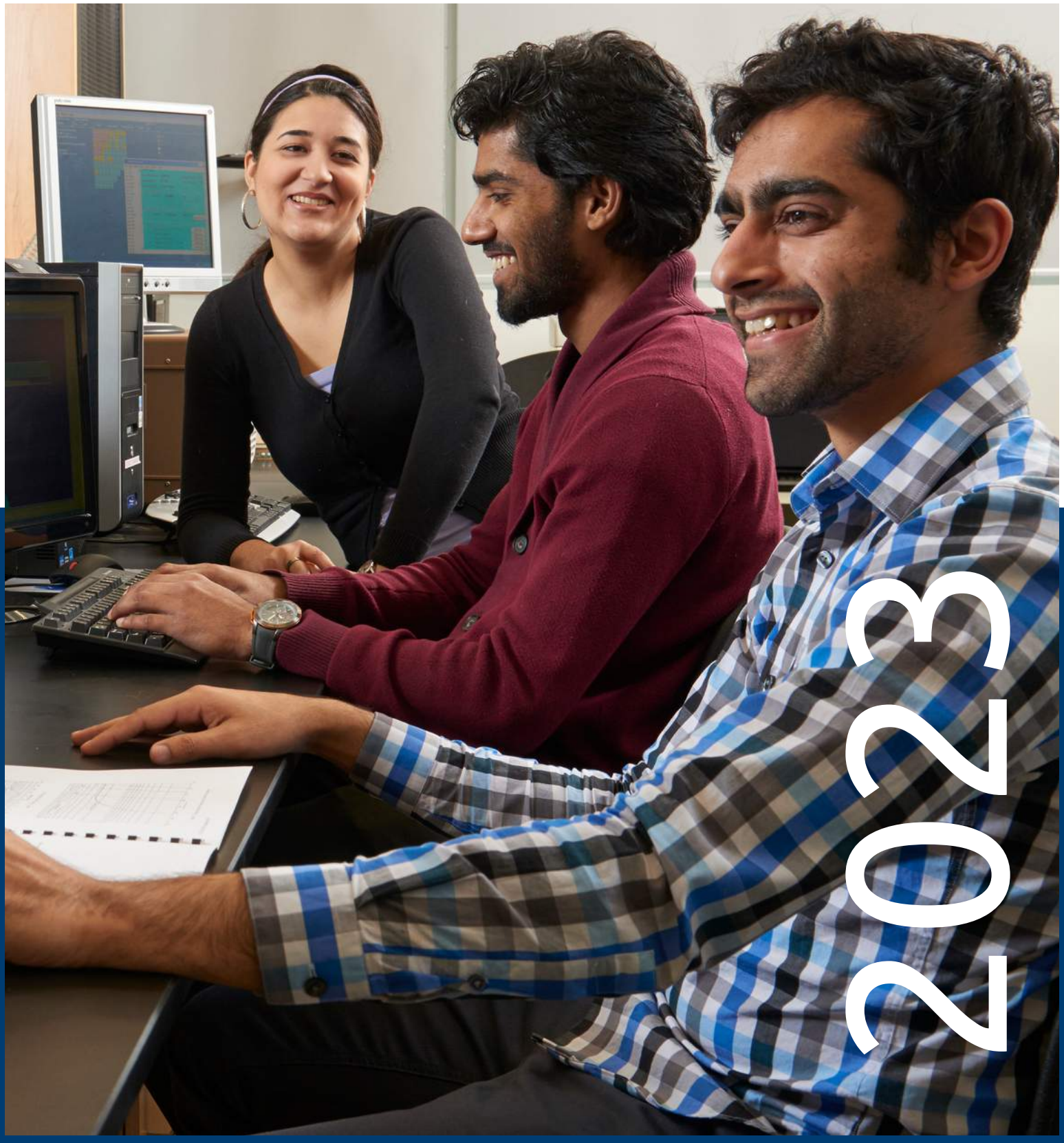
Engineering Co-op
Annual Report

OntarioTech Engineering & Applied Science



Welcome to our Annual Report.

All Engineering programs at Ontario Tech University include co-operative (co-op) education opportunities providing students with transformative learning experiences by alternating study semesters with relevant paid work terms with employers. From January to December 2023, 338 of our Engineering students completed a co-op work term or an internship (several co-op work terms back-to-back) with 135 employers. Thank you to the employers and trusted partners for providing meaningful work experiences to our students – we look forward to our annual Employer Appreciation event in February.

