



# Course of Study

## ICD20 – Digital Technologies & Innovations

### Grade 10, Open

*V. Rao, Sept 2023*

#### A. COURSE DESCRIPTION

This course helps students develop cutting-edge digital technology and computer programming skills that will support them in contributing to and leading the global economic, scientific, and societal innovations of tomorrow. Students will learn and apply coding concepts (in **HTML**, **CSS**, and **p5.js**) and skills to build hands-on projects and investigate **robotics**, **artificial intelligence**, **cybersecurity**, and other emerging digital technologies that connect to a wide range of fields and careers. Using critical thinking skills with a focus on digital citizenship, students will investigate the appropriate use and development of the digital technologies that they encounter every day, as well as the benefits and limitations of these technologies.

**PREREQUISITE:** None

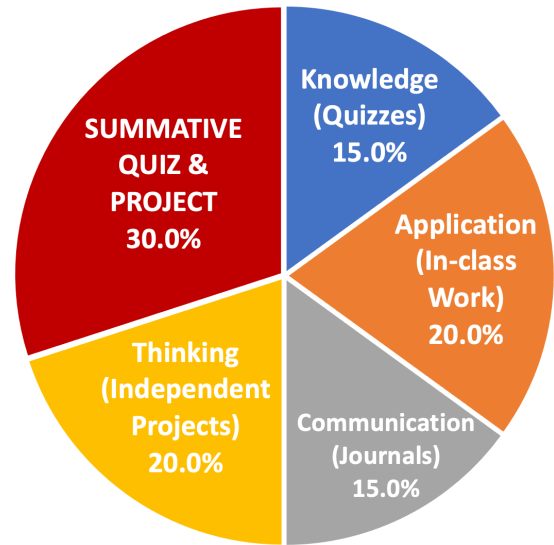
#### B. OVERALL EXPECTATIONS

Strand	Expectations
<b>Computational Thinking, Planning, and Purpose</b>	<ul style="list-style-type: none"><li>• demonstrate an understanding of important social, cultural, economic, environmental, and ethical issues, as well as contributions and innovations involving diverse local and global communities, related to digital technology;</li><li>• demonstrate an understanding of real-world applications of digital technology and programming in various industries and careers.</li></ul>
<b>Hardware, Software, and Innovations</b>	<ul style="list-style-type: none"><li>• demonstrate an understanding of the functions and features of the hardware and software they encounter in their everyday life;</li><li>• demonstrate an understanding of various ways to use hardware, software, and file management, and of research practices to support their own use of digital technology;</li><li>• demonstrate an understanding of safe and effective practices related to data and cybersecurity in various contexts;</li><li>• investigate current and emerging innovations in digital technology, including automation and artificial intelligence, and assess their benefits and limitations.</li></ul>
<b>Programming</b>	<ul style="list-style-type: none"><li>• explain fundamental programming concepts and algorithms;</li><li>• use fundamental programming concepts to write simple programs;</li><li>• demonstrate an understanding of program components and modules.</li></ul>

### C. ACHIEVEMENT CATEGORY WEIGHTINGS

A student's final grade in this course will consist of:

- **70%** Cumulative Term Work
- **30%** Summative Evaluation(s)



### D. UNITS OF STUDY

#	Unit Name	Evaluations	[K]	[A]	[C]	[T]
1	<b>The Internet</b> (HTML + CSS)	Daily Work / Learning Journal		✓	✓	
		Quizzes	✓			
		Assignment				✓
2	<b>Computer Systems</b> (p5.js Coding)	Daily Work / Learning Journal		✓	✓	
		Quizzes	✓			
		Assignment				✓
3	<b>Artificial Intelligence</b> (p5.js Coding)	Daily Work / Learning Journal		✓	✓	
		Quizzes	✓			
4	<b>Robotics</b> (Build & Code)	Robot Building		✓		
		Robot Coding / Simulator				✓
		Robot Challenges				✓
5	<b>Putting It All Together!</b>	Summative Quiz & Project	✓	✓	✓	✓

### E. LEARNING SKILLS

Learning skills, such as responsibility, organization, independent work, collaboration, initiative, and self-regulation will be assessed (and self-assessed) throughout the year, and will be included on the student's report card.

## F. STUDENT EXPECTATIONS

### Students Are Expected To..

- **Treat others as you wish to be treated.** This means showing respect for yourself, your classmates, and your teacher.
- Demonstrate keen attendance, punctuality, attentive listening, and participation in class activities (whole class, independent, and team work).
- Complete all homework and assignments on time, and effectively use class time.
- Strictly follow the **TDSB acceptable computer use policy** (see Student Agenda). All students and their parents are required to sign an agreement stating that they have read and understood the policy.
- **NOT** bring any food or (uncovered) drinks into the lab and take care with our classroom computers.
- **NOT** use electronic devices (phones, tablets, laptops) without the consent of your teacher, and for curriculum-related purposes only.

### Illness and Other Absences

Students should notify their teacher in advance of any planned absences due to school activities. For absence due to illness, students must provide a slip from the office or a parental note on the first day they return. The note must contain the following: student name, date(s) of absence, reason for the absence, and a parent/guardian signature.

### Missed Tests/Assignments

Students who are sick on an assignment or test due date must bring a note on the first day they return and make arrangements with the teacher so that the tests/assignments can be completed. **Failure on the student's part to make such arrangements or failure to show up for a test retake will result in a mark of zero being assigned for any missed evaluations.**

### Late Assignments

According to school policy, **late assignments will be penalized by 5% per day** (to a max of 10%). A grade of **zero** will be assigned if the teacher has returned the marked assignment to the rest of the class (i.e., the "ultimate deadline").

### Plagiarism

Copying the work of others will not be tolerated and a **zero** grade will be assigned for intentional infractions. Any student found **giving** their work to be copied will **also** be assigned a **zero** grade. In cases of repetitive plagiarism, parents and the office will be notified.