



Capstone Engineering Academy
Education Plan
2023- 2026

**Capstone Engineering Academy
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A Message from the School Owner/CEO – Mr. Dean White, P.Eng.

The 2023-2024 school year will continue to be a building year filled with developing new STEM education curricula, and expanding partnerships with schools and organizations in Calgary, Alberta, and throughout Canada.

Our partnership with Roots 2 STEM provided both financial support and years of experience teaching the Calgary community to help the school take its first step to becoming an independent accredited-funded school. For this coming school year, Roots 2 STEM will continue to provide use of their Lab of Discovery, lab equipment, and instructors. Capstone Engineering Academy will continue to use this stepping stone to build the school to continue to be Calgary's best Technology and Engineering focused distance education school.

2022-2023 was a year of considerable growth for Capstone Engineering Academy. We went from having no students in September to enrolling 257 nonprimary students for the school year. Partnerships with schools interested in Capstone delivering Engineering and Technology to their students led to additional schools requesting our services for the 2023-2024 school year. With an increase in nonprimary students, Capstone has hired two full-time certificated Alberta teachers for this coming school year. These teachers have exceptional educational backgrounds in Civil Engineering, Computer Science, Astronomy, and Physics. In addition, we have also hired an Instructor with degrees in Aeronautics and Aerospace engineering. To ensure our Engineering and Technology curricula continues to expand and develop a Program Director with extensive knowledge in curriculum development has been hired which with a recent purchase of Atlas, a leading curriculum management system, will ensure Capstone Academy will continue to remain the leading Engineering and Technology school in Alberta.

We look forward to this new year.

Best wishes,

Dean White, P.Eng.
CEO & Founder
Capstone Engineering Academy

Accountability Statement

This Education Plan for Capstone Engineering Academy commencing August 30, 2023, was prepared under the direction of the Board of Directors in accordance with the responsibilities under the *Private Schools Regulation* and the *Education Grants Regulation*. This Education Plan was developed in the context of the provincial government's business and fiscal plans. The Board has used its performance results to develop the plan and is committed to implementing the strategies contained within the plan to improve student learning and results.

The Board approved this Education Plan for 2023/2024 to 2024/2026 on October 25th, 2023. The report was submitted to Alberta Education on October 11th, 2023, and was also posted to the school's website.

<https://capstoneacad.ca/wp-content/uploads/2023/12/Capstone-Education-Plan-2023-2026-oct-25.pdf>

(original signed)

Eeva White
Board Chair
Capstone Engineering Academy

A Profile of the School Authority

Capstone Engineering Academy is a school with a different approach to classroom learning with more experiential learning and solution-based education. Going from the classroom to the laboratory to the real world.

Capstone Engineering Academy is a unique, inclusive Technology and Engineering classroom and laboratory workshop for students. The school adheres to the Alberta Education curriculum with the core CTF and CTS Program of Studies while focusing on the hands-on learning that Technology and Engineering education provides.

Capstone Engineering Academy is an independent accredited funded school with advanced experiential education. The school provides a safe and collaborative environment where students can discover technology, and engineering in everyday life contexts. Our Lab of Discovery weaves creativity and innovation through learning what are typically regarded as “the tough subjects”.

Capstone Engineering Academy’s program teaches young people to build Technology and Engineering skills by applying ingenuity and talent to tough Technology and Engineering challenges. Technology and Engineering are much more than subjects but embody a philosophy of how we approach everyday problems. Our curriculum is based on the idea of educating students in these two major disciplines in an interdisciplinary and applied approach. Capstone Engineering Academy integrates Technology and Engineering into a cohesive learning structure based on real-world applications.

Capstone Engineering Academy’s vision is to challenge youth with Technology and Engineering at a young age so that they have greater opportunities to explore their individual interests and potential while understanding the variety of Technology and Engineering related careers.

The need for inspiring students in Technology and Engineering education has never been greater.

“Less than half of Canadian high school students graduate with senior STEM courses, although 70 per cent of top jobs require expertise in science, technology, engineering and math.”

Report by Let’s Talk Science - The Globe and Mail

Not only are youth learning about Technology and Engineering too late, current Technology and Engineering programs and curriculum in all types of educational organizations are not adequate to meet the needs and desires of today’s youth in relation to STEM learning.

The demand for skilled people in the Technology and Engineering areas is growing and will continue to do so. Canada currently is unable to fulfill 165,000 technology jobs due to the lack of trained people. Capstone Engineering Academy programs are the foundational steps to help meet future gaps, positioning young people to succeed on a global platform and to work in the STEM field of their choice.

In addition to STEM technical learning, Capstone Engineering Academy's unique approach through hands-on experiential education combined with the utilization of the Science Testing Process and the Engineering Design Process leads to the development of vital 21st Century technical and non-technical skills and dispositions:

- collaboration
- creative problem-solving and solution making
- confidence and courage to work through the unknown
- critical thinking
- a growth life-long learning mindset
- leadership, mentoring, global citizenry

STEM is a Way of Life

Capstone Engineering Academy offers students a look at the different sciences, technologies, and engineering disciplines. A Technology and Engineering career is a long journey, and our approach allows students to make mistakes and learn what works and what does not in a safe and innovative environment. Students soon learn that mistakes can be made but it is what we learn from them that counts.

