

Capstone Engineering Academy



Annual Education Results Report 2021-2022



ACCOUNTABILITY STATEMENT

The Annual Education Results Report for Capstone Engineering Academy for the 2021/2022 school year 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. The Board is committed to using the results in this report, to the best of its abilities, to improve outcomes for students and to ensure that all students in the school authority can acquire the knowledge, skills and attitudes they need to be successful and contributing members of society.

This Annual Education Results Report for 2021/2022 was approved by the Board on January 26th, 2023.

This document can be found on our school website: Capstone Engineering Academy AERR 2022

A handwritten signature in purple ink that reads "E. K. White".

Eeva K. White, B.A. LL.B. CIC.C
Board Chair

WHISTLEBLOWER PROTECTION

Section 32 of the Public Interest Disclosure Act (2013) requires Capstone Engineering Academy to include their annual report of disclosures in their Annual Education Results Report.

There were no disclosures made to Capstone Engineering Academy in 2021 - 2022.



Introduction

Capstone Engineering Academy (CEA) is an Alberta-accredited online private school located in Calgary that offers students in grades 1-12 STEM courses. Our focus is unique amongst all online schools; we specialize in delivering high-end Technology and Engineering courses. We excel in our work because our instructional staff, along with their Alberta Teaching certifications, has deep experience in the engineering and technology sectors. CEA has a focus on STEM education and has a long history of developing curriculum and teaching partnerships with schools.

Our teachers are also passionate about their subjects. Besides being inspiring role models, they bring energy and enthusiasm to your class with real-life applications, inquiry-based assignments, hands-on projects, and cool technology tools.

School's Vision

For CEA, it's more than delivering online courses. Our vision and philosophy of continuous learning and global citizenry is part of the United Nations Educational Scientific and Cultural Organization's (UNESCO's) Futures of Education initiative: "Knowledge and learning are humanity's greatest renewable resources for responding to challenges and inventing alternatives. Yet, education does more than respond to a changing world. Education transforms the world." Capstone supports this philosophy and encourages students to approach broad-ranging hands-on STEM building projects with an inclusive, diverse and challenges-based world focus.



Budget Report 2021/2022 (Projected as of September 2022)

Revenue Summary		Percentage
Tuition	\$13,524	48.6%
Alberta Education Grants	\$14,305	51.4%
Other Revenues	\$0	
Total Revenue	\$27,829	

Expense Summary		Percentage
Instruction	\$87,431	66.6%
Operations	\$43,749	33.4%
Lease	\$0	
Administration	\$0	
Total Expense	\$131,180	

Net Income	(\$103,351)
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The above numbers are based on 1 student enrolled at Capstone Engineering Academy in the 2021/2022 academic year.

Required Alberta Education Assurance Measures - Overall Summary

Assurance Domain	Measure	Alberta		
		Current Results	Prev Year Results	Prev 3 Year Average
Student Growth and Achievement	Student Learning Engagement	85.1	85.6	n/a
	Citizenship	81.4	83.2	83.1
	3-Year High School Completion	83.2	83.4	81.1
	5-Year High School Completion	87.1	86.2	85.6
	PAT: Acceptable	n/a	n/a	73.8
	PAT: Excellence	n/a	n/a	20.6
	Diploma: Acceptable	n/a	n/a	83.6
	Diploma: Excellence	n/a	n/a	24
Teaching and Leading	Education Quality	89.0	89.6	90.3
Learning Supports	Welcoming, Caring, Respectful and Safe Learning Environments	86.1	87.8	n/a
	Access to Supports and Services	81.6	82.6	n/a
Governance	Parent Involvement	78.8	79.5	81.5

Student Learning Engagement - Measure Details

Student Learning Engagement	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	85.1	85.6	n/a

* The percentage of teachers, parents and students who agree that students are engaged in their learning at school.

At CEA, we strive to have every student engaged in the classroom. It's not enough to present the information. We want every student to actively participate in all STEM activities.

Strategies used at CEA:

1. Connect Learning to the real world -
2. Engage with students' interests -
3. Use group work and collaboration -
4. Encourage students to present and share work regularly -
5. Focus on discovery and inquiry -
6. Allow for think time

Citizenship- Measure Details

Citizenship	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	81.4	83.2	83.1

*Percentage of teachers, parents and students who are satisfied that students model the characteristics of active citizenship.

Strategies: At CEA, we provide students with opportunities to develop their citizenship skills and experiences.

