

**SOUTH CARLETON HIGH SCHOOL**

Ottawa-Carleton District School Board

**STUDENT OUTLINE****ICS4U**

Introduction to Computer Science

Grade 12

Credit Value: 1.0

Hours: 110

Prerequisite: ICS3U

**Course Overview**

This course enables students to further develop knowledge and skills in computer science. Students will use modular design principles to create complex and fully documented programs, according to industry standards. Student teams will manage a large software development project, from planning through to project review. Students will also analyse algorithms for effectiveness. They will investigate ethical issues in computing and further explore environmental issues, emerging technologies, areas of research in computer science, and careers in the field.

**Expectations**

Unit Title	Overall Expectations
Programming Concepts and Skills	<b>A1.</b> demonstrate the ability to use different data types and expressions when creating computer programs <b>A2.</b> design and write algorithms and subprograms to solve a variety of problems
Software Development	<b>B1.</b> demonstrate the ability to manage the software development process effectively – planning, development, production, and closing <b>B2.</b> apply standard project management techniques in the context of a student-managed team project
Designing Modular Programs	<b>C1.</b> demonstrate the ability to apply modular design concepts in computer programs <b>C2.</b> analyse algorithms for their effectiveness in solving a problem
Topics in Computer Science	<b>D1.</b> assess strategies and initiatives that promote environmental stewardship with respect to the use of computers and related technologies; <b>D2.</b> analyse ethical issues and propose strategies to encourage ethical practices related to the use of computers

**Accommodations for Exceptional Students**

The technology department makes every effort to accommodate the identified needs of exceptional (IPRC'd) students and will attempt to differentiate curriculum delivery methods, student modes of expression, and assessment methods as recommended by the student's individual education plan (IEP).

**Teaching Strategies**

Units are activity based. Teacher demonstrations and research activities provide the students with the necessary terminology and methodology to complete the activities. Classroom discussions, collaborative and co-operative learning, research, report writing and taking notes will assist students in meeting the course expectations. Upon completion of this course, students will demonstrate the ability to apply skills and knowledge to practical situations that involve the completion of work assignments and problem-solving activities. Students will be expected to use the Internet to find resources for their projects.

**Resources/Textbooks/Technological Integration**

A series of in-house workbooks and electronic resources.

**Evaluation**

Term Report	Final Report
Students will be evaluated on the overall expectations listed above. Evaluations will cover a balance of Responsibility, Organization, Independent Work, Collaboration, Initiative and Self-Regulation.	Term 70% Summative task 20% Exam 10% 100%

**Key Evaluation Dates:**

**Technological Studies summatives will come due within the school's Summative and Evaluation Period between January 7<sup>th</sup> and 31<sup>st</sup> and June 5<sup>th</sup> to June 25<sup>th</sup>.**

**Absence from evaluations during these dates must be substantiated with a medical certificate or equivalent documentation as approved by administration.**

**Classroom Management**

Due to the nature of the technology classroom, no food or beverages, jackets or bags can be allowed. Adherence to school Internet use policy will be strictly enforced. Noncompliance will result in the removal of computer privileges for the students for an indeterminate period of time.

More information on South Carleton High School's policy on Assessment and Evaluation and on Academic Integrity can be accessed on our school website [www.southcarleton.ca](http://www.southcarleton.ca)