

Course Outline 2018-2019

ICS4C - Computer Programming



All courses within HDSB are taught in learning environments that promote inclusive education, and identify and eliminate discriminatory biases, systemic barriers, and power dynamics that limit the ability of students to participate, learn, grow, and succeed. All students see themselves reflected in the curriculum, their physical surroundings, and the broader environment, so that they are engaged in and empowered by their learning experiences.

Course Description

This course further develops students' computer programming skills. Students will learn object-oriented programming concepts, create object-oriented software solutions, and design graphical user interfaces. Student teams will plan and carry out a software development project using industry-standard programming tools and proper project management techniques. Students will also investigate ethical issues in computing and expand their understanding of environmental issues, emerging technologies, and computer-related careers.

Prerequisite: Introduction to Computer Programming, Grade 11, College Preparation

Curriculum Expectations

The overall curriculum expectations for this course are organized in strands as follows. To see specific curriculum expectations and more visit <http://www.edu.gov.on.ca/eng/curriculum/secondary/computer.html>

Programming Concepts and Skills

- A1. use data structures in the design and creation of computer programs;
- A2. demonstrate the ability to use standard algorithms in the design and creation of computer programs;
- A3. demonstrate an understanding of object-oriented programming concepts and practices in the design and creation of computer programs;
- A4. create clear and accurate internal and external documentation to ensure the maintainability of computer software.

Software Development

- B1. design standard algorithms according to specifications;
- B2. design software solutions using object-oriented programming concepts;
- B3. design user-friendly graphical user interfaces (GUIs) that meet user requirements;
- B4. participate in a large student-managed project, using proper project management tools and techniques to manage the process effectively.

Programming Environment

- C1. demonstrate the ability to use project management tools to plan and track activities for a software development project;
- C2. demonstrate the ability to use software development tools to design and write a computer program.

Computers and Society

- D1. analyse and apply strategies that promote environmental stewardship with respect to the use of computers and related technologies;
- D2. demonstrate an understanding of ethical issues and practices related to the use of computers;
- D3. investigate and report on emerging computer technologies and their potential impact on society and the economy;
- D4. research and report on the range of career paths and lifelong learning opportunities in software development or a computer-related field.

Learning Skills & Work Habits

☐ Responsibility ☐ Organization ☐ Self-Regulation ☐ Independent Work ☐ Collaboration ☐ Initiative

Learning skills and work habits are an important part of your growth. Learning Skills and Work Habits will be taught, assessed, evaluated, and shared on your report card. This gives you and your parents/guardians valuable information about your learning.

Assessment and Evaluation

Your **final grade**² will be determined by combining your Term (70%) grade and your Final Evaluations (30%) as follows. Teacher Subject Councils have determined the weightings of the categories below for this course.

<p>Your work throughout the semester accounts for 70% of your final grade:</p> <ul style="list-style-type: none">• Your teacher will collect and track evidence of your learning through observations of your work; conversations with you; and by evaluating the work you produce.• Your teacher will provide feedback to help you with further study and improvement• Your 70% work will be returned for your review and reflection.	<p>21% Knowledge & Understanding: Subject-specific content (knowledge), and the comprehension of its meaning and significance (understanding).</p> <p>21% Application: The use of knowledge and skills to make connections within and between contexts (i.e., familiar, new, other subjects, world).</p> <p>14% Thinking: The use of critical and creative thinking skills and/or processes (i.e., planning skills, processing skills, critical/creative thinking processes).</p> <p>14% Communication: The conveying of meaning through various forms (i.e., oral, visual, written, electronic) for different audiences and purposes including the vocabulary and conventions of the discipline.</p>
<p>Your Final Evaluations account for 30% of your final grade³:</p> <ul style="list-style-type: none">• Final Evaluations will challenge you to demonstrate your knowledge and skills related to the overall expectations for the course.	<p>20% In-Class Final Evaluation: This portion of your Final Evaluation will take place in class at or near the end of your course during protected time. It will not require significant preparation outside of class time.³</p> <p>10% Evaluation Block Final Evaluation: This portion will take place during the Evaluation Block of time after classes end and will be a maximum duration of 2.0 hours.</p>

Related Links

- 1) [Meeting Timelines and Academic Honesty](https://goo.gl/KTAh40) - goo.gl/KTAh40
- 2) [Determining Report Card Grade](https://goo.gl/FuzbMW) - goo.gl/FuzbMW
- 3) [Final 30% Evaluations](https://goo.gl/W82PYL) - goo.gl/W82PYL

Your teacher can provide you with a paper copy of this information if required.