



## MEMORANDUM

May 28, 2024  
Regular Board Meeting

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**TO** Board of Trustees

**FROM** Shauna Boyce, Superintendent

**ORIGINATOR** Scott Johnston, Associate Superintendent

**RESOURCE** Shaye Patras, Division Principal, Numeracy and Achievement

**GOVERNANCE POLICY** Board Policy 1: Division Foundational Statements  
Board Policy 2: Role of the Board  
Board Policy 12: Role of the Superintendent

**ADDITIONAL REFERENCE** BP 1: Vision, Foundational Statements  
BP 2: Education Planning and Programming  
*Education Act: 19-23, 33, 196-197*

**SUBJECT** **CAREER AND TECHNOLOGY STUDIES REPORT**

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### PURPOSE

For information. No recommendation required.

### BACKGROUND

The Board is charged with the responsibility of providing, for its students and their parents, an education system organized and operated in the students' best interests. It exercises this responsibility through setting of local educational policy and the wise use of resources.

### REPORT SUMMARY

Within the *Alberta Programs of Study*, the province provides for opportunities for students to explore Career and Technology Foundations, in advance of high school Career and Technology Studies. Career and Technology opportunities enable students to extend their learning through challenges that are aligned to career skills, including: business skills, communication skills, human services, resources and technology. This Career and Technology Studies Report provides an overview of projects and skills in alignment to provincial outcomes.

Administration would be pleased to respond to any questions.

SJ:kz



## CAREER AND TECHNOLOGY STUDIES REPORT

MAY, 2024

Presented to the Board of Trustees, May 28, 2024

Scott Johnston, Associate Superintendent, Education and System Services

Resources: Shaye Patras, Division Principal, Numeracy and Achievement

*Our Students Possess the confidence, resilience, insight and skills required to thrive in, and positively impact, the world.*

### BACKGROUND

Career and Technology Foundations (CTF) Courses and Career and Technology Studies Courses (CTS) provide a vehicle with which Parkland School Division teachers are able work towards our Mission of assuring:

*"...supportive learning environments, meaningful experiences and healthy relationships that create opportunities to develop resilience, to gain diversity in perspectives and to achieve enduring success."*

Additionally, through these courses, we are able to honor one of our Values, which states that we strive to provide:

*"Learning opportunities that are purposeful, essential, relevant, authentic and responsive."*

As we continue to focus on our Priority of Programming and Pedagogy, CTF and CTS courses assist us as:

*"Student programming and continual improvement of teaching practices continues to be a priority for PSD. The division is proud to offer diverse programs to students because that's how learning comes alive for them..."*

Career and Technology Foundations (CTF):

*"...provides students in grades 5 to 9 the opportunity to explore their interests within various occupational areas and technologies. Through CTF, students may plan, design, create, and implement solutions for relevant real-life problems. As students engage in hands-on challenges, they develop social, interpersonal, life, and work skills as well as practical knowledge about various industries, issues and technologies. CTF provides a foundation for students transitioning into Career and Technology Studies (CTS) in Grades 10 through 12. (Alberta Education)."*

Similarly, the Career and Technology Studies (CTS) program is:

*"designed to develop skills that senior high school students can apply in their daily lives when preparing for entry into the workplace or for further learning opportunities. Through the CTS program students are provided with opportunities to personalize their learning, identify and explore their interests, manage transitions between high school and the workplace or post-secondary, and develop the attitudes and behaviours that people need to participate and progress in today's dynamic world of work." (Alberta Education).*

Career and Technology programs enable students to plan, design, create and implement solutions for authentic real-life problems. As students engage in challenges and vocational training, they develop skills that can apply in their ongoing learning opportunities and their daily lives as they prepare for the world of work.

## Career and Technology Foundations (CTF)

In Parkland School Division, Career and Technology Foundations (CTF) is structured as “options” within grades 6-9. These courses offer students a chance to delve into their interests and passions, helping them understand how these interests might relate to future career paths. Furthermore, CTF courses lay a solid groundwork for students as they progress to Career and Technology Studies (CTS) in grades 10-12.

