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 9 and 10	
COURSE TITLE	**Computer and Information Science**	**COURSE CODE**	**ICS201**
PRE-REQUISITE	None	**GRADE & TYPE**	**10/Open**
FULL YEAR / SEMESTER	Semester	**CREDIT VALUE**	**1**

COURSE DESCRIPTION
This course introduces students to computer science concepts. Students learn about the stages in software design; the fundamental programming constructs of sequence, selection, and repetition; the functions of internal and external computer components; the relationship among networks, operating systems, and application software and their uses; and how programming languages evolve. Students also develop an awareness of computer-related careers and the impact of computers and associated technologies. This course is designated as open and can be taken by all students who wish to learn about Computer and Information Science. Students who wish to continue study in this area can take the University/College courses in Grades 11 and 12 that lead to post-secondary courses.

LISTED IN ORDER OF INSTRUCTIONAL DELIVERY		
STRAND / UNIT TITLES	**HOURS**	**OVERALL EXPECTATIONS / UNIT DESCRIPTION**
The Computer and Society	18	This unit focuses specifically on how computer technology has changed over time by using observation and research techniques to investigate changes and differences in operating systems, computer components, networks, and the history of programming languages. This prepares students to understand and critically evaluate the impact of computer technology on society as a whole. A resource collection of articles on Computers and Society is the culminating activity. The unit will explore the impact of technology on: - Impact on Employment and the "nature of work" - describe postsecondary education and career prospects related to computer studies. - An understanding of the "information revolution" - The "Gamer Revolution" – violence
Computer Networks	15	Students explore the relationship among hardware, operating systems, networks, and software. - Provide an understanding of external computer components and the relationship among networks, various operating systems and application software. - describe the features and functions of wired and wireless networking hardware (e.g., NICs, routers, hubs, cables, modems); - understand various methods for sharing network resources (e.g., shared file access, shared printer access, Internet access). - Issues pertaining to wireless networks - security - Careers in networking

The Internet	**18**	The unit will provide students with an in depth understanding of the internet. The unit will explore: • A history of the internet and the individuals that contributed to its development. • Impact on learning and education – issue such as plagiarism • Threats from the internet – viruses, identity theft, online predators
Foundations of Programming Java	**58**	**Conceptualizing, Planning, Writing and Maintaining Programs** 1. describe fundamental programming concepts and constructs; 2. plan and write simple programs using fundamental programming concepts; 3. apply basic code maintenance techniques when writing programs. 1.1 use correct terminology to describe programming concepts; 1.2 describe the types of data that computers can process and store (e.g., numbers, text); 1.3 explain the difference between constants and variables used in programming; 1.4 determine the expressions and instructions to use in a programming statement, taking into account the order of operations (e.g., precedence of arithmetic operators, assignment operators, and relational operators); 1.5 identify situations in which decision and looping structures are required; 1.6 describe the function of Boolean operators (e.g., AND, OR, NOT), comparison operators (i.e., equal to, not equal to, greater than, less than, greater than or equal to, less than or equal to), and arithmetic operators (e.g., addition, subtraction, multiplication, division, exponentiation, parentheses), and use them correctly in programming. 2.1 use a visual problem-solving model (e.g., IPO [Input, Process, Output] chart; HIPO [Hierarchy plus Input, Process, Output] chart and diagram; flow chart; storyboard) to plan the content of a program; 2.2 use variables, expressions, and assignment statements to store and manipulate numbers and text in a program (e.g., in a quiz program, in a unit conversion program); 2.3 write keyboard input and screen output statements that conform to program specifications; 2.4 write a program that includes a decision structure for two or more choices (e.g., guessing game, rock-paper-scissors game, multiple-choice quiz, trivia game); 2.5 write programs that use looping structures effectively (e.g., simple animation, simple board games, coin toss); 2.6 explain the difference between syntax, logic, and run-time errors; 2.7 compare and contrast the use of different programming environments to solve the same problem (e.g., a solution developed in a programming language versus one developed using a spreadsheet). 3.1 write clear and maintainable code using proper programming standards (e.g., indentation; naming conventions for constants, variables, and expressions);

| | | 3.2 write clear and maintainable internal documentation to a specific set of standards (e.g., program header: author, revision date, program name, program description; table of variable names and descriptions);

3.3 use a tracing technique to understand program flow and to identify and correct logic and run-time errors in a computer program;

3.4 demonstrate the ability to validate a computer program using test cases. |
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STUDENT EVALUATION CRITERIA

TERM – 70%		FINAL – 30%		FINAL REPORT CARD GRADE CALCULATION – 100%
10 ≤ RELATIVE EMPHASIS / WEIGHTING ≤ 40		RELATIVE EMPHASIS / WEIGHTING		
KNOWLEDGE/UNDERSTANDING	20	**Final Exam**	20	
INQUIRY/THINKING	15	**Programming Proj.**	10	TERM TOTAL + FINAL TOTAL = REPORT CARD MARK
COMMUNICATION	15			
APPLICATION	20			
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	
1-2 Page Written Assignments				Case Studies	

RESOURCES

REFERENCE TEXTBOOK	1. Computer Concepts (4th Edition)
	2. Computers in a Changing Society
	3. A Guide to Programming in Java
JOURNALS & VIDEOS	Selected articles from Journals, Newspapers and Magazines; Selected Videos
COMPUTER USE	Selected software and Programming Language (Java)
COURSE RELATED WEBSITES	Selected use only – site lists will be provided throughout course

POLICIES & PROCEDURES

Late Assignments	See Bishop Allen late policy for all courses in student agenda.
Plagiarism	See "School Code of Behaviour"
Homework	Homework is assigned to review and complete class work
Department Weighting Policy	Quiz/minor assignments/homework—1 Essays/major assignments/presentations—2 Tests—5
Extra Help	After school assistance is always provided as need arises

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__* .