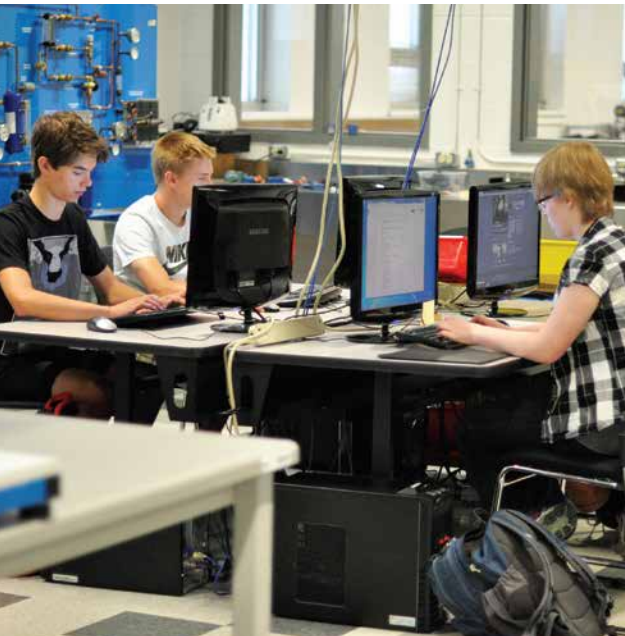


Career and Technology Centre

Program Offerings



Explore



Achieve



Programs at the Career and Technology Centre are available and open for all students, in all high schools. Contact your school counsellor to add CTC courses to your timetable.

Program Overview

All CBE students may choose to attend the Career & Technology Centre (CTC), regardless of which high school they attend. The CTC provides continuous access to academic, industry-standard programs, certificated journey person instructors, facilities and equipment for students seeking credentials in skilled occupations. As part of their high school timetable, students may choose to access explore, specialize or credential level programs.

Introductory

Students enrolled at the introductory level complete exploratory or 10 level courses in a variety of clusters that include: Trades, Manufacturing and Transportation, Pre-Engineering, (TMT), Health and Human Resources (HRH), Natural Resources (NAT), and Media, Design and Communication (MDC), Business, Administration, Finance and IT Essentials (BIT).

Intermediate

Students enrolled at the intermediate level complete 20 level CTS courses associated with local credentials and certifications. Examples of this include: Esthetics Certifications, Food Safety, Infection Control and Workplace Safety.

Advanced

Students enrolled in the advanced level will receive 30 level credits and may also include certifications. Examples are Esthetics Certifications.

Credential and Post-Secondary

Students enrolled at the credential level complete first-period technical training courses in support of the journeyman certification in Welding, Hairstyling, Auto Body, Cooking, Baking and Auto Service Technician. Students are encouraged to challenge the first-period technical exams when their technical training is complete. The exams are managed and certified by Alberta Industry and Training (AIT).

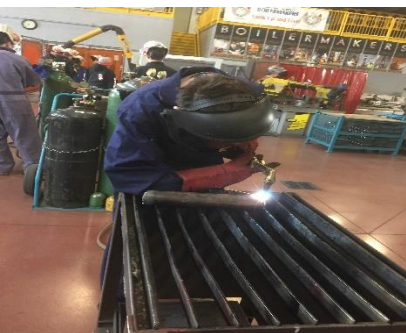
Students in the introductory courses take single block classes. If a double class is required that request must go through the CTC Assistant Principal. Students wishing to register for the Credential programs must fill out and submit the Credential application available at www.cbe.ab.ca/ct-centre/ Students will be notified of their acceptance into the program.



Learning from the experts in Culinary Apprentices Training



Exploring Alberta with Energy and Environmental Innovation



The CTC's programs are organized around the following Career Clusters:

Trades, Manufacturing & Transportation

- **Auto Body** | Auto Body Apprentice
- **Auto Service Technician** | Dual Credential
- **Fabrication** | Welder Apprentice
- **Pre-Engineering**
- **Women in Trades**

Health, Recreation & Human Services

- **Cosmetology** | Hairstylist Apprentice
| Esthetics Certification
- **Culinary Arts** | Cook Apprentice
| Baking Apprentice

Business, Administration & Finance

- **Business Fundamentals**
- **Computer Science**
- **IT Essentials**

Natural Resources

- **Energy & Environmental Innovation** | Environmental Stewardship
| Oil & Gas Exploration

Media, Design & Communication Arts

- **Media, Design & Communication** | Broadcast Journalism and Communication
| Film/Video Production
| Audio Production





