

Computer Programming, 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 Programming	College	ICS4C	1.0	ICS3C

Course Description:

This course further develops students' computer programming skills. Students will learn object-oriented programming concepts, create object-oriented software solutions, and design graphical user interfaces. Student teams will plan and carry out a software development project using industry-standard programming tools and proper project management techniques. Students will also investigate ethical issues in computing and expand their understanding of environmental issues, emerging technologies, and computer-related careers.

Course Content:

UNIT	UNIT TITLE	OVERALL EXPECTATIONS
1	Programming Concepts and Skills	<ul style="list-style-type: none"> • use data structures in the design and creation of computer programs; • demonstrate the ability to use standard algorithms in the design and creation of computer programs; • demonstrate an understanding of object-oriented programming concepts and practices in the design and creation of computer programs; • create clear and accurate internal external documentation to ensure the maintainability of computer software.
2	Software Development	<ul style="list-style-type: none"> • design standard algorithms according to specifications; • design software solutions using object-oriented programming concepts; • design user-friendly graphical user interfaces (GUIs) that meet user requirements; • participate in a large student-managed project, using proper project management tools and techniques to manage the process effectively.
3	Programming Environment	<ul style="list-style-type: none"> • demonstrate the ability to use project management tools to plan and track activities for a software development project; • demonstrate the ability to use software development tools to design and write a computer program.
4	Computers and Society	<ul style="list-style-type: none"> • analyse and apply strategies that promote environmental stewardship with respect to the use of computers and related technologies; • demonstrate an understanding of ethical issues and practices related to the use of computers; • investigate and report on emerging computer technologies and their potential impact on society and the economy; • research and report on the range of career paths and lifelong learning opportunities in software development or a computer-related field.

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 Head Contact Information:

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