COURSE INFORMATION SHEET

DATE: 20-
SECONDARY SCHOOL: *BISHOP ALLEN ACADEMY*
DEPARTMENT HEAD:
TEACHER:
DEPARTMENT: *Computer Studies / Business*

CURRICULUM POLICY DOCUMENT	**Ontario Curriculum, Technological Studies, Grades 11 and 12**		
COURSE TITLE	**Computer and Information Science**	**COURSE CODE**	**ICS3M**
PRE-REQUISITE	**None**	**GRADE & TYPE**	**11 University/College**
FULL YEAR / SEMESTER	**Semester**	**CREDIT VALUE**	**1**

COURSE DESCRIPTION
This course helps students examine computer science concepts. Students 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 using operating systems and implementing defined practices. As well as identifying careers in computer science, students develop an understanding of the ethical use of computers and the impact of emergent technologies on society.

LISTED IN ORDER OF INSTRUCTIONAL DELIVERY		
STRAND / UNIT TITLES	**HOURS**	**OVERALL EXPECTATIONS / UNIT DESCRIPTION**
Working in the Computing Environment	**12**	This unit focuses on basic computer and information science skills. Students identify hardware components, research ergonomic considerations, practise file management skills, access resources through local and wide area networks, and research the evolution of programming languages. They develop skills for success in the computer and information science environment. Students focus on the Computer and Information Science environment; students also examine respect for the environment and wise use of resources from a Catholic perspective.
Beginning to Program	**25**	This unit focuses on basic programming structures. Students write simple programs, using variable assignment, repetition, and decision structures, and develop effective testing, validating, and documenting skills. They also explore roles of effective communicators and reflective thinkers when following a problem-solving model (e.g., user inputs a series of marks, each value is validated, the average is calculated, and a grade is assigned).

Problem Solving with Procedures and Functions	**18**	This unit focuses on program modularity and career exploration. Students write programs using existing sub-programs and then progress to writing programs including their own sub-programs. They also explore careers in computer studies and develop skills in program modularity (e.g., a program to encrypt/decrypt a passage of text using substitution encoding). Students complete a reflection on work and on the *Laborem Exercens* encyclical.
Information Storage and Related Issues	**12**	This unit focuses on data storage and manipulation. Students examine issues surrounding privacy, security, and ethical use of information. They also write programs that input data from existing files, process the data, and create files for external data storage, following an appropriate problem-solving model (e.g., Create a data file containing employee information including hours worked and rate of pay. Read from the file, compute, display, and write to a new file the gross pay for each employee.).
Using Data Structures	**18**	This unit focuses on the programming techniques required to store and manipulate data and to solve problems through the development of a database. Each activity develops knowledge and skills that students apply in the culminating challenge of this unit: to develop a database for a school team (e.g., the hockey team or similar organization, consisting of personal data such as player name, position played, jersey number, phone number, goals, and assists). Students examine the structuring of one- and two-dimensional arrays and how data is represented and stored in these structures. They write programs that create lists and tables of data, manipulate the data, and output the result. Sorting and searching techniques are also applied.
Putting It All Together	**25**	This unit is the culminating challenge for applying knowledge and skills in an integrated and meaningful task. Students follow the software design life cycle to find the best solution to a challenge (e.g., a movie reservation system), demonstrating the mastery of course expectations. The teacher should choose the challenge with students to allow students to express their creativity while at the same time demonstrating knowledge and skills. Students examine the effect and influence on society of emergent technologies.

STUDENT EVALUATION CRITERIA				
TERM – 70%		**FINAL – 30%**		**FINAL REPORT CARD GRADE CALCULATION – 100%**
10 ≤ RELATIVE EMPHASIS / WEIGHTING ≤ 40		**RELATIVE EMPHASIS / WEIGHTING**		**TERM TOTAL + FINAL TOTAL = REPORT CARD MARK**
KNOWLEDGE/UNDERSTANDING	**20**	**Final Exam**	**?**	
INQUIRY/THINKING	**15**	**Group Project**	**?**	
COMMUNICATION	**10**			
APPLICATION	**25**			
TERM TOTAL	**70**	**FINAL TOTAL**	**30**	

ASSESSMENT FORMAT USED ✓					
WRITTEN		**PERFORMANCE**		**OTHER**	
Multiple Choice Tests		Group Work		Teacher Observation	
Short Answer		Programming Project		Lab Assignments	
Project Manual		Programming Assignments		Case Studies	

