MEMORANDUM

May 30, 2023
Regular Board Meeting

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 REPORT**

PURPOSE

For information. No recommendation required.

BACKGROUND

Parkland School Division remains committed to providing meaningful experiences for our students. Offering career and technology focused programming to students in Grades 5-12 helps to provide those experiences.

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 Report provides an overview of projects and skills in alignment to provincial outcomes.

Administration would be pleased to respond to any questions.

SJ:kz

INSTRUCTIONAL SERVICES: CAREER AND TECHNOLOGY REPORT

May, 2023

Presented to the Board of Trustees, May 30, 2023
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) enable Parkland School Division teachers to provide students with these meaningful learning experiences, and to support the development of many of the habits of learning required for success in school and the world of work. As stated in the CTF Program of Studies, CTF: *"…provides students in grades 5 to 9 the opportunity to explore their interests within various occupational areas and technologies.* (Alberta Education).*"*

Similarly, the Career and Technology Studies (CTS) program is: *"designed for high school students so they can explore their interests and career options. CTS offers students opportunities to develop skills that can be applied in their daily lives and improve their employability following high school.* (Alberta Education)."

The intent of Career and Technology programs, whether foundational or specifically aligned to trades, enable students to plan, design, create and implement solutions for relevant real-life problems. As students engage in vocational training, and hands-on learning, they develop social, interpersonal, life and work skills as well as practical knowledge about various industries, issues and technologies.

## Career and Technology Foundations (CTF)

The Alberta Education Program of Studies for CTF, notes that "Career and Technology Foundations is an optional program that allows students to explore their interests and passions as they learn about various career possibilities and occupational areas."

The CTF Learning Process

The Career and Technology Foundations (CTF) curriculum supports learning experiences that allow students to explore occupational areas common to Career and Technology Studies (CTS), through challenges or tasks. CTF is not a prerequisite for high school courses.

Through the learning outcomes, the CTF learning process promotes the development of literacy and numeracy and competencies, while exploring a variety of occupational areas belonging to the five clusters:
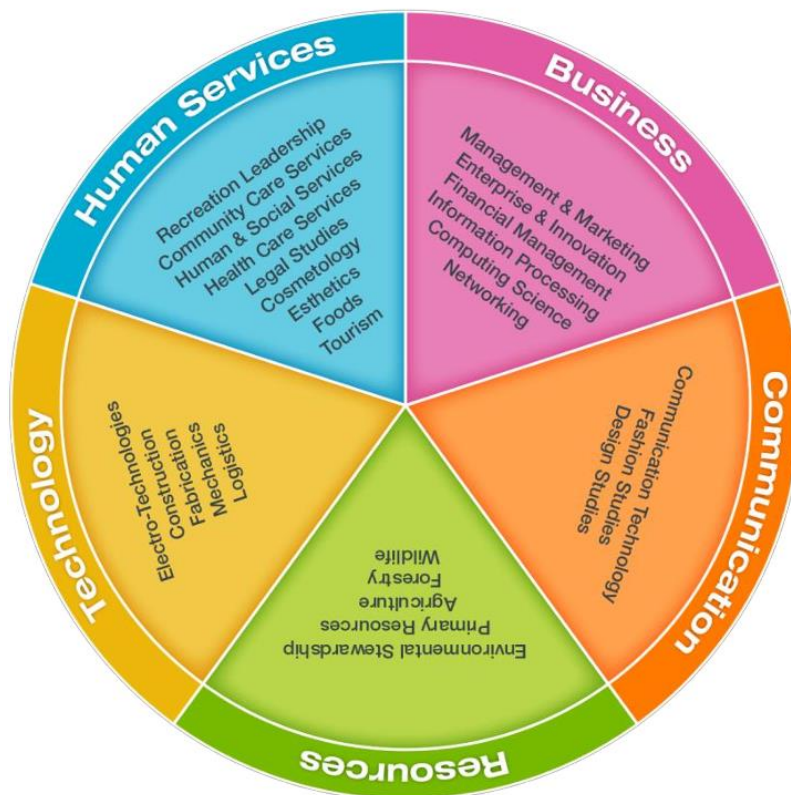
- Business,
- Communication,
- Human Services,
- Resources, and
- Technology
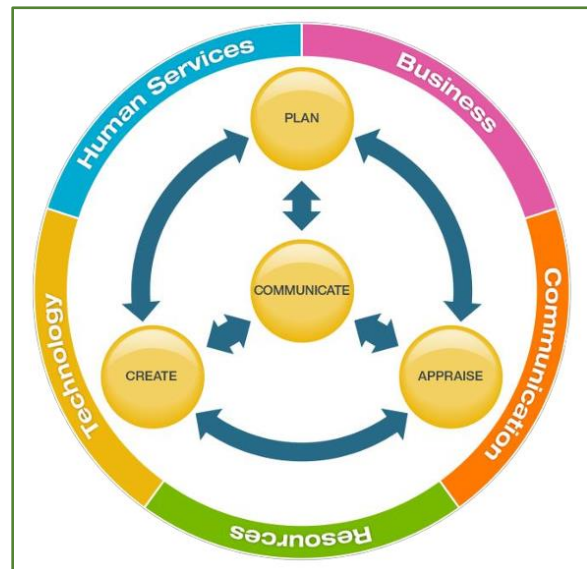
CTF challenges or tasks that integrate at least two occupational areas, provide students with an opportunity to experience the interconnectedness of skills, knowledge and technologies associated with various occupational areas.

