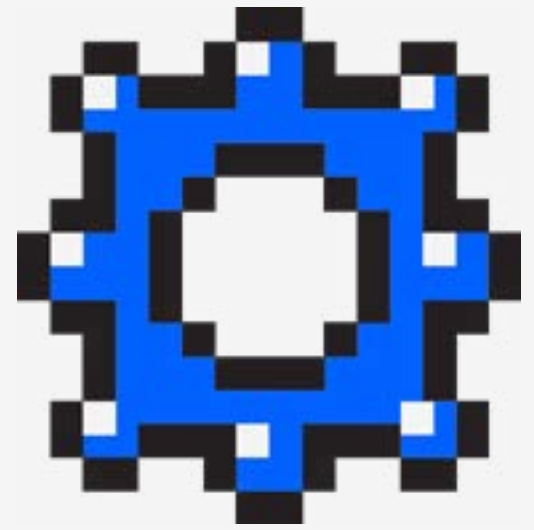
### Professional Development

*"I came into this thinking that STEM was hard to teach, I realized that it isn't, and I look forward to bringing it into my classroom."*

*"Our presenters were clearly knowledgeable, and the fact that it was so hands-on made it engaging and enjoyable. I was already comfortable with bringing engineering/STEAM into the classroom, but I still came out with additional tips and knowledge."*







## Adaptive Integration

*"I went from almost no understanding to wide exposure and enough comfort and cross-curricular connections to get started [in STEM education]. Challenging in the best way!"*



*"Geering Up is one of the only summer camps in the Lower Mainland that provides a welcoming environment for a child with autism to attend with their support worker. Engineering and Science concepts are a great way to build my children's curiosity and enrich their learning abilities—each year my son has attended Geering Up, we notice his language increases along with his understanding for the world around him. Also, the Integration Support Team at Geering Up is incredible and have really helped our family (especially my daughter) feel like [my son] is accepted, understood and supported in such a wonderful STEM summer camp environment."*



*"[Our teacher candidates] have commented that, without these opportunities [from Geering Up], they may not have felt as prepared to incorporate STEM and ADST learning in their own teaching."*

— UBC Faculty of Education



## SPARKING PASSION FOR STEM

### Volunteers

*"Being part of the STEM Leadership Program introduced me to like-minded people and to the range of possibilities within engineering for everyone. I would highly recommend this program for anyone hoping to make valuable connections and gain a better understanding of what working in STEM is really like."*

### Parents

*"My child comes back excited, pleased with the activities and looking forward to next week... Great work."*

*"Thank you for all you do. My child is growing and trying to learn more. Hopefully they get more opportunities to your program at Ethos."*



## CHAMPIONING EQUITY, DIVERSITY, REPRESENTATION, & INCLUSION

### Indigenous Communities

*"We've worked with Geering Up for the past 5 years in-person and online. Our students had fun and impactful STEM learning experiences. Geering Up is helping break down barriers to entry for Indigenous youth in STEM."*

*"Our school has worked with Geering Up for 8 years and seen their exceptional STEM programs firsthand. They encourage students to engage with emerging technology and establish core understandings that will help them succeed. The innovative programs create a positive space for kids to see themselves as scientists and engineers in the future."*

### Volunteers

*"Our students were seeing themselves in the science."*

*"Geering Up's values resonated with me so much that after last summer, I was inspired to start my own STEM outreach program at my school."*

**We do what we do because it makes an impact.** Because it invests in education and educators. Because it shows curious children that they belong in STEM. And because it transforms young minds and empowers students to wonder about the world around them, and we can't wait to see how our youth will transform the future. **Follow us on our journey as we GEER UP in 2023 and beyond.**



# 2022 ACTUA NATIONAL FUNDERS

Canada 

