

Computer Science – ICS3U

Course Information & Evaluation

This course introduces students to computer science. Students will design software independently and as part of a team, using industry-standard programming tools and applying the software development life-cycle model. They will also write and use subprograms within computer programs. Students will develop creative solutions for various types of problems as their understanding of the computing environment grows. They will also explore environmental and ergonomic issues, emerging research in computer science, and global career trends in computer-related fields

PREREQUISITE: None

<p>Overall Expectations</p> <p>Programming Concepts and Skills</p> <p>A1. demonstrate the ability to use different data types, including one-dimensional arrays, in computer programs;</p> <p>A2. demonstrate the ability to use control structures and simple algorithms in computer programs;</p> <p>A3. demonstrate the ability to use subprograms within computer programs;</p> <p>A4. use proper code maintenance techniques and conventions when creating computer programs.</p> <p>Software Development</p> <p>B1. use a variety of problem-solving strategies to solve different types of problems independently and as part of a team;</p> <p>B2. design software solutions to meet a variety of challenges;</p> <p>B3. design algorithms according to specifications;</p> <p>B4. apply a software development life-cycle model to a software development project.</p> <p>Computer Environments and Systems</p> <p>C1. relate the specifications of computer components to user requirements;</p> <p>C2. use appropriate file maintenance practices to organize and safeguard data;</p> <p>C3. demonstrate an understanding of the software development process.</p> <p>Topics in Computer Science</p> <p>D1. describe policies on computer use that promote environmental stewardship and sustainability;</p> <p>D2. demonstrate an understanding of emerging areas of computer science research;</p> <p>D3. describe postsecondary education and career prospects related to computer studies.</p>	<p>Strands/Units Topics</p> <table border="1"> <tr> <td>1. Problem Solving Using Computers</td> <td>7. Documentation</td> </tr> <tr> <td>2. Program Structure</td> <td>8. Computers In Society</td> </tr> <tr> <td>3. Conditional Statements</td> <td>9. Computer Related Career Options</td> </tr> <tr> <td>4. Repetition with Loops</td> <td>10. Computers and the Environment</td> </tr> <tr> <td>5. Data Structures</td> <td>11. Summative: (x2)</td> </tr> <tr> <td>6. App Design</td> <td></td> </tr> </table>		1. Problem Solving Using Computers	7. Documentation	2. Program Structure	8. Computers In Society	3. Conditional Statements	9. Computer Related Career Options	4. Repetition with Loops	10. Computers and the Environment	5. Data Structures	11. Summative: (x2)	6. App Design	
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<p>Course Text and Reference Resources</p> <p>Processing reference texts. Online material</p>														
<p>Assessment & Evaluation Policy</p> <p>Refer to the attached SWL Assessment and Evaluation Policy April 2011</p>														
<p>Attendance Policy</p> <p>Students are responsible for catching up on class notes and completing any assignments or tasks involving equipment for which they were absent. <i>It is up to the students to ask the instructor what they missed when they return.</i> Parents will be contacted for any student who skips class. After three such skips, the student will be referred to the Vice-Principal.</p>														
<p>70% Formative Evaluation</p> <p>Student evaluation is based on the Overall Expectation found in the Ontario Curriculum using various forms, such as, but, not limited to, quizzes, tests, assignments, projects, presentations, safety practices, and activities.</p>														
<p>30% Summative Evaluation</p> <p>Each student will complete <u>two</u> summative projects representing 30% of their mark.</p> <p>Certain forms of these summative evaluations (exams, final tests, performance based tasks, etc.) are time sensitive. This means they must be completed at and within a specific time. Students <u>must</u> be present for these summative evaluations. Any absence will result in a mark of zero, unless validated by an official certificate. (ex. Medical Certificate). Students and parents will be informed well in advance of summative evaluation dates.</p>														
<p>Classroom Expectations</p> <p>1. Students are expected to be willing and active participants in all course activities. This includes completing all assignments both on time and with sufficient effort, and honoring all of their commitments. Every student is expected to keep a neat, well-organized notebook or portfolio</p> <p>2. Students will contribute to a positive learning environment by: • practicing safe work habits at all times • being respectful to others and respecting their property • treating all equipment with care and ensuring proper knowledge of its operation • reporting unsafe or hazardous situations to the instructor • reporting software or equipment problems to the instructor • cleaning up their workspace and putting everything away before they leave the class* Electronic storage devices and headphones can be used at the discretion of the teacher * No food or drink is permitted in any of the equipment areas.</p>														