Students engaging in CTF challenges or tasks, alternate between the processes of planning, creating, appraising and communicating in a non-linear manner:

- **Plan**: to follow a process that identifies problems, generates ideas and encourages empathy and evaluation when designing a solution to a task or challenge.

- **Create**: to make a product, performance or service, by using one's own thought or imagination.

- **Appraise**: to use ongoing assessment to guide decision making and learning.

- **Communicate**: to share or receive information in order to express ideas and gain understanding.

Human Services
- Recreation Leadership
- Community Care Services
- Human & Social Services
- Health Care Services
- Legal Studies
- Cosmetology
- Esthetics
- Foods
- Tourism

Business
- Management & Marketing
- Enterprise & Innovation
- Financial Management
- Information Processing
- Computing Science
- Networking

Communication
- Communication
- Fashion Technology
- Design Studies

Resources
- Environmental Stewardship
- Primary Resources
- Agriculture
- Forestry
- Wildlife

Technology
- Electro-Technologies
- Construction
- Fabrication
- Mechanics
- Logistics

CTF

Career and Technology Foundations

Courses Offered for CTF

The variety and breadth of Career and Technology Foundations (CTF) courses found within Parkland School Division are as diverse as the schools themselves. Courses align with prescribed Clusters of: Business, Resources, Technology, and Human Services.

Courses such as Art and Design, Industrial Arts (Woodworking), Foods, Sports Medicine, Theatre Production, Robotics and Stop Motion Animation are common throughout most Parkland Schools and are just a few of the opportunities available to PSD students.

CTF courses are generally selected and offered to students based on a variety of factors including, but not limited to:

- teacher expertise,
- availability of necessary resources, including facilities,
- student interest,
- alignment with the five clusters, and
- cost.

Course Selection and Scheduling

In general, once courses have been selected by school administration and teachers, communication is provided to parents with a description of the courses being offered, any associated costs, and when students will be selecting courses so that parents can discuss this programming with their students.

The flexibility within the Program of Studies for CTF courses allows for creativity in scheduling these courses in the various school communities within Parkland School Division. Generally speaking, most schools offer CTF courses in three separate terms that align with the Report Card dates in Parkland School Division (September through the first week of December; Mid December up to Spring Break and Early April through the end of June).

While the frequency and duration of CTF courses may vary within Parkland School Division Schools, most schools offer students two unique CTF courses (35 – 45 minutes/class) two to three times per week in each term.

