Career and Technology Centre
2019-20 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 journeyman 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 iexploratory or 10 level courses in a variety of clusters that include: Trades, Manufacturing and Transportation (TMT), Health and Human Resources (HRH), Natural Resources (NAT), Pre-Engineering, and Media, Design and Communication (MDC).

Intermediate

Students enrolled at the intermediate level complete 20 level CTS courses associated with local credentials and certifications. Examples of this include: Esthetics Certifications, First Aid, CPR, 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 Mechanics. 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.
The CTC’s programs are organized around the following Career Clusters:

**Trades, Manufacturing & Transportation**
- Auto Body | Auto Body Apprentice
- Auto Mechanics | 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 Apprentice & Pre-Apprentice**

If you have a passion for cars, this is the place for you. Whether you want to learn how to fix a car for either a hobby or a career, you will have the opportunity to learn how to fix dents, apply body fillers, sand a panel smooth, and prep and paint a vehicle. You will start with the basics on your personal panel and advance to working on customer vehicles ranging from Honda, BMW, and Mercedes to retro cars.

Classes and detailed information:
- Introductory (8 credits available) single block only
- Intermediate (10 credits available) single or double block
- Advanced (11 credits available) single or double block
- Credentialed (14 credits available) single or double block

**Fabrication | Welder Apprentice & Pre-Apprentice**

Students in Fabrication (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 available) single block only
- Intermediate (6 credits available) single block only
- Advanced (10 credits available) single block only
- Credentialed (15 credits available) 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.
Auto Mechanics | 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 Explore, Specialize 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 exploratory 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 (7 credits available), single block only
- Specialized in Esthetics Certificate (37 credits available in the whole program), double block only
- Credentialed Hairstylist (50 credits available via first and second period apprentice), 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 journeyperson 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.

Exploratory students will work with the Foods program of studies as an introduction to the kitchen, while specialized 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 Apprentice 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 (10 credits available), single or double block
- Intermediate (10 credits available), single or double block
- Advanced (10 credits available), double block recommended
- Credentialed (16 credits, as directed by AIT), double block only
Business, Administration & Finance

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

Classes and detailed information:
- Introductory (6 credits available) single block only
- Intermediate (5 credits available) single block only

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 (8 credits available)
- Intermediate (8 credits available)
- Advanced (8 credits available)

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

This is a new course offering for September 2018 within the Finance and Marketing domains of fundamental business practices. In the financial management portion, students will complete a spectrum of financial literacy and general accounting principles. The management and marketing component of this exploratory course provides basic management concepts to students, and describes retail merchandising strategies of value to the employee, manager and/or owner.

Classes and detailed information:
- Introductory (8 credits available) single block only
- Intermediate (8 credits available) single block only

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.

**Social Studies 20-1/20-2 or Social Studies 30-1/30-2** is offered in combination with **Energy and Environmental Innovation**.

**EEI** is also offered as an **evening** course Thursdays from 6 – 9 pm for approximately 14 weeks each semester.

**AP Environmental Science 35** is offered (pending students interest and numbers).

**CALM in the Mountains**: Finish the mandatory CALM course outdoors in the mountains of Jasper National Park. This course will be offered August 25-29, 2019. Registration is limited to 25 students. Please register through your guidance counsellor. Students will earn 3 credits in Calm and 2 credits in EEI.

The cost is approximately $550 (actual cost to be determined)

Classes and detailed information:

- Introductory (10 credits available), single or double block
- Intermediate (many credits available) individual path chosen by student, single or double block
- Advanced (many credits available) individual path chosen by student single or double 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 only
- Intermediate (15 credits available) single block only
- Advanced (15 credits available) single block only
- Credential (Adobe Certified Associate) single block only
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.