Students love the co-op education model because it allows them to develop tangible skills employers are looking for, gain valuable work experience while pursuing their undergraduate degree, and earn money to offset the cost of education. Our co-op stream is flexible and designed to provide students with a variety of work-integrated learning co-op opportunities.

One of the events we organize during the Fall semester is the Reverse Career Fair where students showcase their projects to employers. In 2023, the event attracted 66 companies with 175 attendees who interacted with over 230 Engineering students. If you would like to learn more about our co-op stream, advertise jobs for our students, or attend our 2024 Reverse Career Fair, please contact us.

We invite you to explore our Engineering co-op programs and attend our next Reverse Career Fair on October 2, 2024.

Hossam Kishawy, Ph.D., P.Eng.
Dean - Faculty of Engineering and Applied Science

Qusay H. Mahmoud, Ph.D., P.Eng.
Associate Dean - Experiential Learning & Engineering Outreach

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Engineering Programs at Ontario Tech University

Our engineering programs are designed to prepare students to meet industry needs. All of our Engineering programs have a Co-op stream.

- Automotive Engineering
- Electrical Engineering
- Energy Engineering
- Industrial Engineering
- Manufacturing Engineering
- Mechanical Engineering
- Mechatronics Engineering
- Nuclear Engineering
- Software Engineering

To learn more about our Engineering at Ontario Tech University, please visit engineering.ontariotechu.ca

"My experience at H2O Power was a great step towards becoming the professional engineer I aspire to be and be a leader in the renewable energy sector."

Advice: "Take any opportunity you get on the job. Try to work and ask advice from as many people to gain the most knowledge from experienced professionals."

Alanna MacLean
Mechanical Engineering
4-month co-op | H20 Power

Co-op Work Term Submissions

At the end of each co-op term, students are required to submit an employer evaluation along with either an in-progress report or final report. In 2023, there were two changes made to the submission guidelines:

- The PEO (Professional Engineers of Ontario) guidelines changed to a Competency Based Assessment. The student report submissions now describe the experience gained in areas of Technical Competence, Communication, Project and Financial Management, Team Effectiveness, Professional Accountability, Social, Economic, Environmental and Sustainability, and Personal Continuing Professional Development
- Generative AI and ChatGPT guidelines were added to educate students on the proper use of these tools

Once students have submitted the employer evaluation and report, Engineering faculty review, provide feedback, and grade the reports in a Pass/Fail format.

George Mikhaiel
Mechatronics Engineering
4-month co-op |
Clearwater Structures Inc.

“During my co-op, I had the opportunity to learn and develop several valuable skills. These included circuit design, where I gained proficiency in designing electronic circuits. I also honed my skills in microcontrollers, which are essential for controlling various aspects of the robotic crawler. Additionally, I learned how to work with relays, which are crucial components for automation and control systems. One of the most rewarding experiences was integrating old legacy systems with new modern Ethernet systems, which enhanced my ability to bridge the gap between traditional and cutting-edge technologies. These skills have not only expanded my technical expertise but have also provided me with a holistic understanding of electronics and systems integration, which I believe will be invaluable in my future career.”

Preparing our Students for the Workplace

The preparatory co-op course Professional Competencies for Engineers was offered in Winter 2023 and Fall 2023 terms. This course is designed to prepare students for the workplace and is completed by students prior to beginning their first co-op work term.The course serves as an introduction to professionalism and covers topics related to the job market, such as communication, social and cultural diversity, creativity and innovation, networking and interviewing. We will be offering this course in the spring semester as well going forward.

Students were surveyed at the end of the course and noted that these were the most useful or valuable aspects they learned:

- Pieces of advice from actual students/professors.
- The check-in quizzes throughout the modules helped to reinforce the things taught.
- The most valuable aspects of the co-op prep course were the practical skills and knowledge related to resume building, interview preparation, and networking strategies. These tools and insights were directly applicable to securing a successful co-operative education placement and will continue to benefit me in my future career pursuits.
- The most valuable aspect of this course was learning how to network. Knowing people is one of the most important things when it comes to finding a placement, so being smart about networking is always helpful.
- I found the cover letter and resume aspect part of the course very valuable. I was able to improve my resume and cover letter creation skills.
- Understanding the different types of interviews, how to answer questions, how to write a resume and cover letter, making a LinkedIn profile, networking and understanding the hiring industry.
- The modules were designed in such a friendly manner that it was really easy to grab the knowledge that was delivered to us. Also knowing about our rights at the workplace was quite helpful as I did not know about any of these before.