Moving Forward with CTF in PSD

While anecdotal information reported by parents, students and staff suggests that satisfaction with the diversity of Career and Technology Foundations courses within Parkland School Division schools is generally high, we remain committed to ensuring these courses align with the prescribed curriculum of Alberta Education and the preferences of our students and parents.

To this end, a review of courses being offered with PSD schools will be undertaken in the 2023-24 school year. Amongst the considerations within this review will be:

- The level of satisfaction with the variety of courses being offered in PSD schools as measured by the Assurance Survey Results from grade 7 students and parents;
- The alignment of CTF courses offered within PSD schools to the Occupational Clusters outlined in the Program of Studies;
- The alignment of CTF courses with the Career and Technology Studies (CTS) being offered in Parkland School Division High Schools; and
- Sharing of best practices of CTF courses and programming

Career and Technology Studies (CTS)

CTS courses are competency-based courses that bridge the gap between students' interests and abilities and occupational areas such as business, communication, resources, technology and human services.

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)
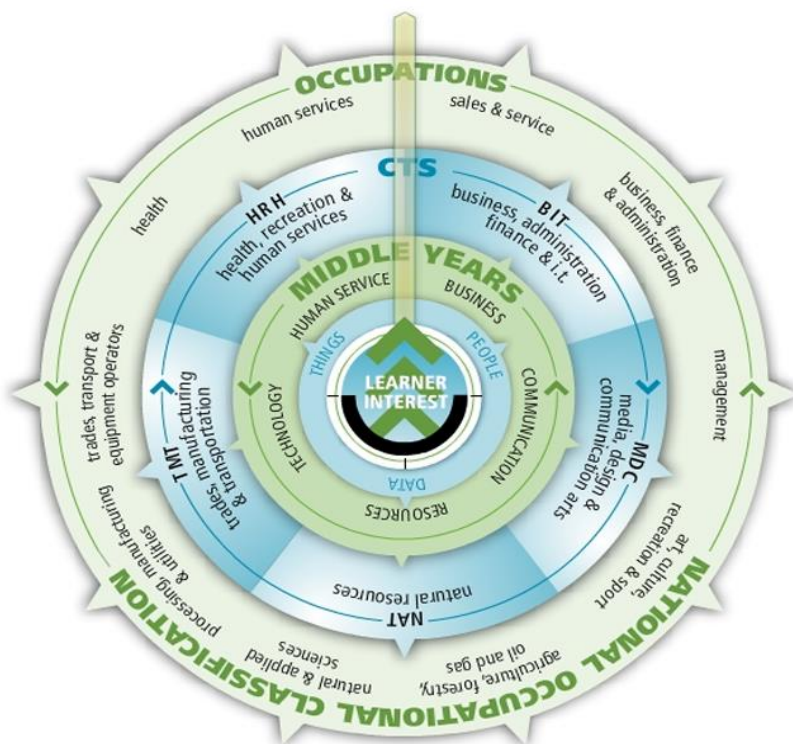
CTF and CTS Alignment

Parkland School Division Schools continue to work towards providing alignment between Career and Technology Foundations (CTF) courses offered in grades 6-9 to the Career and Technology Studies (CTS) courses offered within our High Schools. Examples of this alignment can be found in the table below.

Career and Technology Studies (CTS) at High School			Jr. High CTF Alignment
Cluster	Description	Course Examples	Course Examples
Business, Administration, Finance and Information Technology (BIT)	The focus of the BIT cluster is for students to develop and apply important knowledge, skills and attitudes so they can implement efficient systems and strategies of management and marketing and use electronic technologies to collect, structure, manipulate, retrieve and communicate information within individual, family, workplace, community and global contexts.	• Computer Science • Enterprise and Innovation • Financial Management • Information Processing • Management and Marketing • Networking	• Let's Code • Robotics • Stop Motion Animation • Entrepreneurship • Coding: Website Building • Engineering Robotics • Coding: Robotics
Health, Recreation and Human Services (HRH)	The focus of the HRH cluster is for students to develop and apply important knowledge,	• Community Care Services • Cosmetology	• Foodies Unite! • Super Snacks

