CTF Program of Studies

Career and Technology Foundations (CTF) 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 Program of Studies is based on 14 learning outcomes that identify what students are expected to learn and what will be assessed, and are the same for grades 5 to 9.

The CTF curriculum honours student diversity, and promotes the meaningful and authentic exploration of various occupational areas. This curriculum supports programming decisions at the local level (e.g., time, resources, instructional approaches, assessment, reporting and organization for instruction). This is to ensure that CTF courses are responsive to the needs of students, teachers, schools and communities.

CTF Learning Outcomes

CTF is exploring interests, passions and skills while making personal connections to career possibilities.

- I explore my interests and passions while making personal connections to career possibilities.
- I use occupational area skills, knowledge and technologies.
- I follow safety requirements associated with occupational areas and related technologies.
- I demonstrate environmental stewardship associated with occupational areas.

CTF is planning, creating, appraising and communicating in response to challenges.

- I plan in response to challenges.
- I make decisions in response to challenges.
- I adapt to change and unexpected events.
- I solve problems in response to challenges.
- I create products, performances or services in response to challenges.
- I appraise the skills, knowledge and technologies used to respond to challenges.
- I communicate my learning.

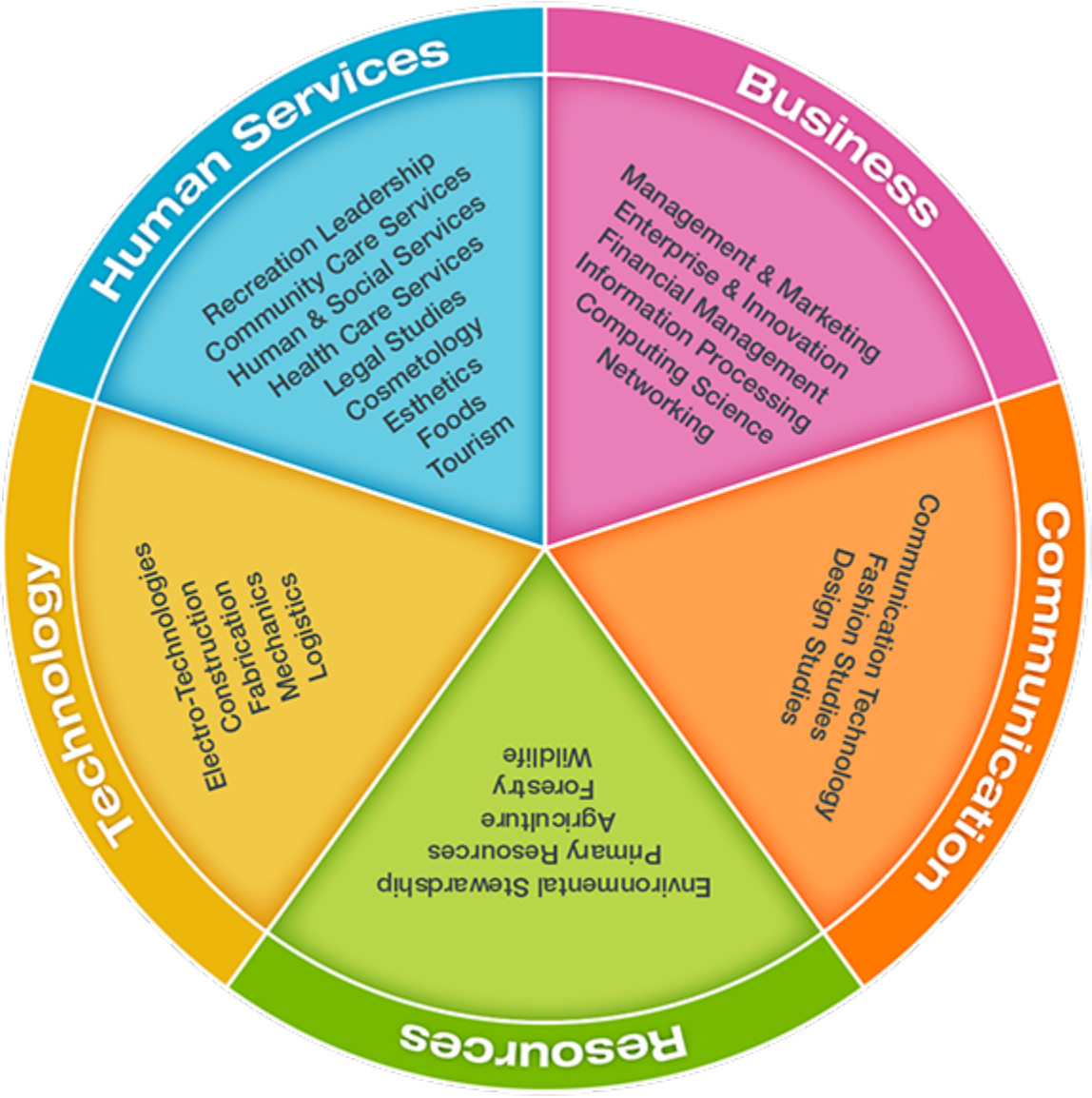
CTF is working independently and with others while exploring careers and technology.

- I determine how my actions affect learning.
- I develop skills that support effective relationships.
- I collaborate to achieve common goals.