Co-op in Numbers

587
work terms

were completed by Engineering students this year: **51** co-op work terms (4-months duration) and **536** co-op internship work terms (8-, 12-, or 16-months duration).

338
students

completed a co-op in 2023.

135
employers

hired Engineering students for co-op positions.

447
students

completed the Professional Competencies for Engineers (ENGR1000W) course. **129** in the Winter 2023 semester and **318** in the Fall 2023 semester.

66

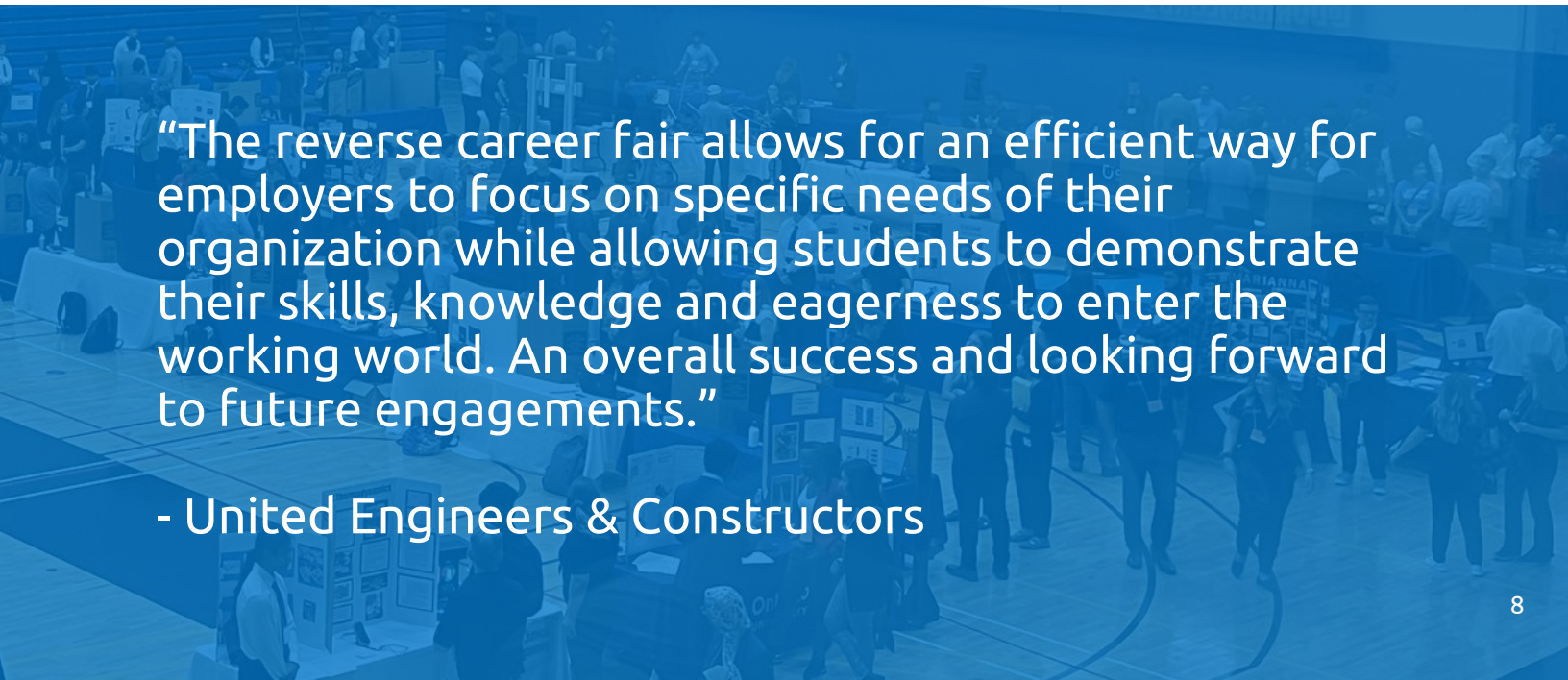
unique industry partners attended the Reverse Career Fair.

347

unique co-op positions were completed by students in 2023

232 students

in engineering attended the Co-op and Internship Reverse Career Fair. This includes students interested in co-op/internship or new graduate opportunities.



"The reverse career fair allows for an efficient way for employers to focus on specific needs of their organization while allowing students to demonstrate their skills, knowledge and eagerness to enter the working world. An overall success and looking forward to future engagements."

- United Engineers & Constructors

2023 Co-op Stats

- Students participated in a total of **587 co-op work terms** in 2023. Figure 1 shows a breakdown of work terms completed by program.