RESOURCES	
REFERENCE TEXTBOOK	1. Computer Concepts (4th Edition)
	2. Computers and Problem Solving
	3. An Intro to Programming Using Visual Basic
	4. Using Visual Basic (2nd Edition)
JOURNALS	Selected articles from Journals, Newspapers and Magazines
COMPUTER USE	Selected software and Programming Language (Visual Basic)
COURSE RELATED WEBSITES	Selected use only – site lists will be provided throughout course

CLASSROOM POLICIES & PROCEDURES

Late Assignments	Students will be given an opportunity to negotiate due dates based on other course assignments, to receive formative assistance in completing assignments, and time-management assistance. Students will remain after class time to complete assignments. Assignments which are not in time to be marked by the return date will receive a 0. Repeated lates will necessitate parent-student conferences.
Plagiarism	See "School Code of Behaviour"
Homework	Homework is assigned to review and complete class work: average 2 hours/week. Major Assignments when assigned will substitute for regular homework.
Teacher Contacts	Students will receive a bi-weekly progress report for parental review & signature
Extra Help	A buddy-system is established for peer assistance. Pre-school assistance is provided each morning ½ hour before class.

LEARNING SKILLS CRITERIA

IN EACH REPORTING PERIOD, REPORT ON THE QUALITY OF THE LEARNING SKILLS DEMONSTRATED BY THE STUDENT IN EACH OF THE CATEGORIES IDENTIFIED ON THE REPORT CARD USING THE FOLLOWING LETTER SYMBOLS.

E–EXCELLENT G–GOOD S–SATISFACTORY N–NEEDS IMPROVEMENT

SKILL: WORKS INDEPENDENTLY **INDICATORS:**	
• accomplishes tasks independently • accepts responsibility for completing tasks • follows instructions • regularly completes assignments on time and with care • demonstrates self-direction in learning • independently selects, evaluates, and uses appropriate learning materials, resources, and activities	• demonstrates persistence in bringing tasks to completion • uses time effectively • uses prior knowledge and experience to solve problems and make decisions • reflects on learning experiences
SKILL: ORGANIZATION **INDICATORS:**	
• organizes work when faced with a number of tasks • devises and follows a coherent plan to complete a task • follows specific steps to reach goals or to make improvements • revises steps and strategies when necessary to achieve a goal	• manages and uses time effectively and creatively • demonstrates ability to organize and manage information • follows an effective process for inquiry and research • uses appropriate information technologies to organize information and tasks
SKILL: INITIATIVE **INDICATORS:**	
• seeks out new opportunities for learning • responds to challenges and takes risks • demonstrates interest and curiosity about concepts, objects, events, and resources • seeks necessary and additional information in print, electronic, and media resources • identifies problems to solve, conducts investigations, and generates questions for further inquiry • requires little prompting to complete a task, displaying self-motivation and self-direction	• approaches new learning situations with confidence and a positive attitude • develops original ideas and devises innovative procedures • attempts a variety of learning activities • seeks assistance when needed • uses information technologies in creative ways to improve learning for self or others
SKILL: TEAMWORK **INDICATORS:**	
• works willingly and cooperatively with others • shares resources, materials, and equipment with others • responds and is sensitive to the needs and welfare of others • solves problems collaboratively • accepts various roles, including leadership roles • takes responsibility for his or her own share of the work to be done • works to help achieve the goals of the group or the class • helps to motivate others, encouraging them to participate • contributes information and ideas to solve problems and make decisions	• questions the ideas of the group to seek clarification, test thinking, or reach agreement • shows respect for the ideas and opinions of others in the group or class • listens attentively, without interrupting • in discussions, paraphrases points of view and asks questions to clarify meaning and promote understanding • recognizes the contribution of group members by means of encouragement, support, or praise • seeks consensus and negotiates agreement before making decisions
SKILL: WORK HABITS/HOMEWORK **INDICATORS:**	
• completes homework on time and with care • puts forth consistent effort • follows directions • shows attention to detail • uses materials and equipment effectively	• begins work promptly and uses time effectively • perseveres with complex projects that require sustained effort • applies effective study practices

NOTE: The above chart is a reformatting of the skills identified in the Ministry of Education's ***Guide to the Provincial Report Card, Grades 9 – 12*** **:** ***Appendix C: pages 27 to 29*** .