The CTF Learning Process

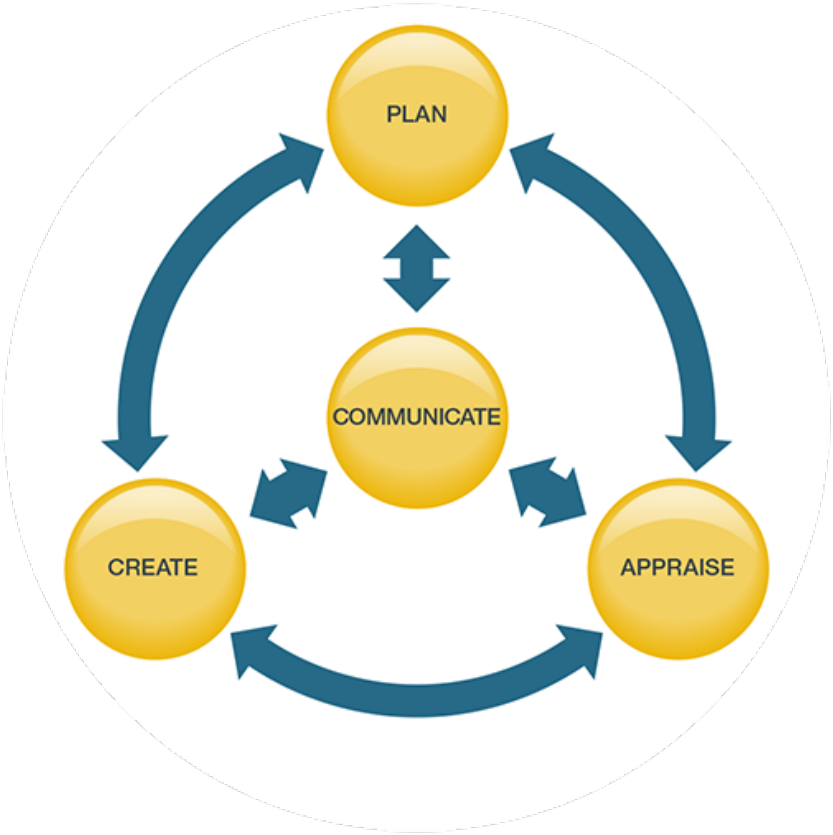
The CTF curriculum supports learning experiences that allow students to explore occupational areas common to Career and Technology Studies (CTS) and CTF through challenges or tasks. CTF is not a prerequisite for CTS high school courses.

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 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 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 a 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.

Although CTF supports flexible, interdisciplinary learning and encourages the use of challenges to develop relevant and meaningful hands-on learning experiences for students, pedagogy used to deliver the CTF curriculum is a local decision that provides opportunity to effectively use local resources and recognize local guidelines and expertise.

CTF Projects are based on the **STEM** and **STEAM** realms of education. STEM is a curriculum based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach. Rather than teach the four disciplines as separate and discrete subjects, **STEM** integrates them into a

cohesive learning paradigm based on real-world applications. The addition of Arts to **STEM** to create **STEAM** is about incorporating creative thinking and applied arts in real situations. Art is not just about working in a studio. Art is about discovering and creating ingenious ways of problem solving, integrating principles or presenting information. Picture an architect; they use engineering, math, technology, science and arts to create stunning buildings and structures.

Project Timeline (This changes at the discretion of the instructor depending on how long each project takes.)

- **Project One:** Straw tower challenge 3-4 days
- **Project Two**: Mouse Trap Powered Car built and designed for maximum distance
- **Project Three:** Building world monuments to scale using cardboard
- **Project Four:** 3D Printing- Design using a CAD program
- **Project Five:** Programming using TYNKER: Introduction to block coding, HTML5, PYTHON and C++
- **Project Six:** Student choice on approval of instructor

- Differentiated Instruction (D.I.) and Assessment for Learning (A4L).

  D.I. involves being more aware of the differences in how students learn which in turn leads to varied methods of instruction to better meet student needs. D.I. will also involve giving students a greater say in some of the areas they choose to focus their studies on and how they present their findings. A4L (Learning Activities) requires students to be more aware of the objectives and requirements of each assignment. It focuses on using assignments as a method of improvement rather than as a source of marks. In this light some of the students' work will be commented on, discussed, without putting an actual mark on it. In this way students will learn what is expected of them and how to improve their work. It is vital that students put their best effort into completing and learning from all assignments.

Classroom Expectations

In order for our classroom to be a positive learning community, we all need to respect each other's right to learn and teach.

All students in our class are capable of success in science if we all follow these basic expectations:

1. ARRIVE ON TIME AND PREPARED, EVERYDAY. You will need your binder, textbook, journal, blue pen, red pen, pencil, eraser, highlighter, ruler and agenda. There is no excuse for leaving these items at home because you know you have science class everyday. It is disrespectful and disruptive to the teacher and your fellow classmates to arrive late or unprepared. Time wasted by late arrival or unprepared arrival will be made up for at noon.

2. RESPECT is an essential part of working in a learning community:

   a. All students are expected to respect themselves, each other and the teacher, as well as all property and equipment. Name-calling, teasing, inappropriate language, damage to property,

etc will not be tolerated. Inappropriate behaviour will be dealt with immediately. Further incidents will be handled more sternly and may involve parents and administration.

b. Use class time effectively and complete your work on time. Misuse of class time will result in less class time to work on assignments, etc. Misuse of time may also result in making up for that time at lunch hour.

c. Do not talk when someone else is talking, whether it is the teacher or a classmate. You want to be heard when you are speaking and it is expected you would demonstrate the same respect.

3. This is YOUR learning environment! A neat and tidy classroom makes the learning experience more enjoyable and safe for everyone. You are responsible for maintaining your personal space and the classroom in general. Please clean up after yourself.

If there any questions at all I can be reached via email or by calling the school.