As a STEM focused school, students are both taught and encouraged to share their thoughts, ideas, collaborate and provide insightful information/knowledge to others. These areas are actually critical in the world of STEM. STEM lends itself to channeling young people to become aware of the challenges that occur in building, designing and creating and



gently pushes them to think of practical STEM based solutions to situations encountered in day to day life. As they share their thoughts with others, as they question others, ponder their thoughts, they unintentionally develop skills that all individuals should have to fully participate as citizens . STEM gives students a platform and opportunity to become solution creators for the problems they see around them.. These experiences allow students to gain a basic understanding of 'Skills of the Future' such as Design Thinking, Ideation - idea generation, Making, Do-It-Yourself, concepts, and Collaboration. All key skills to be able to properly function in the world we live in.

3-Year High School Completion Rate - Measure Details

3-Year High School Completion	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	81.4	83.2	83.1

Strategies: CEA currently does not have a full academic high school program. However, at CEA we believe that staff need to work at creating safe, respectful, supportive learning environments. These goals do not happen by luck but by staff carefully planning what their school will do to support all students. This includes staff understanding the community where the school is located. I.e. what's the unemployment rate, % of single parents, most common social issues (housing, health, violence). Staff taking PD on Trauma-Informed Practice, staff actively engaging students to know how they're doing, staff providing extra academic support for students who are falling behind, Support Teachers with Counselors, along with classroom teachers, school division specialists, students' parents developing effective educational and emotional plans for at-risk students. It also includes reviewing school, and provincial assessment results to identify students' performances. Schools must not function in isolation and as such should collaborate with all stakeholders (RCMP, Social Services, etc.) in order to properly support its students. At school, the Principal must ensure that appropriate levels of academic and emotional support are provided to students who have been identified as being at-risk. The reality is that every child is at-risk, so every staff member must proactively be engaged in this work.

5-Year High School Completion Rate- Measure Details

5-Year High School Completion	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	87.1	86.2	85.6



Strategies: If we had a full academic high school program, CEA would strive to follow up with students who didn't graduate, or dropped out to have a better understanding of where the system could have responded better to their needs. We would then use this information to evaluate what supports are already in place and which ones need to be either improved or added. In addition, we would discuss, plan and provide possible support our school might be able to offer. Involving community stakeholders to get their feedback for improved services would also be included in this plan.

Education Quality- Measure Details

Education Quality	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	89.0	89.6	90.3

* Percentage of teachers, parents and students satisfied with the overall quality of basic education

Strategies: At CEA to ensure the quality of the education provided is what our students deserve, we pay close attention to the following areas:

- Maintaining and updating the infrastructure of our school building so that our facility is in working order.
- Use Professional Development for staff to keep up and fine tuning their pedagogy skills so that their lesson delivery is as effective as it can be.
- Ensuring that we hire teachers who have the expertise in STEM. This also means that our current teachers are provided with the professional development that will allow them to continue to learn about the curriculum areas they are responsible for.
- Currently, we only provide online/blended STEM courses, however, we provide students the opportunity to visit facilities in Calgary to expand their knowledge of STEM. These include Rothney Astrophysical Observatory, The Hangar, U of C and SAIT.
- Use every type of formative assessment and evaluation tools to know where our students are in regards to their STEM learning.
- Build a community by inviting parents to learn what we do at Capstone Engineering Academy. This includes having evening workshops where they come to listen to an Aerospace Scientist or an Electrical Engineer.

Welcoming, Caring, Respectful, and Safe Learning Environments- Measure Details

Welcoming, Caring, Respectful and Safe	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average

Learning Environments	86.1	87.8	n/a
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*The percentage of teachers, parents and students who agree that their learning environments are welcoming, caring, respectful and safe

Strategies: At Capstone Engineering Academy we believe and practice the following strategies to having a welcoming, caring, respectful and safe learning environment:

- Healthy and respectful relationships are built and fostered
- Students feel that adults care for them as a group and as individuals
- Positive mental health is promoted
- Values, rights, and responsibilities are respected
- Support is demonstrated through collaboration, high expectations, mutual trust and caring
- Diversity is respected, celebrated and understood as a strength
- Expectations are clear, consistent, and regularly communicated
- Consequences of unacceptable behaviour take into account the students age, maturity, and individual circumstances
- Support is provided for those impacted by inappropriate behaviour as well as for those who engage in inappropriate behaviours
- Children, youth and adults model positive social-emotional skills, including empathy and compassion

Access to Supports and Services - Measure Details

Access to Supports and Services	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	81.6	82.6	n/a

* The percentage of teachers, parents and students who agree that students have access to the appropriate supports and services at school.