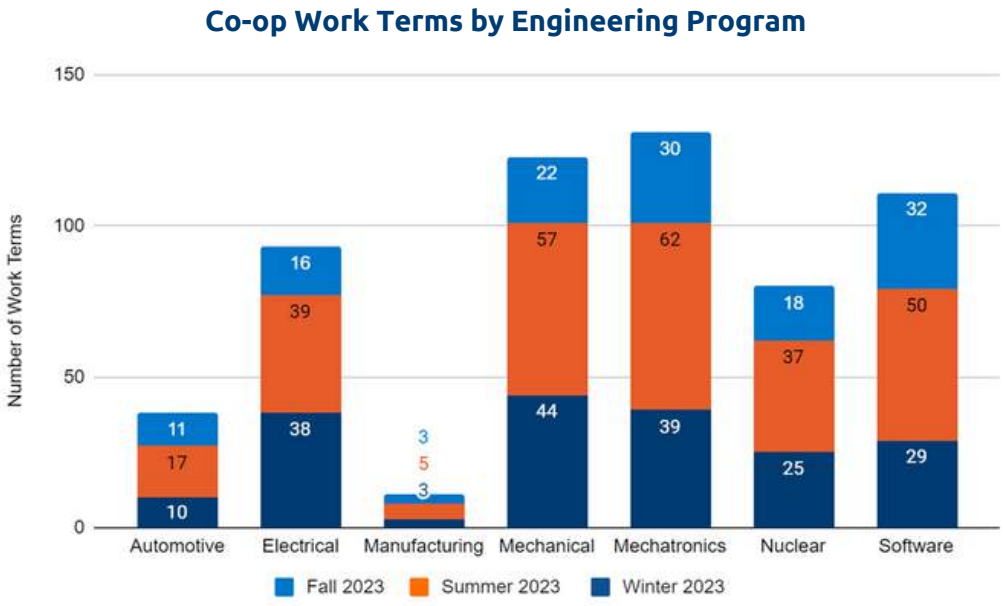


Figure 1: Summary of co-op work terms completed by engineering program.

- Students participated in a total of **347 unique co-ops** with employers. Figure 2 displays a summary of co-op positions by duration.

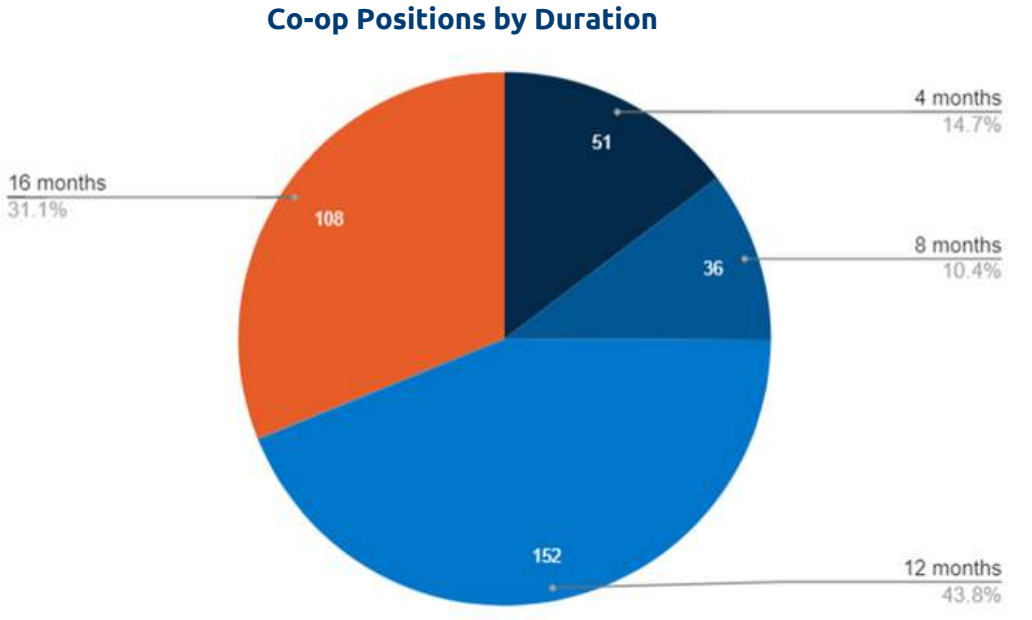


Figure 2: Summary of co-op positions by duration

2023 Co-op Stats

- Figure 3 shows a **summary of co-op positions completed** by program and duration.