	skills and attitudes so they can provide care and services for individuals and groups in a variety of industries, such as health care, recreation, cosmetology, the food industry and the legal system.	• Criminal Justice Studies • Esthetics • Foods • Health Care Aide • Health Care Services • Human and Social Services • Legal Studies • Recreational Leadership • Tourism	• Cosmetology • Leadership/Mentorship • Sports Medicine • Wolfpack Planning Team • Beauty Business
Media, Design and Communication Arts (MDC)	The focus of the MDC cluster is for students to develop and apply important knowledge, skills and attitudes so they can provide well designed and aesthetically effective communication solutions.	• Design Studies • Communication Technology • Fashion Studies	• Digital Design • Sewing • 3D Design • Knitwits
Natural Resources (NAT)	The focus of the NAT cluster is for students to develop and apply the knowledge, skills and attitudes to work individually and collectively, as private citizens and as members of the workforce, toward the conservation and responsible use of energy and natural resources.	• Agriculture • Environmental Stewardship • Forestry • Primary Resources • Wildlife	• Outdoor Education • The Art of Horticulture and Urban Farming
Trades, Manufacturing and Transportation (TMT)	The focus of the TMT cluster is for students to develop and apply important knowledge, skills and attitudes relative to the manufacture and assembly of products from individual components and the processing of raw materials into products.	• Construction • Elecro-Technologies • Fabrication • Logistics • Mechanics • Power Engineering	• Industrial Arts • Construction/Building Construction • STEM • CO2 Dragsters

CTS Courses provide an opportunity for students and schools to work together to create CTS Pathways. These pathways are flexible and allow students to:

- Explore an occupation or an interest area;
- Gain an occupational or a specialized skill set required in the workplace; and
- Apply relevant learning from academic courses to real-life situations.

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

Due to prerequisite module requirements, not all modules in these courses grant credits at the same grade level as the course. For example, an advanced 30-level course meant for Grade 12 students may contain modules at the intermediate 20-level, and completion of such modules will result in a student earning Grade 11 (not Grade 12) credit.

Emergent Educational Technology

Parkland School Division continues to selectively utilize applications to support instruction in the classroom. Applications such as online reading and math programs allow teachers to differentiate their instruction, and provide center work for students while they engage in small group instruction. As well, educators continue to make use of Google Classrooms as a Learning Management System. Parkland School Division currently has had 3,739 Google Courses active within Google Classrooms.

Technology use is widely embedded into education, and the June Technology Services Report will provide an overview of the devices utilized. With respect to computer science programs, most Alberta post-secondary programs now accept the CTS course - Computer Science 30 - as an entrance requirement, despite the fact that it does not have a corresponding diploma exam.

Computer Science 10: Focuses on game making and Android app development as students explore the field of computer science. Students are introduced to the building blocks of programming, and learn the difference between computer science, computer programming and computer engineering while creating fun games using Scratch and GameMaker. Students also explore writing code with JavaScript.

CS 20: Exists for students who have completed Computer Science 10, and will incorporate more time for projects. Students will continue to develop their understanding of Computer Science and learn the following key programming concepts, including: Procedural programming, Data structures, and Robotics Programming. This programming-based course emphasizes writing code.

CS 25: Is an intense academic course for students who were not able to take Computer Science 10 but want to be able to take Computer Science 30. Projects are incorporated throughout the course, but there are no project modules assigned (i.e. making the GameMaker game or choice robotics project). Students study programming basics and theory.

CS 30: Is a recognized 30 level Science program: credits earned in this course will grant university entrance into many programs at Alberta Universities without requiring the completion of a corresponding diploma exam. In Computer Science 30, students develop a stronger understanding of what Computer Science is, and explore the following concepts: Iterative algorithms, recursive algorithms, object-oriented programming, and Java. Students learn to develop smartphone apps.