William McMaster

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Highlight of Qualifications

- Enrolled in level 3 of McMaster University's Materials Science & Engineering Co-op Program, **eligible for 4-, 8-, 12- and 16-month co-op** placements starting May 2027
- Demonstrated experience in research, design and manufacturing of wide variety of materials through internships and project work
- Strong computational modelling ability shown in industry and extracurricular activities
- Proven teamwork and communication skills shown in all collaborative experiences

Education

Bachelor of Engineering Co-op (BEng) | *Materials Engineering* **2024 – 2029**

McMaster University

- Awarded Dean's List Award every academic year by maintaining GPA above 9.5/12

Experience

Hydrometallurgy Intern | *Hatch Ltd., Mississauga ON* **May - Aug 2026**

- Improved process design efficiency by 25% by developing mass and energy balances, preliminary equipment sizing, and simulation data interpretation for 3 international mining projects using Excel
- Supported multi-disciplinary engineering teams in creating test work programs and cost estimates, demonstrating adaptability, communication and teamwork
- Authored 7 technical reports and design documents, enhancing project documentation quality and supporting successful client presentations
- Applied thermodynamics and heat/mass transfer principles to optimize metals extraction processes (e.g., copper, nickel), reducing projected operational costs by 10% in one case study

Polymer Engineering Intern | *ABC Technologies, Burlington ON* **May - Aug 2025**

- Conducted synthesis and characterization of polymers, contributing to the development of smart materials for medical and consumer applications
- Designed and executed 10+ independent experiments, optimizing polymer formulations and improving material performance by 25% based on thermal and mechanical testing
- Utilized analytical tools (e.g., FTIR, DSC, TGA) to evaluate structure-property relationships, informing product development decisions
- Collaborated with the Material Development Team to present weekly technical findings, highlighting communication ability in professional settings

Projects

Advanced High-Strength Steel (AHSS) Process | *Course Project* **Sept 2026 - Mar 2027**

- Engineered a continuous annealing and galvanizing line (CAGL) for third-generation AHSS, integrating thermomechanical processing and inline quality control
- Modeled heat treatment profiles using MATLAB and COMSOL Multiphysics, optimizing phase transformation kinetics to improve tensile strength by 18%
- Simulated plant layout and material flow in AutoCAD, reducing projected bottlenecks and achieving a 22% increase in throughput

Extracurricular Activities

Team Member | *McMaster University Steel Bridge Team* **Oct 2026 – Present**

- Performed material selection for a 20+ ft steel bridge, optimizing alloy choice and heat treatment to improve strength-to-weight ratio
- Conducted mechanical testing (tensile, hardness) to validate weld integrity and joint performance under load conditions
- Collaborated with teammates to ensure all components integrated with each other in the final prototype, showing attention to detail
- Collaborated with team-members to fabricate and assemble the bridge, highlighting teamwork and communication skills in interdisciplinary settings

Academic Tutor | *McMaster Materials Engineering Society* **Nov 2026 – Present**

- Planned weekly practice for students to match with their courses' content, highlighting attention to detail and organizational skills
- Generated discussion questions to stimulate topic conversations between students and maintained records of students' progress in a secure and confidential manner
- Recommended useful resources such as textbooks and other learning materials that aided the students in their learning, demonstrating resourcefulness

Skills & Certifications

Software: Python, MATLAB, Simulink, COMSOL, AutoCAD, ANSYS, Excel, GRANTA EduPack, Autodesk Inventor, MS Office, GSuite

Lab Skills: Metallography (cutting, mounting, & polishing samples), microscopy, tensile & hardness test, 3D printing, machining (waterjet cutting, lathing, milling, & welding)

Professional Certifications:

Standard First Aid with CPR-C - *YMCA of Greater Toronto* *June 2026*

WHMIS Training Certificate (Online) - *Canadian Safety Training Centre* *September 2025*