Trades, Manufacturing & Transportation

Auto Body | Auto Body Apprenticeship & Pre-Apprenticeship

If you have a passion for cars or trucks, this is the place for you! Whether you want to learn how to fix a car body for a hobby or as a career, you will have the opportunity to learn how to fix dents, apply body fillers, sand panels, and prep and paint a vehicle. You will start with the basics on your own personal panel that you get to keep at the end of the course! Come back to the intermediate and advanced courses to advance your skills as you work on customer vehicles. Students will learn more advanced repair techniques to prepare for customer service using the following skills: Estimation, Damage Analysis, Repair of multiple panels, Prime/Refinish, Frame Straightening, Plastic Bumpers, Professional Painting. At the Credential level students prepare to write the first year auto body apprenticeship exam. Students learn the following skills: Structural integrity, Damage analysis, Glass, Heavy damage repair, Structural welding, Metal shaping, Repairs to student vehicles or projects, Supported by post-secondary instruction, Training for provincial skills competition. Solid study techniques and self-motivation are required at the Credential level.

Classes and detailed information:

- Introductory (5 credits) single block
- Intermediate (5-10 credits) single or double block
- Advanced (5-10 credits) single or double block
- Credentialed (14 credits) double block



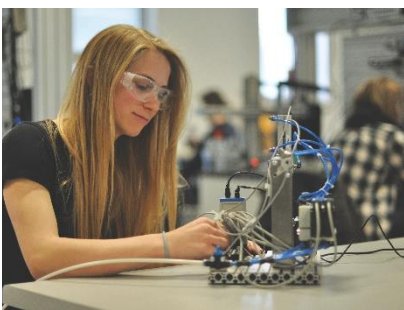
Welding/Fabrication | Welder Apprenticeship & Pre-Apprenticeship

Students in Welding will study metal technologies and learn the fine art of design and metal fabrication. Explore and pre-apprentice students learn the knowledge and skills related to the unique techniques of: oxy-fuel welding and cutting, gas metal arc welding, flux core arc welding and shielded metal arc welding. Advanced students will be encouraged to engage in pre-apprenticeship courses that will prepare them to challenge the 1st year apprenticeship theory and practical exams.

Classes and detailed information:

- Introductory (5 credits) single block
- Intermediate (5 credits) single block
- Advanced (5 credits) single block
- Credentialed (10 credits) double block only



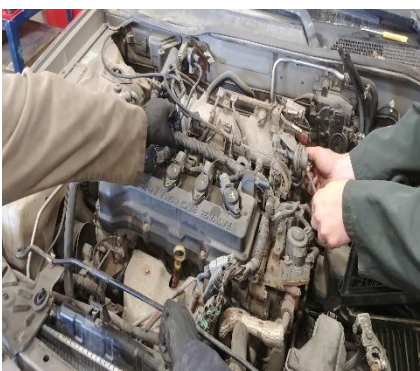


Pre-Engineering

Students in Pre-Engineering access a dynamic, state-of-the-art program that provides practical hands-on experiences supported by a range of digital resources. Pre-Engineering involves exploring design and engineering principles through various technologies such as robotics, CAD, rapid prototyping (3D printing, CNC), fluid dynamics, electrical, solar, wind, heat transfer, automation, and/or other technologies. Students will be able to apply their knowledge and skills to solve authentic problems in various fields of engineering such as electrical, chemical, structural and environmental. At the end of the term, students will complete a masters engineering project from initial design phase to prototype in small collaborative groups. The program is delivered by dual credentialed teachers/engineers.

Classes and detailed information:

- Introductory (5 credits) single block
- Intermediate (5 credits) single block, double block with teacher consult
- Advanced (5 credits) single block, double block with teacher consult



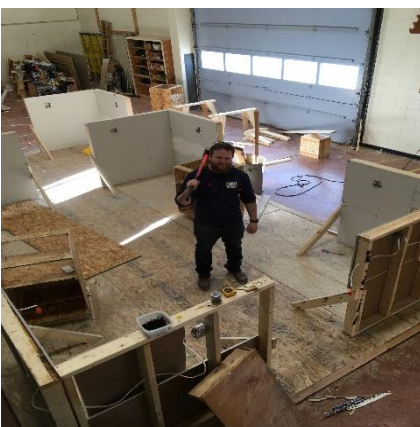
Automotive Service Technician| Dual Credential

Interested in pursuing mechanics as a career? Get a head start on your apprenticeship technical training! The Dual Credit Automotive Service Technician program offers students the opportunity to get a head start on a career as an automotive service technician. The program provides them with the chance to earn 15 ASA credits in CTS that count towards an Alberta High School Diploma and your Automotive Technician certification. At the completion of the program students will write their first period AST apprenticeship exam. The program is open to students from all high schools. Students are required to have completed at least the intermediate level of mechanics but related experience may be considered. The course runs over the full school year (one period during the first semester and two periods in second semester).

Classes and detailed information:

- 15 ASA Credits & High School credits

Note: schedule is one period during the first semester and two periods in the second semester.