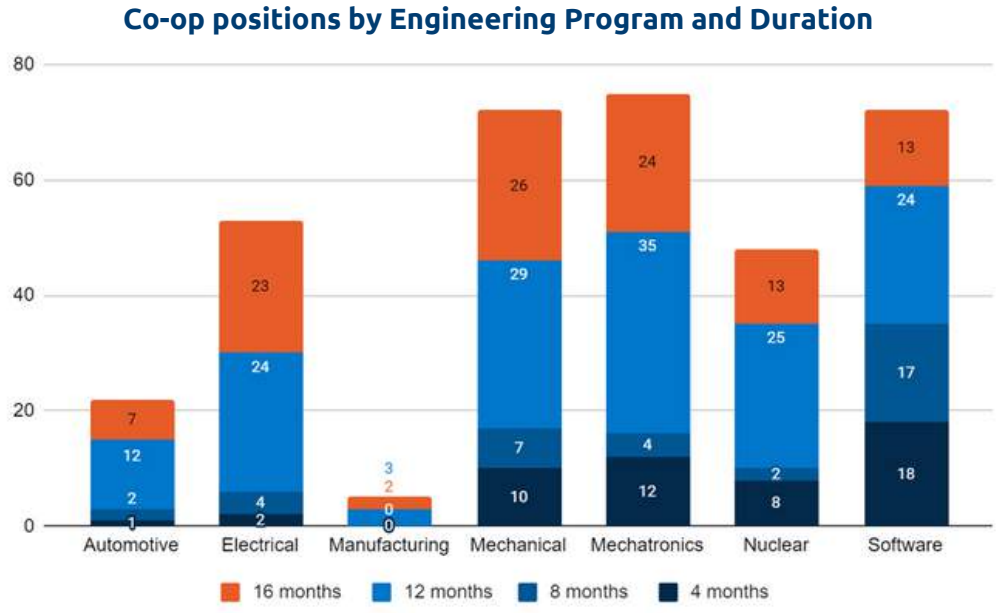


Figure 3: Summary of co-op positions completed by engineering program and duration

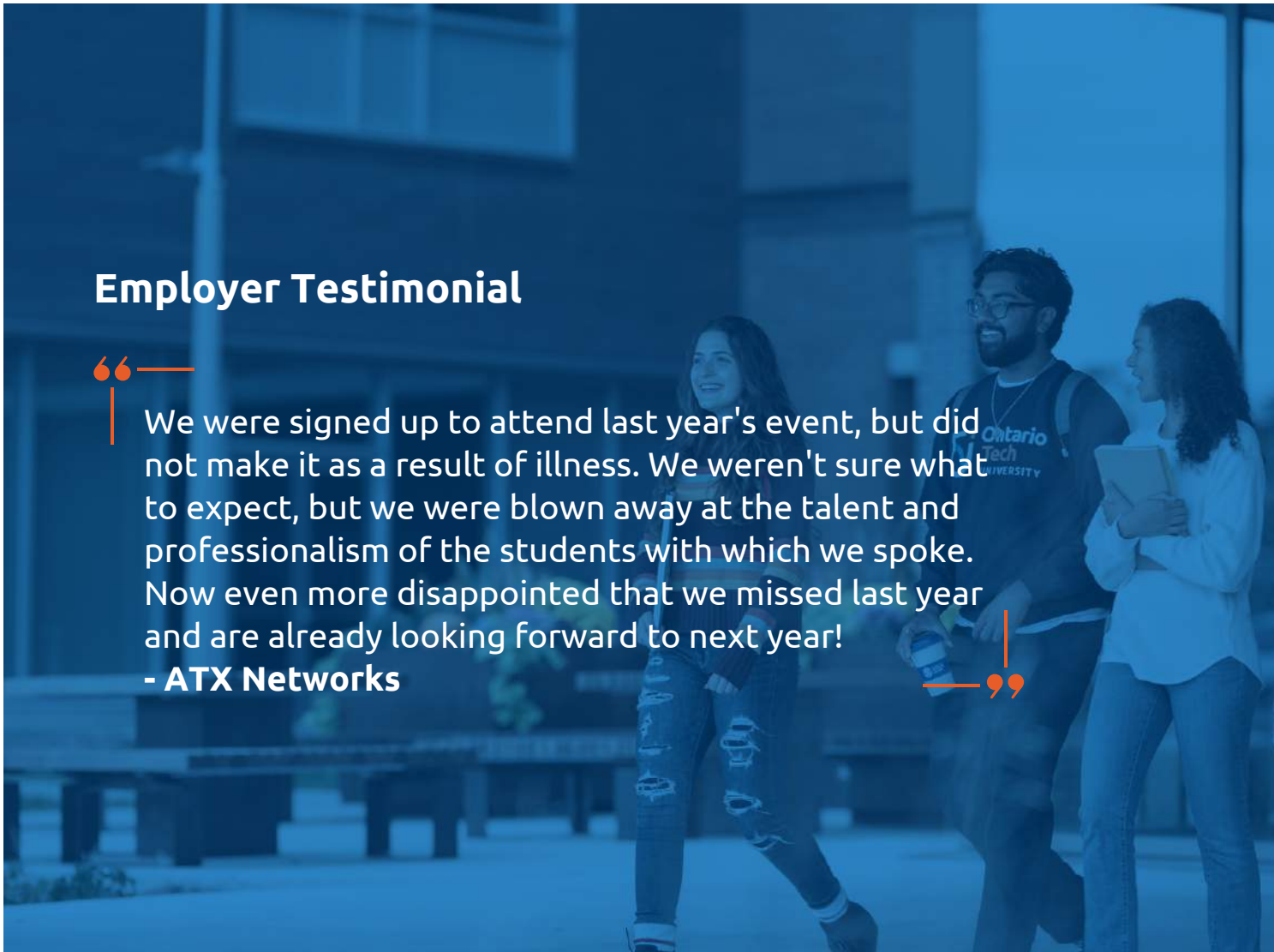
Tanish Singla
Software Engineering
4-month co-op | Siemens