Education Plan

I. Education Plan Outcomes, Measure, and Strategies

A. Student Growth and Achievement

Ensuring students engage intellectually and grow continuously as learners, in a way consistent with their individual learning needs, interests and aspirations.

KEY STRATEGIES	MEASURES
<ol style="list-style-type: none"> 1. CEA Student and parent/guardian satisfactory Surveying – teaching methods, available resources, and curriculum. (beginning/middle/end of course) 2. Teachers’ lesson plans will include open inquiry questions that will engage broad thinking in students. At the end of each unit, students will be given an open-inquiry essay question on the unit subject. 3. All lesson plans are built upon a low floor/ high ceiling methodology, so all students can achieve personal development from the start and end of the course. 	<p>Local Measures</p> <ol style="list-style-type: none"> 1. Receive an average of 80% or higher on CEA Student and Parent/Guardian satisfactory survey. To confirm that CEA is catering to individual needs, interests, and aspirations. 2. Students' responses to open-inquiry questions will use the knowledge that was taught in the unit. Through the 2023/2024 school year, CEA administration will provide continuous professional development to teaching staff on integrating appropriate open-inquiry questions into their lesson plans. 3. Teachers will develop rubrics that outline the key components of the “low floor/high ceiling” methodology. Rubrics will be developed by November 2023.

B. Teaching and Leading

Ensuring that all leaders and staff demonstrate excellence in advancing student success.

KEY STRATEGIES	MEASURES
<ol style="list-style-type: none"> 1. The curriculum progressively builds upon skills, knowledge, and understanding throughout each course. 2. The Program Director meets with teaching staff to review program expectations and ongoing development 3. The principal does ongoing classroom observations. 4. CEA offers educators and administration more competitive compensation packages, including higher salaries, health benefits, and opportunities for professional development. 	<p>Local Measures</p> <ol style="list-style-type: none"> 1. CEA will administer a pre - assessment at the beginning of each course to gauge students' prior knowledge and skills. Then, administer post - assessments at the end of each course to measure what students have learned and how their skills have developed. 2. The Program Director documents progress in teachers' growth throughout the school year. structured questions provide the admin team the opportunity to compare staff growth and areas of improvement. 3. The principal does biweekly formal and informal classroom visits to provide teachers and instructors with feedback. 4. CEA reviews and compares on a yearly basis, our compensation packages to other local schools/school divisions, to make sure staff is receiving market value.

C. Learning Supports

Establishing a learning environment where local and societal context is recognized, diversity is embraced, a sense of belonging is emphasized and all students are welcomed, cared for, respected, and safe.

KEY STRATEGIES	MEASURES
<ol style="list-style-type: none"> 1. Embed FNMI (First Nations, Metis, Inuit) foundational knowledge in Capstone’s identity. 2. Establish a safe space environment in all teaching spaces. 3. CEA will encourage potential candidates of FNMI background to apply for all roles throughout the school year. 4. Survey staff on how they are implementing FNMI knowledge in their teaching. 	<p>Local Measures</p> <ol style="list-style-type: none"> 1. CEA will create and use land acknowledgment at the beginning of ceremonies, lectures, or any public events. 2. By May 2024, CEA will implement a range of policies and practices to provide a safe and welcoming for all participants and staff. 3. CEA will actively promote career postings at post-secondary institutions and provide indigenous programming, as well as local indigenous organizations. 4. We will enhance our understanding of First Nations, Metis, and Inuit cultures by actively seeking out programs and experiences offered by local Elders and Indigenous educators and businesses. The administration team will document what teachers are teaching for FMNI in classrooms and make sure it aligns with Truth and Reconciliation.

D. Governance

Stewardship of resources with an emphasis on student success, generative community engagement, transparency, and accountability.

KEY STRATEGIES	MEASURES
<ol style="list-style-type: none"> 1. CEA will follow proper accounting procedures 2. CEA staff will implement unconscious bias training in its staff PD. 3. CEA will form a (PSA) Parent Support Association to engage its parent community. 	<p style="text-align: center;">Local Measures</p> <ol style="list-style-type: none"> 1. Yearly accounting audits 2. Administration with experts in the field will develop by February 2024 a structured interview process that will reduce the possibility of unconscious bias. 3. By the beginning of January 2024, CEA will have formed its first PSA

E. Local and Societal Context

Processes and practices that enable attending to local and societal contexts are woven throughout each of the other four domains addressed above.

Budget Summary for the Year Ending August 31, 2023

Allocation of Budget Revenues and Expenses to Programs For the Year Ending August 31, 2023

Budget

Revenues:

Instruction	0
Alberta Education Government Grant	922,750
Operations & Maintenance	50,000
Transportation	0
Fundraising	25,000
	922,750

Expenses:

Instruction	672,500
Operations & Maintenance	196,700
Transportation	0
Board & System Administration	0
	869,200

Surplus(deficit) of revenues over expenses	53,550
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