

Sir John A. Macdonald Collegiate Institute Course Brief

Course Name	Computer Science	Grade	12
Course Code	ICS4U	Credit Value	1
Pre-Requisite	ICS3U	Programming Language	Java
Type of Course	University Preparation	School Year	2020 - 2021

TEXTBOOKS

N/A

REPLACEMENT COST (if lost or damaged)

Course Description

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 the industry standards. Student teams will manage large software development project, from planning through to project review. Students will also analyze algorithms for effectiveness. They will investigate ethical issues in computing and further explore environmental issues, emerging technologies, area of research in computer science, and career in the field.

Curriculum Strands/Categories (this may differ depending on discipline and level)

Knowledge and Understanding: Subject-specific content acquired in each grade/course (knowledge), and the comprehension of its meaning and significance (understanding)

Thinking: The use of critical and creative thinking skills and/or processes

Communication: The conveying of meaning through various forms

Application: The use of knowledge and skills to make connections within and between various contexts

Assessment and Evaluation of Student Achievement

Course Strand	Concept
Programming Concepts and Skills	A1. Data types and Expressions A2. Modular Programming A3. Designing Algorithms A4. Code maintenance
Software Development	B1. Project Management B2. Software Project Contribution
Designing Modular Programs	C1. Modular Design C2. Algorithms Analysis
Culminating Activities	Culminating Program

Levels of Achievement

For Grades 9 to 12, a student's achievement of the overall curriculum expectations will be evaluated in accordance with the achievement charts in the provincial curriculum and will be reported using percentage marks.

Achievement Level	Percentage Mark Range	Achievement Description
HL4/L4+	95 – 100	Level 4 identifies achievement that surpasses the provincial standard. The student demonstrates the specified knowledge and skills with a high degree of effectiveness.
L4	87 – 94	
LL4/L4-	80 – 86	

HL3/L3+ L3 LL3/L3-	77 – 79 73 – 76 70 – 72	Level 3 represents the provincial standard for achievement. The student demonstrates the specified knowledge and skills with considerable effectiveness. Parents of students achieving at level 3 can be confident that their children will be prepared for work in subsequent grades/courses
HL2/L2+ L2 LL2/L2-	67 – 69 63 – 66 60 – 62	Level 2 represents achievement that approaches the provincial standard. The student demonstrates the specified knowledge and skills with some effectiveness. Students performing at this level need to work on identified learning gaps to ensure future success.
HL1/L1+ L1 LL1/L1-	57 – 59 53 – 56 50 – 52	Level 1 represents achievement that falls much below the provincial standard. The student demonstrates the specified knowledge and skills with limited effectiveness. Students must work at significantly improving learning in specific areas, as necessary, if they are to be successful in the next grade/course

Students who achieve below 50% have not met curriculum expectations; a credit will not be granted.

Learning Skills	Assessment of Learning Skills
Responsibility Organization Independent Work Collaboration Initiative Self-Regulation	Excellent (E) Good (G) Satisfactory (S) Needs Improvement (N)

Weighting by Strands/Categories			
Knowledge and Understanding	30%	Communication	10%
Thinking	10%	Application	20%

Assessment and Evaluation Strategies: the following is a list of potential A/E strategies used within the course; the list may not be exhaustive and is subject to change

- Unit Tests
- Programming Assignments
- Exam
- Culminating Program Assignment
- Culminating Test
- Inquiry
- Quizzes
- Classroom Discussion
- Tutorials
- Collaborative /Cooperative Learning
- Independent Study
- Research reports

CALCULATION OF FINAL MARK

- 70% for evaluations conducted throughout the course
- 15% for a Culminating Activity – the C/A will occur in the final 5 weeks of the course
- 15% for the final exam