"My experience exceeded my initial expectations in every aspect. I began my journey with apprehension, uncertain about how I would transition into a professional work environment. I was concerned about how I would communicate with experienced team members and how I would navigate tasks with limited experience in a similar field. However, to my pleasant surprise, all these concerns dissipated within the first week itself. I found myself in an incredibly supportive environment where my team members welcomed me warmly and provided the necessary guidance. The inclusive atmosphere and their willingness to share knowledge and support me in my learning process made me feel right at home. Consequently, my initial fears transformed into a sense of comfort and confidence. This supportive atmosphere not only facilitated my professional growth but also made my overall experience exceptionally rewarding and enjoyable."

Events

A variety of workshops and events were offered by our team and the Career Centre for students to explore opportunities and develop their skills:

- Co-op Drop-in Sessions and 1:1 Student Appointments
- Employer Information, Networking, and Recruitment Sessions
- All About Co-op Workshops
- Co-op Panel and Networking Event
- Co-op Success Workshops
- Resume and Cover Letter, Interview, Networking, LinkedIn, Presentation, and Job Search Workshops
- Ontario Tech and Durham College Job Fair
- Reverse Career Fair Prep Session
- Reverse Career Fair



Employer Testimonial

> We were signed up to attend last year's event, but did not make it as a result of illness. We weren't sure what to expect, but we were blown away at the talent and professionalism of the students with which we spoke. Now even more disappointed that we missed last year and are already looking forward to next year!
> **- ATX Networks**

The Reverse Career Fair

The Reverse Career Fair is an annual event at Ontario Tech University in the month of October. It is our largest co-op event and a valuable opportunity for students to showcase their skills, passions, and experiences to employers. The Reverse Career Fair is for students seeking a co-op role as well as students who are applying for new graduate opportunities.

At this unique job fair, it is the students who represent themselves at booths while employers circulate the room. Students often display projects they have worked on to showcase their talents and aspirations. The fair is a fabulous opportunity for employers to meet students to recruit talent and for students to make professional connections, discover employers, and gain networking experience.

On October 4, 2023, 66 industry partners including 175 individual employers attended our Reverse Career Fair and connected with students from the Faculty of Engineering and Applied Science and the Faculty of Science (Computer Science and Applied & Industrial Mathematics programs only).

Results of Employer Survey

- 100% of respondents met with students they were interested in recruiting
- 90% of respondents indicated they would be interested in additional opportunities to engage with Ontario Tech talent this year in person or virtually
- 97.5% of respondents would attend the Fair in the future

Results of Student Survey

- 90.7% planned to follow up with at least one of the companies they interacted with
- 83.7% agreed that participating in the event helped them to better understand how the skills they are learning in the program will apply in the job market

Save the Date!

We will be hosting this year's Reverse Career Fair on October 2, 2024. If your organization is interested in participating, please contact careercentre@ontariotechu.ca

Why Participate in the Co-op Program?

Students not only get the opportunity to learn practical skills through the co-op program, their experiences also help them secure employment upon graduation. Here are some students who participated in co-op, gained valuable work experience, and are now working!