### Career and Technology Foundations - One School's Journey

High Park School teachers and administration are leading Parkland School Division's journey towards purposeful and authentic Career and Technology Foundations programming. Following an internal audit of their CTF program in the spring of 2023, teachers and administrators undertook the redesign of the CTF programming within their school to serve their students' needs.

The redesign initiative began with staff seeking input from students regarding their interests and how these could drive CTS programming decisions. This was accompanied by a renewed focus on CTF courses developing critical thinking and problem-solving skills through hands-on learning experiences. The results of this work together have been quite remarkable.



Currently at High Park School, students in grades 7-9 have access to the following CTF courses:

- *Community Cooking*
- *Woodworking*
- *What's your Sign*
- *Aquatics*
- *Renewable Energy*
- *Hydroponics/Horticulture*
- *Communications*

Some of these courses benefitted from the successful applications for grant funding including the most recent grant received from A+ for Energy.

CTF courses at High Park School take place Tuesday and Thursday morning, each week, as well as on some Friday

mornings. What sets CTF courses at High Park School apart is the transformation of individual courses into the cohesive CTS program through an audit process. Within each course, students collaborate on shared projects to achieve common goals. One example of this is the partnership between students in the “What's Your Sign” course and the Woodworking course. Students from Woodworking cut and provided the materials for those in the “What's Your Sign” course.

Even deeper collaboration occurs among students in courses such as Aquatics, Hydroponics/Horticulture, Renewable Energy, and Communications. These students collectively work towards the common goal of determining the feasibility of building solar panels to power hydroponics systems. This authentic project fosters teamwork and problem-solving skills. Additionally, students investigate the carbon footprint of maintaining hydroponics systems versus purchasing products from grocery stores, expanding their learning opportunities.

### **Career and Technology Foundations Review 2023-24**

As a commitment to ensuring the highest level of programming for our students, Parkland School Division teachers and administrators are currently reviewing all CTF courses being offered during the 2023-24 school year. The goal of this review is to ensure that courses:

- align the expertise of our teachers with the passions and interests of our students
- effectively integrate occupational areas within an authentic challenge or task
- require students to engage in planning, creating, appraising and communicating processes

Moreover, this review aligns with the Ministerial Order on Student Learning which states that:

*“Students will engage in career education pathways that provide the relevant and timely support they need to prepare for fulfilling careers. They will become lifelong learners who will cultivate the competencies of critical thinking, communication, problem solving, collaboration, research and managing information, citizenship, creativity and innovation, and personal growth and well-being.”*



Within this review, administrators have been provided with a common, comprehensive understanding of the structure and intentions of the Career and Technology Foundations program. Both administrators and teachers have been provided with criteria to objectively evaluate the alignment of their CTF courses with the program's standards. Teachers have also received planning documents and templates to address any discrepancies found in course alignment. Additionally, templates have been provided for the development or revision of CTF courses, along with examples of previously developed courses from within our division and across the province.

We are confident that through this comprehensive review process, the quality of CTF programming in the Parkland School Division will be maintained at the highest level.

**Career and Technology Studies (CTS)**

CTS courses in Parkland School Division provide an opportunity for teachers to “Prepare Students for Their Future” as described in the Ministerial Order on Student Learning. Specifically,

*“Students will have rich and diverse opportunities to engage in work experience...Through these experiences, students will develop a strong work ethic, prepare for their future careers, explore career options, strengthen workplace skills...”*

Following a pathways model, CTS courses provide flexible programming through 1-credit courses, which our schools effectively utilize. While most CTF courses are typically scheduled as 5-credit courses in student timetables, some offer the flexibility for students to work at their own pace. This structure allows students to complete additional modules within the course, potentially earning 6 or even 7 credits. Students have the autonomy to work at their own pace, sometimes outside regular class hours, and in certain cases, design their own program within a CTS course.

Currently, both Memorial Composite High School and Spruce Grove Composite High School employ 12 CTS teachers. Connections for Learning also offers students the opportunity to complete modules through their virtual learning platform.

Credits earned in CTS courses contribute to fulfilling graduation requirements, which include a minimum of 10 credits in CTS, Fine Arts, Locally Developed Courses, Second Languages courses, Physical Education 20 and/or 30, Knowledge and Employability courses, Registered Apprenticeship Courses, and Locally Developed Courses.