Strategies: At CEA, we strive in providing all the emotional and academic help our students need. This includes:

- Teaching staff that are knowledgeable in their subject areas and have positive relationships with students and parents. By knowledgeable we mean teaching staff having a deep understanding of the program of studies, effective teaching strategies and an understanding of all students' strengths and need
- Teachers must have an understanding of the strengths and needs of each student in their classroom.
- The school provides students with all the resources they need to be successful in their studies.
- The Principal provides all the necessary support for teachers to meet the needs of all students in their classrooms.
- School staff get ongoing professional learning opportunities to build their capacity in supporting students with diverse learning needs, including opportunities to develop their capacity related to positive behavior supports and differentiated instruction.
- Working closely with parents to ensure we are all up to date with their children's school performance.

Parent Involvement - Measure Details

Parent Involvement	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	78.8	79.5	81.5

* Percentage of teachers and parents satisfied with parental involvement in decisions about their child's education.

Strategies: Though our focus is to deliver just STEM education, we take the time to involve parents in their children's education. This includes:

- Sharing with parents the projects their children will be working on. This strategy opens opportunities to ask parents for their feedback about our school.
- Organizing STEM workshops that are opened to both parents and their children. These opportunities assist schools and parents in developing positive, long lasting relationships.
- Having an "open door policy" where parents can access school staff when needed.
- Providing parents with resources such as post secondary school information

Spring 2022 Supplemental Alberta Education Assurance Measures - Overall Summary

Measure	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
Drop Out Rate	2.3	2.6	2.6
In-service Jurisdiction Needs	83.7	84.9	85.1
Lifelong Learning	81.0	82.1	72.0
Program of Studies	82.9	81.9	82.3
Program of Studies - At Risk Students	81.9	82.7	84.8

Rutherford Eligibility	70.2	68.0	66.4
Safe and Caring	88.8	90.0	89.2
Satisfaction with Program Access	72.6	71.8	74.1
School Improvement	74.2	81.4	81.3
Transition Rate (6 yr)	60.3	60.0	59.8
Work Preparation	84.9	85.7	83.5

Drop Out Rate - Measure Details

Drop Out Rate	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	2.3	2.6	2.6

Strategies: CEA wants every student to succeed. In order to do this, we work on:

- Engaging with parents so that they are up to date with their children's school progress.
- Cultivating positive relationships with parents by inviting them to STEM evening workshops.
- Staff paying attention to "warning signs" such as changes in students' school performance, and emotional well-being.
- Developing supportive relationships with students by taking the time to get to know them.

In-service Jurisdiction Needs- Measure Details

	Alberta
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In-service Jurisdiction Needs	Current Results	Prev Year Results	Prev 3 Year Average
	83.7	84.9	85.1

* The percentage of teachers reporting that in the past 3-5 years the professional development and in-servicing received from the school authority has been focused, systematic and contributed significantly to their ongoing professional growth.

Strategies: At CEA, we provide our teaching staff with the PD they need to build their full capacity to become the best STEM teachers they can be. In order to support our staff, (a) CEA pays teachers over time to attend the PD that we provide, (b) CEA provides teachers ready access to the school building to learn and practice STEM skills whenever they have the time, and © CEA purchases all the resources teachers need to learn about STEM.

Lifelong Learning- Measure Details

Lifelong Learning	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	81.0	82.1	72.0

* Percentage of teacher and parent satisfaction that students demonstrate the knowledge, skills and attitudes necessary for lifelong learning.

Strategies: CEA's focus is to teach students, K-12, the STEM knowledge, skills and attitudes to be lifelong learners. The strategies we use are:

- Encouraging critical thinking influences students to become lifelong learners. Exposing students to an array of ideas and information, and asking them to consider their opinion, inspires their interest and curiosity and gives their inner critic food for thought for a lifetime.
- Encouraging independent learning builds students' autonomy that provides them with the tools and confidence needed for lifelong learning.
- To have value, learning must be a meaningful process with clear objectives. Setting objectives, or goals, in the classroom is a great way to motivate and engage students in the learning process. To do this effectively, teaching SMART (Specific, Measurable, Achievable, Relevant and Timely) strategies motivates students and helps them focus on their learning.



Program of Studies- Measure Details

Program of Studies	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	82.9	81.9	82.3

* Percentage of teachers, parents and students satisfied with the opportunity for students to receive a broad program of studies including fine arts, career, technology, and health and physical education.

Strategies: At CEA, we focus on the four areas of STEM, Science, Technology, Engineering and Math. Students have a wide variety of opportunities on their own to touch on any of these fields. However, our well balanced STEM programs guide students to experience all of these career branches. Along with our STEM programs, we have all the STEM resources available for students to be able to have the full STEM experience with teachers who have educational backgrounds in Civil Engineering, Electronic Engineering, Aerospace Engineering, and Geology. As we continue to increase our enrollment, we will continue to hire teaching staff that have STEM education plus experience.

