



# Capstone Academy

## Online STEM Education

*Inspire – Educate – Build - Discover*

Join us at Capstone Academy for a STEM education course as part of our online curriculum.

The Capstone Academy philosophy is rooted in the view that students are naturally eager for STEM knowledge and capable of learning in a supportive, thoughtfully prepared collaborative learning environment. Our approach encourages and helps initiate the development of each student academically, technically, socially, and cognitively with critical design and problem-solving abilities in the fields of Engineering and Technology.

Students in grades 7 - 12 learn or build on knowledge about small tools, including instruction on safety, use of tools and their application within a project. Students learn about new materials and their physical properties for use in a project. This may also include 3D design, integration of project components, mathematics (area, volume, sizes) and programming. Initial lessons are typically presented to small groups of students, who are then free to follow up with independent design and construction of their own project.

## Course Outline

- Architecture
- Machines
- Robotics
- Aerospace
- Mechanical
- Computer Aided Design
- Electrical & Electronics
- Science Experiments

**Students will build projects while learning valuable STEM skills.**

**Keep them engaged!**



**Please note: These courses are available to Alberta students registering as a non-primary student with Capstone Academy.**

## Welcome to Capstone Engineering Academy *Online* STEM Education Programs!

Capstone Engineering Academy is a new private school in Calgary that has the unique ability to offer students in grades 7 - 12 online CTF/CTS courses. As our school's expertise and focus is STEM, the quality of our courses and the skills of our teachers will greatly supplement your own STEM school programs.

Our online STEM education courses are designed to provide students the opportunity to discover, explore and learn technical skills, enhance their creativity and problem-solving skills, and gain confidence as they learn from remote areas.

For the 2022/2023 school year, we have a comprehensive and growing list of grades 4-9 STEM courses to help students in their educational journey.

To discuss these options and how to register your students feel free to phone (403) 984-1120 to arrange an online meeting, or email the Head of School, David Falconer at [davidf@capstoneacad.ca](mailto:davidf@capstoneacad.ca).

## STEM CTF Education Classes – *Online*

Students register with Capstone Academy as a non-primary student.

### STEM CTF Education online course – Grades 7 - 9

Students will join us online for online engineering courses. The STEM CTF education program teaches hand skills, decision making, critical design thinking and problem solving. Students will build projects with different tools and materials allowing them to reach their creativity and keep them engaged in STEM education. Our online teachers will provide a list of needed materials (before the class starts) and project instruction.

**Classes begin on Oct 5<sup>th</sup> and end in June.**

Wednesdays, 4:00 pm to 5:30 pm.

Price: \$250/yr (Free for schools)

**Contact us for other times that might be available.**

Capstone Academy (R2S Campus)  
6115 – 10<sup>th</sup> Street SE  
Calgary, Alberta T2H 2Z9

Tel: (403) 984-1120  
<https://capstoneacad.ca/>

For further information contact David Falconer, Head of School at [davidf@capstoneacad.ca](mailto:davidf@capstoneacad.ca)

Registration must be in by September 30<sup>th</sup> to receive the discounted price.

**Enrollment is guaranteed for eligible students.**

### Notes:

- Tuition fees cover registration, instruction.
- Schools/students must purchase their own materials which most schools already have on-site.
- Teachers will receive an information package on how to setup their classroom.

### Evaluations

All Capstone online STEM program students receive a narrative evaluation that can be added to your report card. It will include comments on the student's performance as well as recommendations for future study.

**Registration is online on our website, visit [capstoneacad.ca](http://capstoneacad.ca).**

Schools that register more than 25 students before September 29<sup>th</sup> will receive a **FREE** STEM CTF starter kit worth over \$500.

## Engineering CTS Education Classes – *Online*

Students will register with Capstone Academy as a non-primary student.

### STEM CTS Education online course – Grades 10 - 12

Students will join us online for online Engineering CTS courses. The Engineering CTF program teaches hand skills, decision making, critical design thinking and problem solving. Students will learn digital studies in various areas including programming, CAD, robotics, electronics and other computer applications. Students will be challenged with several projects over the year.

Classes starting Oct 6<sup>th</sup>,

Thursdays, 4:00 am to 5:30 am.

Price: \$250/yr (Free for schools)

Capstone Academy (Online)  
6115 – 10<sup>th</sup> Street SE  
Calgary, Alberta T2H 2Z9

Tel: (403) 984-1120  
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Engineering CTS online courses - Grades 10-12	Pre-requisite
Computer Aided Design DES1050 CAD 1 DES2055 CAD 2 DES3055 CAD 3	DES1050 DES2055
Programming CES1240 Robotics Programming CSE2240 Robotics Programming CSE3240 Robotics Programming	CES1240 CSE2240
Robotics ELT1130 Robotics 1 ELT2140 Robotics 2 ELT3150 Robotics 3	ELT1130 ELT2140
Electronics ELT1010 Electro-Assembly 1 ELT2010 Electro-Assembly 2 ELT3020 Electro-Assembly 3	INF1010 INF2010
Project Management INF1910 Project 1 INF2910 Project 2 INF3910 Project 3	INF1910 INF2910

For further information contact David Falconer, Head of School at [davidf@capstoneacad.ca](mailto:davidf@capstoneacad.ca)

Registration must be in by September 30<sup>th</sup> to receive the discounted price.

**Enrollment is guaranteed for eligible students.**

**Notes:**

- Tuition fees cover registration, instruction.
- Students must purchase their own materials.
- Teachers will receive an information package on how to setup their classroom.

**Registration is online on our website, visit [capstoneacad.ca](http://capstoneacad.ca).**

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The Capstone Academy pedagogy requires these elements as essential:

- Blended-age groups: instruction for students' grades 7-9 in certain circumstances, groups of adjacent grades.
- A highly experienced science, technology, engineering, and math Capstone Academy teacher will mentor the students.
- Each course, project or activity will include research, design, and build phases.
- Student challenges with specific guidelines.
- Different activity, project, or design from within a prescribed range of options.
- Uninterrupted blocks of work time, ideally suited for ages and abilities.
- Experiential learning online with the Lab of Discovery [Studio](#), where students learn hands-on concepts.
- A thoughtfully prepared online environment where equipment and materials are discussed, shared with students, and are appropriate for their focus.
- Specialized educational curriculum, projects and materials developed by Roots 2 STEM and Capstone Academy.