Computer Science, Grade 12
York Region District School Board
Dr. G.W. Williams Secondary School

Teacher: Mr. Cugliari

Grade	Name	Type	Code	Credit Value	Prerequisite
12	Computer Science	University	ICS4U	1.0	ICS3U

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 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.

Course Content:

UNIT	UNIT TITLE	OVERALL EXPECTATIONS
1	Programming Concepts and Skills	• demonstrate the ability to use different data types and expressions when creating computer programs; • describe and use modular programming concepts and principles in the creation of • computer programs; • design and write algorithms and subprograms to solve a variety of problems; • use proper code maintenance techniques when creating computer programs.
2	Software Development	• demonstrate the ability to manage the software development process effectively, through all of its stages – planning, development, production, and closing; • apply standard project management techniques in the context of a student-managed team project.
3	Designing Modular Programs	• demonstrate the ability to apply modular design concepts in computer programs; • analyse algorithms for their effectiveness in solving a problem.
4	Topics in Computer Science	• assess strategies and initiatives that promote environmental stewardship with respect to the use of computers and related technologies; • analyse ethical issues and propose strategies to encourage ethical practices related to the use of computers; • analyse the impact of emerging computer technologies on society and the economy; • research and report on different areas of research in computer science, and careers related to computer science.

Assessment and Evaluations:

Assessment and evaluation of student achievement are based on the provincial curriculum expectations and the *Achievement Chart for Computer Studies*. The achievement chart identifies *four categories* each with *four levels* of achievement. Throughout the semester, we will provide you with various opportunities (e.g., tests, quizzes, case studies, exercises, assignments, projects, homework checks, oral presentations, and computer lab work) to demonstrate your achievement of the curriculum expectations across all four categories. Achievement at Level 1 will earn a mark of 50 – 59%, Level 2 is 60 – 69%, Level 3 is 70 – 79%, and Level 4 is 80 – 100%. Level 3 is the provincial standard. Students who are achieving at least level 3 (i.e. 70+ %) are well prepared for work in the next grade. Additionally, you will receive regular feedback from your teacher that will come in the form of direct, corrective comments, or in the form of grades or levels.

Your **final mark** will appear on the report card as a percent. It is policy that 70% of your final mark will be based on assessments that occur throughout the term and 30% will be based on the final summative assessments that occur towards the end of the course. The components of your final mark are shown in the chart on the back of this page.

Learning Skills:

Responsibility, Organization, Independent Work, Collaboration, Initiative, Self-Regulation – will also be assessed regularly throughout the semester. Learning Skills must be assessed separately from your achievement of the expectations in this course. They will not be used in the calculation of your final mark.

Marking Structure:

TERM EVALUATION	Knowledge/ Understanding	Addresses the ability of the student to recall facts, terms, definitions, concepts, ideas, theories, principles, relationships, and methodologies.	20%	70%
	Thinking	Addresses the ability of the student to demonstrate critical and creative thinking in unfamiliar contexts, often beyond the classroom environment. This includes evaluation of business situations, problem solving, decision making, detecting bias, and effective research.	15%	
	Communication	Addresses the ability of the student to communicate concepts both orally and in writing, using effective presentation tools. This includes effective expression and organization of ideas, communication for different audiences, and use accounting vocabulary and terminology with effectiveness.	15%	
	Application	Addresses the ability of the student to transfer their knowledge and understanding of concepts to new and familiar contexts.	20%	
SUMMATIVE	Final Examination	There will be a Final Exam at the end of the semester worth 20% of the student's final evaluation. All students will write the final exam, which will be based on the entire semester's work.	15%	30%
	ISU	The ISU will reflect the student's knowledge and understanding of key concepts learned in the course.	15%	

Attendance:

It is expected that students will attend class, be punctual, and follow the attendance and punctuality policy outlines in the student agenda book. Being present and on time helps to build a richer learning environment and are integral to a student's success in the course.

Late Submission Policy:

Students are responsible for submitting work to teachers on time. If a student anticipates a problem with meeting a deadline then the student is required to initiate a discussion with the teacher in advance.. In such a case, the student and teacher will discuss a plan about meeting the related curriculum expectations. A parent/guardian will be included in the discussion, as warranted.

Department Expectations:

It is expected that you will:

1. Arrive on time for class
2. Bring proper equipment (notebook, textbook, pen, pencil, eraser, calculator etc.)
3. Listen attentively and take proper notes
4. Participate – give answers orally, ask questions, help others
5. Tell your teacher in advance if you know you are going to be away
6. Get caught up with your notes and assignments if you are absent
7. Do your homework regularly
8. Come in for extra help when you need it
9. Keep an open mind – each semester is a fresh start and a new opportunity
10. If you are absent for an evaluation, see your teacher the day you return to class and be prepared to do it that day. For a prolonged absence, discuss possible options with your teacher. Our insistence that you meet these expectations will give you the best possible chance to measure your progress in business.

Academic Integrity:

Learning is enhanced when students think independently and honestly. True learning in an intellectually stimulating environment is enhanced when students consistently demonstrate respect for the intellectual property rights of others and adhere to a code of honour in all evaluated activities. Acts of academic dishonesty can lead to severe consequences for students. Please refer to the student agenda book for definitions, procedures and consequences.

Extra Help:

To maximize your performance, it is essential that you keep up with your understanding. Come in for extra help when you need it**.** Arrangements for extra help can be made with your teacher.

Teacher/Department:

| Teacher: | Mr. Cugliari | Email: | paul.cugliari@yrdsb.ca |