The Career and Technology Studies program is divided into five clusters:

- Business Administration, Finance and Information Technology (BIT)
- Health, Recreation and Human Services (HRH)
- Media, Design and Communication Arts (MDC)
- Natural Resources (NAT)
- Trades, Manufacturing and Transportation (TMT)

Parkland School Division students are extremely fortunate to have a wide variety of CTS Courses offered in our High Schools.

Some of the Courses available to PSD students are in the areas of:

• Business	• Cosmetology	• Food Studies	• Sports Medicine
• Communication Technology	• Design Studies	• Mechanics	• Sports Performance
• Computer Science	• Early Learning and Child Care	• Natural Sciences	• Video Broadcasting and Editing
• Construction Technology	• Fabrication	• Photojournalism	• Web Design



# CTS

## Career and Technology Studies

### Career and Technology Studies Success in Parkland School Division

#### Community Service and Partnerships

The CTS programs within the Parkland School Division (PSD) have seen significant achievements, reflecting the dedication of both staff and students. PSD schools take pride in their commitment to serving their school and local communities through these programs, offering valuable services to students, staff, PSD employees, and the wider public. Additionally, PSD programs actively engage with and support local organizations.

For instance, the Construction Technology class at Spruce Grove Composite High School demonstrates this commitment by providing various products to community organizations, including planter boxes for the Spruce Grove Community Garden, trail signs for the Village of Spring Lake, and a gathering table for the Spruce Grove Fire Services.



Similarly, the Communication Technology class at Spruce Grove Composite High School has completed 76 projects this school year alone, ranging from banners to signs to apparel,

benefiting both PSD students and staff as well as local businesses and organizations. Notably, Horizon Stage is one of the recurring clients supported by this program.

At Memorial Composite High School, efforts to strengthen community connections continue. The Mechanics program services vehicles belonging to students, staff, and families throughout PSD. Additionally, the Communication and Technology program extends its reach into the local community through projects such as banners and stickers for the RCMP, supporting their online anti-bullying initiatives. The Construction Technology class at Memorial Composite High School has contributed by building sensory tables for schools within PSD.

Connections for Learning plays a vital role in serving both students and the community through its Building Futures and Building Futures Apprenticeship programs. Students in the Building Futures program collaborate with Coventry Homes tradespeople to assist in constructing homes in Stony Plain or Spruce Grove. This hands-on experience not only allows students to work with experienced tradespeople but also enables them to earn credits in Construction Technology, providing valuable real-world skills and opportunities.

### **Collaboration in CTS**

One notable strength of the CTS programs in PSD schools is their highly collaborative nature, both within individual schools and across schools. This collaboration is exemplified by the Building Futures Apprenticeship program, which showcases how PSD schools collaborate to review and enhance programming to better meet the needs of our students.

Responding to the demand from students who expressed interest in the Construction trade but did not participate in the Building Futures program in grade 10, Connections for Learning expanded its partnership with Coventry Homes. This extension allowed MCHS and SGCHS students to join the program for half days, serving as a valuable pathway for those considering the Registered Apprenticeship Program (RAP). In return, this inter-school collaboration includes shared access to the mechanics lab at MCHS, occasionally utilized by Connections for Learning CTS teachers and students as they complete specific Mechanics modules.

Collaboration is not limited to inter-school interactions; CTS programs within our schools also collaborate internally to offer unique opportunities for students to acquire skills across various areas and undertake projects that would otherwise be challenging. These



collaborative endeavors mirror real-world business experiences for our students.

For instance, the Arcade project at SGCHS required coordination among students and staff from Construction Technology, Communication Technology, Fabrication, Art, and Computer Science. Together, they successfully built and programmed an Arcade Machine based solely on design plans provided to them.

Similarly, the life-sized Panther currently displayed at the front entrance of SGCHS was a collaborative effort among departments within the CTF program. Students from Fabrication, Communication Technology, and Construction Technology worked together inside the CTS facilities at SGCHS to design and construct this impressive project.

