**MISSISSAUGA SECONDARY SCHOOL – Computer and Information Science**

COURSE INFORMATION 2011-12

**COURSE: I**ntroduction to Computer Science, (ICS3U0) Grade 11, University

**Required text and replacement cost:** N/A

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| **Course Description:**  This course helps students examine computer science concepts. Students will outline stages in software development, define standard control and data structures, identify on- and off-line resources, explain the functions of basic computer components, and develop programming and problem-solving skills by using operating systems and implementing defined practices.  As well as identifying careers in computer science, students will develop an understanding of the ethical use of computers and the impact of emergent technologies on society.  **Ministry Course Overall Expectations:**  By the end of the course, students will:   * demonstrate the ability to use different data types, including one-dimensional arrays, in computer programs * demonstrate the ability to use control structures and simple algorithms in computer programs * use proper code maintenance techniques and conventions when creating computer programs * use a variety of problem-solving strategies to solve different types of problems independently and as part of a team * design software solutions to meet a variety of challenges * design algorithms according to specifications * apply a software development life-cycle model to a software development project * demonstrate an understanding of the software development process.   **Course Weighting**  Knowledge 40% 28  Application 40% 28  Thinking 10% 7  Communication 10% 7  **Term 70% 70/100**  **Final Exam/ Summative** **30% 30/100** | **Course Units and Learning Goals:**  **Unit 1: Programming Concepts and Skills**   * describe and demonstrate data types and expressions * create control structures and simple algorithms * demonstrate how to write and use subprograms * exhibit code maintenance techniques   **Unit 2: Software Development**   * use problem-solving strategies * design software solutions and algorithms * explain the software development life cycle   **Unit 3: Computer Environments and Systems**   * explain issues related to the ethical use of computers; * describe emergent technologies and their impact on society; * identify information systems and computer science career paths, and their educational requirements.   **Assessment and Evaluation – Key Terms and Definitions**    ***Assessment for Learning:*** The ongoing process of gathering and interpreting evidence about student learning for the purpose of determining where students are in their learning, where they need to go, and how best to get there (e.g. observations, conversation, non-graded quizzes, pre-tests, written assignments, progress monitoring, performance). The information gathered is used by teachers to provide feedback and adjust instruction and by students to focus their learning. Assessment for learning is a high-yield instructional strategy that takes place while the student is still learning and serves to promote learning.  ***Assessment as Learning:*** The process of developing and supporting student metacognition. Students are actively engaged in this assessment process: that is, they monitor their own learning (e.g. learning logs, metacognitive questions and self-assessment using graphic organizers, interviews, conferences); use assessment feedback from teacher, self, and peers to determine next steps; and set individual learning goals (e.g. goal setting). Assessment as learning requires students to have a clear understanding of the learning goals and success criteria (e.g. co-constructing rubrics/check lists, self assessment, peer assessment).  ***Assessment of Learning:***The process of collecting and interpreting evidence for the purpose of summarizing learning at a given point in time, to make judgements about the quality of student learning on the basis of established criteria, and to assign a value to represent that quality (e.g. test, summative assignment). The information gathered may be used to communicate the student’s achievement to parents, other teachers, students themselves, and others. It occurs at or near the end of a cycle of learning. |

**STUDENTS ASSESSMENT, EVALUATION, AND REPORTING IN PEEL SECONDARY SCHOOLS**

**(Growing Success 2010 Policy and Peel Policy 14)**

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| **Achievement Chart Category** | | | |
| **Knowledge** | **Thinking/Inquiry** | **Communication** | **Application** |
| * Knowledge of content(e.g., facts, terms, definitions) standing of content (e.g., concepts, ideas, theories, procedures, processes) | * Use of planning skills(e.g., focusing research, gathering information,) * Use of processing skill (e.g., analysing, generating, integrating, synthesizing) * Use of critical/creative thinking processes (e.g., inquiry process, problem-solving) | * Expression and organization of ideas and information (e.g., clear expression) * Communication for different audiences and purposes in oral, written, and visual forms * Use of conventions vocabulary, and terminology of the discipline in oral, written, and visual forms | * Application of knowledge and skills (e.g., concepts, procedures, processes, and/or technologies) in familiar contexts * Transfer of knowledge and skills (e.g., concepts, procedures, methodologies, technologies) to new contexts * Making connections within and between various contexts |

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| **EVIDENCE OF LEARNING**  **OBSERVATIONS CONVERSATIONS PRODUCTS** | | |
| * Homework * Checklist * Group Work * Presentations * Task Observations * Questions and Answers | * Group Work Records * Student-Teacher Conferences * Class Discussion * Peer Feedback/Conferences * Problem Solving Group Challenges * Self Assessment | * Technology Presentation * Programming Projects * Unit Tests * E-Waste Poster |

**Success Criteria for completing this course:**

**Learning Skills:**

It is an expectation that each student is assessed not only on their academic achievement but also on their Learning Skills. These skills include: *Responsibility, Organization, Independent Work, Collaboration, Initiative, and Self Regulation*. Learning skills will not be factored into the grade for this course but will appear on the report card. It is important to remember that the development and consistent practice of these skills will influence academic achievement.

**Late and Missed Assignments**

*Please see the Policy on Absence of Evidence of Student Achievement as outlined on page 28 of the student agenda.*

**Plagiarism and Cheating**

*Please see the Policy on Plagiarism and Cheating as outline on page 29 in the student agenda.*

**Homework, Assignments and Effective Communication**

To earn a credit students have a responsibility to submit sufficient evidence of understanding within established deadlines. It is in the student's best interest to submit evidence of learning at every opportunity that is provided, so that his/her grade accurately reflects what was learned. In the event that a student produces insufficient evidence in the key understandings for the course, the entire credit is at stake.

Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_