Alumni Testimonials

Tayeeba Tarannum

12-month internship | Bruce Power
Graduate position | Atkins Realis (SNC-Lavalin)

"Key advice for co-op students and graduating students: do not underestimate your resume. Keep it concise focusing on capstone and coursework projects, plus internship experience. Record your primary responsibilities during your co-op or internship to ensure you recall them during interviews before or after graduation.

Ontario Tech's co-op program helped prepare my first resume, paving the way for internship success and early job offers before graduation, despite average grades. Possessing pre-graduation work experience gives you a competitive edge, so have confidence in yourself; you will eventually attain your desired position."

Mohammad Minhal Syed

8-month co-op | Canada Revenue Agency
4-month co-op | TD Bank Group
Graduate position | TD Bank Group

"Have a really strong understanding of core data type concepts and how to manipulate them in a variety of ways. Many of the problems we face at work are simple if we have the right approach and very tedious with the wrong one."

Sadman Hasan

16-month internship | Magna Exteriors Inc.
Graduate position | Schaeffler Group Canada

"Learn the most you can in your internships. Make as many friends as possible and be open to trying new things, you never know how much you can learn from them."

“My experience at Toyota Canada Inc. went above and beyond my expectations. Contrary to my prior belief, my team at Toyota and all those in higher positions too, treated me as a part of the team and as a fellow employee who was completely capable of doing exactly what they themselves were doing. My manager really emphasized the fact that I was capable of achieving anything that others at the company were doing and helped me reach my potential, and he always encouraged me with all my tasks. As the only female on the development engineering team, he ensured that I understood that I could accomplish just as much as my male colleagues.”

Aisha Sarwar
Mechanical Engineering
16-month term | Toyota Canada Inc.

In Summary

The Engineering Co-operative Education program is mutually beneficial for both students and employers. Experiential learning through the co-op program allows students to develop tangible skills and work experience while pursuing their undergraduate degree. For employers, co-op students can be a valuable addition by bringing enthusiasm and new ideas to your team.

We are excited for the future as our Engineering Co-op Program continues to grow; we look forward to continuing to support students and employers by offering co-operative education experiences.