### **Preparation for the Workforce**

Memorial Composite High School (MCHS) has consistently aligned its CTF programming with industry standards, providing students with access to facilities and equipment that replicate real-world settings. With the support of Red Seal instructors in some courses, MCHS students are well-equipped for a seamless transition into the workforce. In programs like Fabrication, Cosmetology, and Mechanics, students in 30-level courses often possess skills that surpass those required for entry-level apprenticeships, ensuring they are thoroughly prepared for employment opportunities.



While currently working within the limitations of their facilities, Spruce Grove Composite High School CTS staff eagerly anticipate the opportunity that a new school presents for their program. Building designs have taken into consideration the needs of the CTS program and will ensure that students have access to exceptional facilities and equipment to accompany the exemplary teachers within the program. One example of this purposeful planning is the location and design of the Cosmetology program which will allow for easy public access for services.

### CTS Challenges in Parkland School Division

While PSD students continue to benefit from highly qualified teachers and equipment, often accompanied by industry standard facilities, some challenges remain in ensuring ongoing quality CTS programming.

#### Funding

While PSD schools continue to prioritize CTS courses and allocate necessary resources, securing adequate funding remains a challenge. Under the previous CEU funding model, CTS courses received a 20% funding boost to acknowledge the higher costs associated with these programs. However, the current funding model does not provide additional funds for CTS. For example, a Mechanics program requires an annual operational budget of approximately \$60,000, while Fabrication costs around \$20,000 and Construction around \$18,000.



Furthermore, inflationary pressures significantly impact the purchase of equipment and consumable materials needed for CTS courses. Given the hands-on nature of many CTS courses, along with equipment requirements and potential safety protocols, class sizes for these courses are often smaller than for other high school classes.



## **Curriculum Design**

CTS teachers have expressed concerns regarding the curriculum update of CTS modules in the upcoming years. While acknowledging the need to review, revise and rewrite the CTS program of studies to reflect current educational and societal needs, there is an angst that some of the structures within the current program of studies that allow PSD schools to ensure high quality CTS programs may not be in place in a new curriculum.

Specifically, the current structure and design of the CTS program of studies provides teachers and schools with the flexibility to offer modules in a variety of formats as appropriate for their context. Additionally, this module-based structure can provide the opportunity for students to work at their own pace and even to customize their program to some extent. CTS teachers in Parkland School Division have anecdotally expressed high levels of satisfaction with the current curriculum structure and content which focuses on the learning process in conjunction with the product. Most CTS modules are currently written to be software agnostic (nonspecific), reducing the likelihood of technology being a barrier to availability of CTS courses.

## **CTS in Parkland School Division Looking Ahead**

### **New CTS Opportunities**

Staff at Connections for Learning, Spruce Grove Composite High School, and Memorial Composite High School are continually evaluating how their Career and Technology Studies programming aligns with the evolving needs of PSD students. Looking ahead to the 2024-25 school year, this reflection has led to several program enhancements.

Specifically, Connections for Learning is in the process of developing an Entrepreneurial Business program. This initiative will be closely aligned with and serve as an extension of the Building Futures program, empowering students to explore the potential for tradespeople to become small business owners or contractors.

Additionally, Spruce Grove Composite High School will introduce a Financial Management CTS course at the grade 10 level next year. Leveraging the expertise of their colleagues at Memorial Composite High School, who already offer a similar CTS course, CTS teachers at Spruce Grove Composite High School will ensure the success and effectiveness of this new addition to their program offerings.

### **Continued Alignment between CTF and CTS**

While progress has been made to align CTF courses/challenges within PSD K-9 and middle schools to the CTS courses that are offered at High School, further work remains to be done. Creating the opportunity for teachers at each level to collaborate, discussing programming, identifying gaps and proposing solutions is future work that needs to be undertaken within PSD.

### **Advocacy for CTS**

Parkland School Division is extremely fortunate to be able to offer rich learning experiences in the CTS field for our students. Through the collaborative efforts of school administration, CTS teachers, division staff and community partners, this work will continue into the future. Advocacy efforts around increased funding for CTS, adequate CTS facilities within the future Spruce Grove Composite High School rebuild and a quality curriculum review at the Provincial Level will be of significant benefit.