Women In Trades |

Women's Construction, Renovation & Car Maintenance

This class has been created for young women to be introduced to the trades in a non-threatening environment to develop a knowledge and love of working with their hands to either benefit them in their personal or professional lives in the future. Students will gain experience in carpentry and automotive maintenance. Students will learn trade skills and be able to make informed decisions regarding pursuit of a future in the trades.

Classes and detailed information

- Introductory: 3 credits in construction
2 credits in mechanics



Health, Recreation & Human Services

Cosmetology | Hairstylist Apprentice

Pre-Apprentice, Esthetics Certifications



Students will develop skills and knowledge in a dynamic, full-service salon/spa customer service center. Students will progress through the Introductory, Intermediate and Credential programs that are personalized to the individual student's desired results. Cosmetology is an excellent introduction to many careers that include hairstylist, esthetician, educator, instructor, sales representative, platform artist, and entrepreneur.

Students will explore all aspects of the professional beauty industry including hairstyling, hair color, extensions, competitions, hair cutting/styling, facials, makeup, waxing, pedicures, manicures, nail art, and gel gloss nails.

At the introductory level, students discover their specific area of interest and examine the opportunity to take a full Hairstylist Program and/or Esthetics Specialization.

Classes and detailed information:

- Introductory (5 credits), single block
- Specialized in Esthetics Certificate (38 credits in the program), double block only
- Intermediate (10 credits toward Credential program) double block
- Advanced (5 credits 30 level) single block for non credential students
- Credentialed Hairstylist (completion of the 48 Credential credits) via first and second period apprenticeship), double block only





Culinary Arts | Cook Apprentice & Pre-Apprentice | Baking Apprentice & Pre-Apprentice

Students will have access to an industry-grade food service production and service outlet facility (Edibles Café) at the CTC, led by journey-person cooks and teachers. Culinary Arts is a competency based program of studies to help students explore the Hospitality industry in a live-action setting including: front of house (customer service at school cafés, marketing assignments and in-house event management) and back of house (food production, inventory and specialized labs). Regular attendance is necessary for success in culinary arts.

Introductory students will work with the Foods program of studies as an introduction to the kitchen, while intermediate students can work on a blended program of Foods, Cook Apprentice and Baker Apprentice modules. All food production will be based on classical cooking principles influenced by current trends in food style and flavours. Students rotate through four main areas of preparation and production; hot foods, cold foods, bakeshop, butchery and hospitality. All students are required to complete customer service hours which may occur outside regularly scheduled class time.

Students who choose to move beyond the core culinary program and start an official apprenticeship will need to apply for a position at the CTC and sign a contract with Alberta Apprenticeship and Industry Training (AIT). Cook Apprentice and Baker Apprentice students need to complete 16 credits for the formal training component of the program, acquire a blue book for industry hours and sign up for the first term exam at the AIT office.

Classes and detailed information:

- Introductory (5-10 credits), single or double block
- Intermediate (5-10 credits), single or double block
- Advanced (10 credits), double block recommended
- Credentialed (16 credits, as directed by AIT), double block only



Business, Administration & Finance

Business Fundamentals

Build your entrepreneurial skills & knowledge of the business world, by learning to start, manage, and market your very own business venture, providing you with valuable skills & knowledge to succeed in a competitive market.

Introductory students will develop basic managerial & marketing strategies to analyze businesses and create or improve their value. They will be able to recognize various business goals & targets and apply strategies to achieve them. Students will learn basic financial literacy and accounting practices, to manage the financials of a business. Students will work to turn ideas into reality by planning a personal business venture and learning how to sell (pitch) that business to potential investors.

Intermediate and advanced students will build a more in depth understanding of quality managing, marketing, and financial management strategies, in order to move from the venture planning stage to the implementation stage. (Run the business)

Classes and detailed information:

- Introductory (5 credits) single block
- Introductory (5 credits) single block
- Advanced (5 credits) single block





Computer Science

Students will focus on developing solutions to problems using computers. They will gain skills in developing algorithms, writing programs (in languages such as C or Java) and trouble-shooting their solutions.

The introductory level will focus on structured programming, procedural programming and basic computer science fundamentals. Students may have the opportunity to explore html programming to create webpages depending on time available.

The intermediate level will develop skills around data structures, file structures and introduce object oriented programming while learning more advanced computer science fundamentals.

The advanced level will further investigate object oriented programming, iterative and recursive algorithms and other advanced computer science fundamentals.

Final projects for all levels involve creating solutions to real world problems using computers and following the design process.

AP Computer Science is available to students who have completed the intermediate level.

Classes and detailed information:

- Introductory (5 credits) single block
- Intermediate (5 credits) single block
- Advanced (5 credits) single block



IT Essentials

In IT Essentials, students focus primarily on the Microsoft Windows environment. IT Essentials introduces key concepts of data communications and the underlying theory of information technologies, including: telecommunications, basic computer diagnostics, and repair.