Program of Studies- At Risk Students - Measure Details

Program of Studies - At Risk Students	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	81.9	82.7	84.8

* Percentage of teacher, parent and student agreement that programs for children at risk are easy to access and timely.

Strategies: CEA works closely with parents, and staff from other schools to ensure we communicate timely to address any concerns that might exist about a student. As a protocol, we will immediately connect with schools' Principals if we see signs that a student is at risk.

Rutherford Eligibility - Measure Details

Rutherford Eligibility	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	88.8	90.0	89.2

Strategies: At this moment, as a STEM online school, we do not have any students accessing this scholarship. However, we will keep schools informed about STEM scholarships that students may apply to if they have demonstrated STEM excellence at our school.

Safe and Caring - Measure Details

Safe and Caring	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	70.2	68.0	66.4

* Percentage of teacher, parent and student agreement that: students are safe at school, are learning the importance of caring for others, are learning respect for others and are treated fairly in school.

Strategies: At CEA, though our timetable only allows us to deliver STEM courses, we:

- Show empathy by our examples.
- Encourage face-to-face communication and teaching, by example, engaging with the person they are talking to.
- Notice and applaud caring behaviour.
- Building relationships and cultivating cohesion with everyone.
- Empowering students to be ethical thinkers and agents of change

Satisfaction with Program Access- Measure Details

Satisfaction with Program Access	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	72.6	71.8	74.1

* Percentage of teacher, parent and student satisfaction with the accessibility, effectiveness and efficiency of programs and services for students in their community.

Strategies: At CEA, we make information available to parents and students about educational programs and services for students in Calgary. We can further improve this by putting information on our bulletin board about recreational, medical and counseling services.

School Improvement- Measure Details

School Improvement	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	74.2	81.4	81.3

* Percentage of teachers, parents and students indicating that their school and schools in their jurisdiction have improved or stayed the same the last three years

Strategies: This is our first year of operation. We have already identified areas we need to work on. We will be able to compare this year's work next school year.



Transition Rate (6 yr)- Measure Details

Transition Rate (6 yr)	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	60.3	60.0	59.8

Strategies: As an online STEM school, we do not offer a full academic graduating program.

Work Preparation- Measure Details

Work Preparation	Alberta		
	Current Results	Prev Year Results	Prev 3 Year Average
	84.9	85.7	83.5

* Percentage of teachers and parents who agree that students are taught attitudes and behaviours that will make them successful at work when they finish school.

Strategies: As a STEM online school, we focus on providing students the opportunities to develop both the attitudes and behaviours skills along with the technical skills. Every class teaches students relevant knowledge being taught by professionals who have STEM experience. The hands on and minds on approach allows students to experience a strong connection to the world that awaits them. When students meet instructors who are civil engineers, or aerospace engineers, they know they are learning from experienced professionals. On an ongoing basis we provide updates about STEM at a national and international level. Our school also provides opportunities for students to:

- Solving real problems with innovative and creative solutions
- Becoming efficient and organized
- Designing, developing and manufacturing
- Building your creative and analytical skills
- Develop critical thinking

All these skills are beneficial no matter what field students choose to go into.



Summary

CEA is a new accredited school that works at being the best Engineering and Technology STEM school in the province. All our staff have the professional and educational credentials to call themselves scientists. Their knowledge of STEM is high which allows us to provide a hand-on STEM curriculum that no other school in the province can offer. This has resulted in an increasing demand for our courses. Key in this work is that we continually update our courses.

Our focus is providing high-end Engineering and Technology hand-on STEM lessons for students Kindergarten to Grade 12. We work with schools and parents closely to ensure our courses are relevant to the world outside our school walls. Our goal is to give our students top educational experiences that will help them continue on their paths to being self fulfilled and lifelong learners.

As our provincial government continues to welcome high tech industry to our province, such as the recent announcement from De Havilland Canada building a large aircraft manufacturing complex east of Calgary, CEA is able to provide students with the best Technology, Engineering courses and programs to help them develop skills that they can apply in their daily lives when preparing for entry into the workplace or for further learning opportunities.

As the world of Technology and Engineering expands, Capstone Engineering Academy is at the leading edge of continuously updating and adding new classes and programs for our students. With double-digit growth projected for high tech occupations from now through 2027, it's vital that students are given the newest skills to compete in this job market. With technology being a major economic driver and job creator in Alberta, and CEA's focus in developing deep partnerships with schools, we will work toward providing courses that are relevant and practical to both local and provincial demands.

As we move to our second year of operation, we will be able to evaluate our work better as we will have something to compare our first year to. One thing we know is that all the students and schools we serve have described our programs as excellent. We will continue to work on this path of excellence.