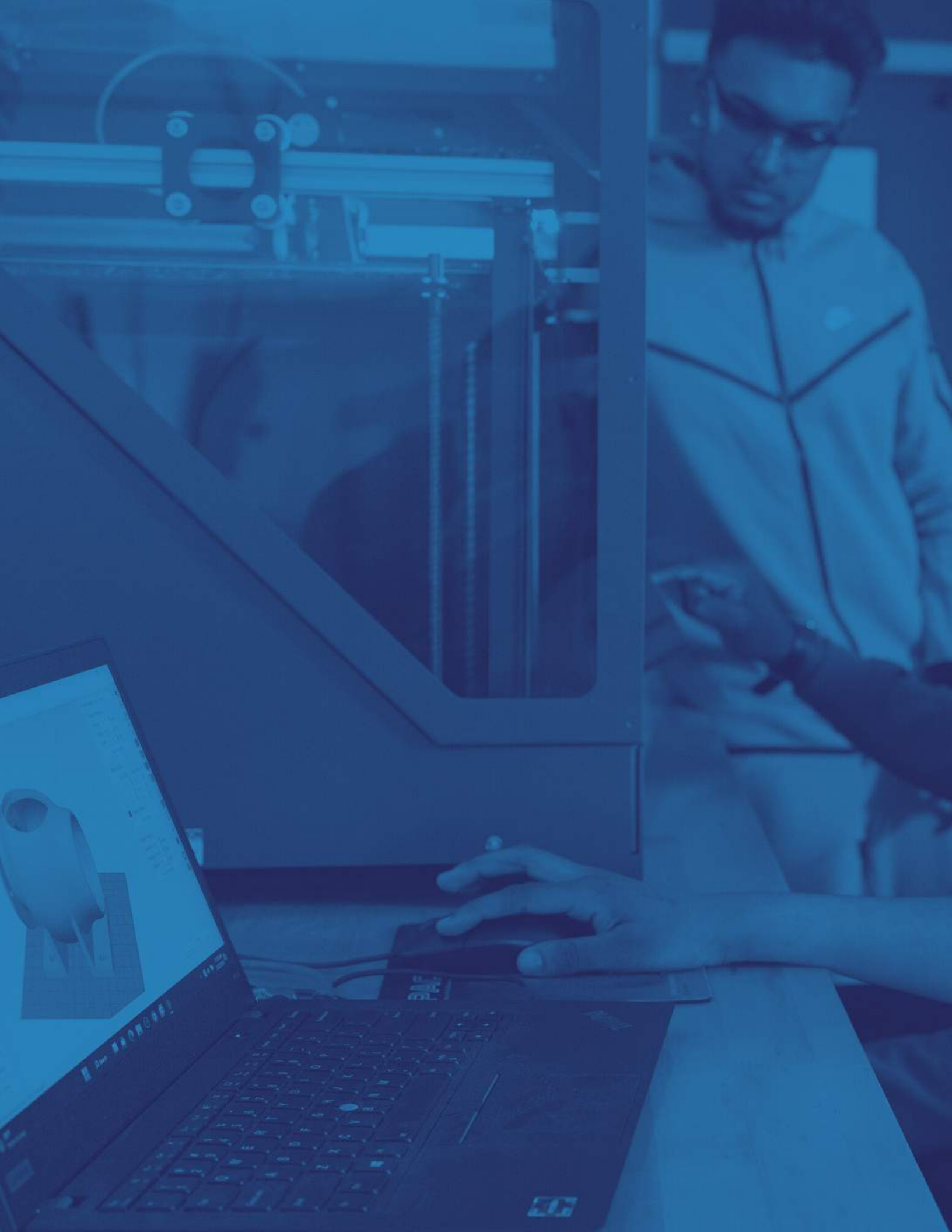
Appendix

List of Employers for January 2023 – December 2023

The following is a comprehensive list of all the employers who hired students throughout the year.

ABC INOAC Exterior Systems
Aecon Nuclear
Alectra Utilities
AMD
AtkinsRéalis
ATS Automation
Bell Canada
BlackBerry
Bluewrist Inc.
BMW Group
Bombardier Inc.
Bruce Power
Calian Ltd.
Cameco
Canadian Nuclear Laboratories
Canadian Nuclear Safety Commission
CBC
Celestica
CertainTeed-Saint-Gobain
Children, Youth & Social Services I+IT Cluster
CIBC
Circle of Care Sinai Health
Clean Valley Bio-Filtration Technologies
Clearwater Municipal Services Inc.
Coca Cola
Coconut Software
Coordinate Industries Ltd.
CSA Group
Curtiss-Wright Nuclear Canada
Custom Plastics International
DD MAC Electric
DELL Canada
Dream Payments Corp.
E.S. Fox Ltd.
Enbridge
Evertz Microsystems Ltd.
FAST Enterprises LLC
Fermi Solutions
FIO Automotive Canada Corporation
GE Power Portfolio
General Motors
Gerdau
GGNB Engineering Ltd.
Globotech
GOT-Global Outsourcing Team (Canada) Inc.
H20 Power
Hatch Ltd.
Honda
Hydro One
Hygienic Echo Inc.
i3 International
IBM
Invista
Johnson Controls

Kinectrics
KOCH
Kratos Antenna Solutions
K-Tek Electro-Services
Kubota Canada Inc.
Linamar
Lincoln Electric
Lockheed Martin Canada
MacDonald Dettwiler and Associates Ltd.
Magna
Martinrea International Inc.
MCW Consultants Ltd.
Ministry of Public and Business Service Delivery
Modern Niagara
MPAC
Multimatic Ride Dynamics
Multimatic Technical Centre
Napoleon
Next Structural Integrity Inc. (NSI)
Nova Metrix Ground Monitoring Canada Ltd.
NPX Innovation
Ontario Health
Ontario Power Generation
Ontario Tech University
Oshawa PUC Networks Inc.
Pepsico Foods Canada
Prévost Volvo Group
Prodomax Automation
PWC
Quasar Consulting
RBC
Royal Automotive Group Ltd.
Safe Roads Research & Development
Safran Landing Systems
Sanofi Pasteur
Savage Arms Canada Inc.
Scotiabank
Siemens Energy Canada Limited
Signify Canada Ltd.
Skye Automation
Sonoco Flexible Packaging
Stack Teck Systems Limited
Stackpole International
SunLife Assurance Company of Canada
SunLife Financial
TC Energy
TD Bank
Tesla
Tetra Tech Canada Inc.
Thales Canada Inc.
The Regional Municipality of York
Thermo Fisher Scientific
Toronto Hydro
Toyota
Trojan Technologies
United Engineers & Constructors, Inc.
Vale Canada Ltd.
Veoneer Canada Inc.
VR Mechanical Solutions Inc.
Wabtec Corporation
Westinghouse
Wiz Robotics
Xenonix



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