



Summer School

2023 High School Summer Course Offerings at Capstone Engineering Academy

Tuition Fees Paid by Alberta Education for students enrolled in Public, Charter, and Private schools

Aerospace Technology - Drones (ELT1130)

Course Description: Students will learn to work with motors, sensors, microcontrollers, power systems and other robotics with a quadcopter. Students will assemble and program flight controllers with gimballed mounts and navigation cameras to operate a drone.

Dates: Monday, July 31 to Friday, Aug 04

Hours:

Doors open 8:30 am
Classes run 9:30 am – 3:00 pm
Doors close 4:00 pm

Location:

6115 – 10th Street SE
Calgary, Alberta

Teacher: Ashwini Ramesh, BSc in Aeronautical Engineering and a MSc in Aerospace Engineering

Navigation and Diversity (WLD 1020, WLD1060)

Course Description:

CEA WLD 1020 - Students will investigate the diversity and adaptations of the Alberta Canadian biosphere by exploring different geography and geology and comparing and contrasting them with other regions of the world.

CEA WLD 1060 - Students will develop navigation skills on water, hiking Alberta terrain, and backcountry camping. Enhancing exposure to the outdoors and gaining important leadership skills. At the end of the course, they will be able to take their navigation knowledge and will be able to implement them using Geographic Information Systems and navigation systems. Students will learn orientation, survival skills, cartography, and mapping systems in an outdoor environment with an experienced guide and geologist knowledgeable with GIS, GPS, and outdoor safety.

Dates: Thursday, August 3 – Orientation Night 7:00 pm
Monday, Aug 07 to Friday, Aug 11 – Field Trip

Or

Dates: Thursday, July 27 – Orientation Night 7:00 pm
Monday, July 31 to Friday, Aug 04

Location:

6115 – 10th Street SE
Calgary, Alberta

Teacher: Sydney Rhoades, BSc Geoscience



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Aerospace Technology - Rockets (FAB1100)

Course Description: Students will learn to work with several materials and tools to shape them into high-powered rockets. Students will become familiar with several materials learning to shape them using hand and power tools in a safe environment. Students will learn to build to high construction standards for inspection and use.

Dates: Monday, Aug 07 to Friday, Aug 11

Hours:

Doors open 8:30 am
Classes run 9:30 am – 3:00 pm
Doors close 4:00 pm

Location:

6115 – 10th Street SE
Calgary, Alberta

Teacher: Ashwini Ramesh, BSc in Aeronautical Engineering and a MSc in Aerospace Engineering

Robotics Programming (CSE1110, CSE1240)

Course Description:

Students will learn to program microprocessors with C++ in a hands-on environment and test their code with various robotic controllers, sensors and other devices. Students will become familiar with different robotic components learning to program them with a powerful editing platform. Students will be given various projects and challenges to introduce them to the robotic world.

Dates: Tuesday, August 08 – Friday August 11

Or

Dates: Monday, August 21 – Friday August 25

Hours:

Doors open 8:30 am
Classes run 9:30 am – 3:00 pm
Doors close 4:00 pm

Location:

6115 – 10th Street SE
Calgary, Alberta

Craig Johnston (BScCE in Engineering, BSc in Computer Science and BEd -Ab Certified) with Dean White (BScEE, PEng) assisting.



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Aerospace Technology - Rovers (ELT2140)

Course Description:

Students will learn to work with sensors, microcontrollers, power systems and other electronics with a rover. Students will design and build electronic circuits to operate a rover with articulated arms and motorized movement.

Dates: Monday, Aug 14 to Friday, Aug 18

Hours:

Doors open 8:30 am
Classes run 9:30 am – 3:00 pm
Doors close 4:00 pm

Location:

6115 – 10th Street SE
Calgary, Alberta

Teacher: Ashwini Ramesh, BSc in Aeronautical Engineering and a MS in Aerospace Engineering

Aerospace Technology - Satellites (ELT1010)

Course Description:

Students will learn to design and construct electronics, motors, sensors, microcontrollers, power systems and other robotics with a quadcopter. Students will assemble and program satellite systems and learn to build and troubleshoot cable systems, motorized systems and electronics in a satellite.

Dates: Monday, July 21 to Friday, Aug 25

Hours:

Doors open 8:30 am
Classes run 9:30 am – 3:00 pm
Doors close 4:00 pm

Location:

6115 – 10th Street SE
Calgary, Alberta

Teacher: Ashwini Ramesh, BSc in Aeronautical Engineering and a MSc in Aerospace Engineering