Students will gain hands-on experience with supporting Information Technologies, including: hardware assembly/disassembly, setup, software installation, and diagnostics.

Successful completion of this course will give you a solid foundation to pursue other Information Technology support training.

Classes and detailed information:

- Introductory (3 credits)
- Intermediate (3 credits)
- Advanced (3 credits)

PLEASE NOTE: This course is offered as an evening course Thursdays 6-9 pm for approximately 14 weeks each semester





Natural Resources

Energy and Environmental Innovation

Climate Change, Petroleum Exploration, Sustainability, Farm-to-Table

Students will learn how to become innovative change-makers in both their community and their future industries. Students will be exposed to a range of issues, skills and technologies in fields related to:

- Oil and gas development in Alberta
- Transitions to alternative and renewable energies
- Climate change
- Local food and urban agriculture production
- Community development and urban planning
- Wildlife and biodiversity habitat conservation
- Stewardship of protected lands
- Sustainable architecture
- Water and waste management



The course is designed to be experiential for students. Each semester there are several field-study trips offered where students will travel to work with industry experts in the fields mentioned above. Students will experience the outdoors as a key component to the class. The rest of the course takes place within an interactive lab setting. Students take care of various gardens, living walls and fish tanks while also working on habitat construction, water, soil and core-rock testing and building design processes.

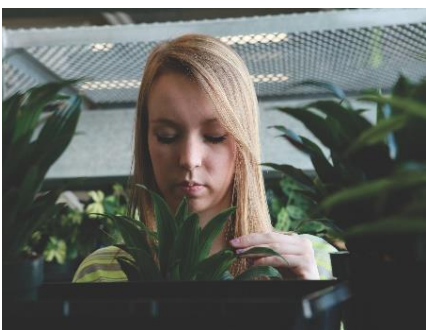
Once students have been immersed in this broad range of topics, they will have the opportunity to innovate new technology, policies, educational programs or designs meant to improve our society economically, socially and environmentally.



Environmental Humanities is offered in combination with **Energy and Environmental Innovation**. Students are able to take English, Social Studies and EEI together. The curriculum will be taught from the Environmental perspective. Environmental Humanities 20 will be offered in the first semester. Environmental Humanities 30 will be offered in the second semester.

Classes and detailed information:

- Environmental Humanities;
 - Social Studies (5 credits) English (5 credits, EEI (up to 3 credits), double block
- Energy and Environmental Innovation (EEI)
 - Introductory (5 credits), single block
 - Intermediate (5 credits) individual path chosen by student, single block
 - Advanced (5 credits) individual path chosen by student, single block



Media, Design & Communication Arts



Media, Design and Communication |

Broadcast Journalism and Communication,
Film/Video Production,
Audio Production

Students of the Film, Audio, and Television Production Program at the CTC have the opportunity to explore media production in a purpose-built studio and editing lab that supports multi-track, multi-camera collaborative production, as well as field production opportunities, including live events.

Students will plan, capture and produce film, video, animation and photojournalism assets using advanced equipment, techniques, and software that are the current standard for post-secondary and commercial facilities. While doing this they will have the opportunity to consult and receive feedback from industry professionals and become aware of related career opportunities in their media of choice.

Areas of specialization are offered and include Broadcast Journalism and Communication, and Film/Video Production. Audio Production can also be pursued within either of these programs, or as a specialized evening option, subject to interest and availability.



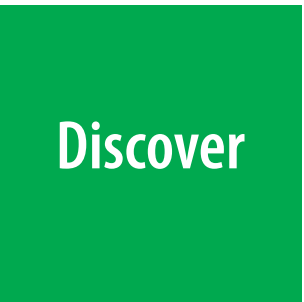
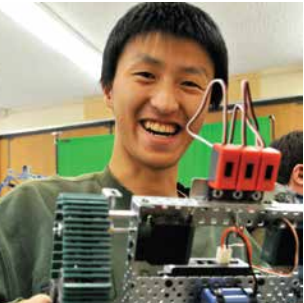
Collaboration on real-world projects is a priority, and student work has appeared on networks such as SHAW Cable.

Classes and detailed information:

- Introductory (5 credits available) single block
- Intermediate (15 credits available) single block
- Advanced (15 credits available) single block



Your pathway to success



Career and Technology Studies help students discover their interests and abilities in practical and purposeful ways. CTS is for all students. Whether the goal is to explore different options or pursue more advanced training in a particular field, CTS courses offer students flexibility to expand their career goals and interests.

The Career and Technology Centre (CTC) at Central Memorial High School is a state-of-the-art facility designed to provide our high school students with a wide range of CTS opportunities. The CTC is another way the Calgary Board of Education personalizes learning to help students understand who they are as learners, realize their passions and gifts, and effectively prepare them for life, work and continued learning.



**Calgary Board
of Education**

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