Introduction to Computer Studies (ICS2O)

TDSB – Forest Hill Collegiate Institute (416 393–1860)

DESCRIPTION

This course introduces students to computer programming. Students will plan and write simple computer programs by applying fundamental programming concepts, and learn to create clear and maintainable internal documentation. They will also learn to manage a computer by studying hardware configurations, software selection, operating system functions, networking, and safe computing practices. Students will also investigate the social impact of computer technologies, and develop an understanding of environmental and ethical issues related to the use of computers.

(Computer Studies: The Ontario Curriculum Grades 10 to 12, Revised, 2008)   **Prerequisite**: None

CURRICULUM & OVERALL EXPECTATIONS

Course Strands	*Concepts*
A. Understanding Computers	A1. Hardware Components A2. Software Products A3. Operating Systems A4. Home Computer Networking A5. Maintenance and Security
B. Introduction to Programming	B1. Programming Concepts B2. Writing Programs B3. Code Maintenance
C. Computers and Society	C1. Social Impact C2. Environmental Stewardship and Sustainability C3. Ethical Issues

UNDERSTANDING COMPUTERS

1. describe the functions of different types of hardware components, and assess the hardware needs of users
2. describe the different types of software products, and assess the software needs of users
3. use the basic functions of an operating system correctly
4. demonstrate an understanding of home computer networking concepts
5. explain the importance of software updates and system maintenance to manage the performance and increase the security of a computer

INTRODUCTION TO PROGRAMMING

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

COMPUTERS & SOCIETY

1. describe key aspects of the impact of computers and related technologies on society
2. describe computer use policies that promote environmental stewardship and sustainability
3. describe legal and ethical issues related to the use of computing devices
4. describe post-secondary education and career prospects related to computer studies

ASSESSMENT & EVALUATION

Evaluations will consist of traditional tests & quizzes, assignments, projects, group work, and presentations.

Students can expect at least one written evaluation (quiz, test) and at least one major assignment or project per unit.

To promote student success, ongoing formative assessment and feedback will be given to students.

The course expectations will be evaluated according to the four categories of the achievement chart.

Term Evaluations		
Knowledge & Understanding	25%	**70%**
Application	30%	
Thinking/Inquiry & Problem-solving (TIPS)	25%	
Communication	20%	
Course Culminating Evaluations		
Final Programming Project	20%	**30%**
Final Written Test	10%	
Final Course Mark		**100%**

LEARNING SKILLS ASSESSMENT

These skills will be assessed throughout the course and reflected on the report card.

Learning Skills and Work Habits			E – Excellent G – Good S – Satisfactory N – Needs Improvement		
Responsibility			**Organization**		
▪ Fulfils responsibilities and commitments within the learning environment. ▪ Completes and submits class work, homework, and assignments according to agreed-upon timelines. ▪ Takes responsibility for and manages own behaviour.			▪ Devises and follows a plan and process for completing work and tasks. ▪ Establishes priorities and manages time to complete tasks and achieve goals. ▪ Identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks.		
Independent Work			**Collaboration**		
▪ Independently monitors, assesses, and revises plans to complete tasks and meet goals. ▪ Uses class time appropriately to complete tasks. ▪ Follows instructions with minimal supervision.			▪ Accepts various roles and an equitable share of work in a group. ▪ Responds positively to the ideas, opinions, values, and traditions of others. ▪ Builds healthy peer-to-peer relationships through personal and media-assisted interactions. ▪ Works with others to resolve conflicts and build consensus to achieve group goals. ▪ Shares information, resources, and expertise, and promotes critical thinking to solve problems and make decisions.		
Initiative			**Self-Regulation**		
▪ Looks for and acts on new ideas and opportunities for learning. ▪ Demonstrates the capacity for innovation and a willingness to take risks. ▪ Demonstrates curiosity and interest in learning. ▪ Approaches new tasks with a positive attitude. ▪ Recognizes and advocates appropriately for the rights of self and others.			▪ Sets own individual goals and monitors progress towards achieving them. ▪ Seeks clarification or assistance when needed. ▪ Assesses and reflects critically on own strengths, needs, and interests. ▪ Identifies learning opportunities, choices, and strategies to meet personal needs and achieve goals. ▪ Perseveres and makes an effort when responding to challenges.		

For further details, see "*Growing Success*" **(p. 9 – 14)**: http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf

ONTARIO SKILLS PASSPORT (OSP)

- Essential skills needed for work, learning, and life: Reading text, Writing, Computer Use, Measurement and Calculation, and Problem Solving (http://www.skills.edu.gov.on.ca/OSP2Web/EDU/Welcome.xhtml)

POLICIES & CLASSROOM EXPECTATIONS

- *Academic Honesty* – Students are expected to be academically honest. They are expected to submit their own work, so that the mark received reflects their own academic achievement.
- *Lab Rules* – computers and equipment are to be used for course-related work (see Acceptable Use Policy for more details)
- *Care & Respect for Property* – no food or drink in the lab, take care of equipment, report any issues/problems to teacher
- *Online Code of Conduct* as in the school agenda or http://www.tdsb.on.ca/communications/code_of_online_conduct/occ.html
- *Assignments & Projects* – assignments and projects are to be completed and submitted by the due date and are subject to late penalties (work submitted after the ultimate deadline will not be accepted and will receive a mark of zero)

RESOURCES, COURSE MATERIALS, USEFUL WEBSITES (PROGRAMMING & ONLINE TUTORIALS)

- USB flash drive or external HDD for storing and transporting digital material and work between school and home
- 3-ring binder, paper, writing utensils (pen, pencil, eraser)
- *Khan Academy Programming:* https://www.khanacademy.org/computing/cs
- *Khan Academy Internet 101:* https://www.khanacademy.org/computing/computer-science/internet-intro
- *Google Classroom*

PROVISIONS FOR STUDENT SUCCESS

Teacher Support:	Student Responsibilities:
● *Extra help* ● *Computer Lab hours* *During lunch or after school* *(arrange time with teacher in advance)*	● Keep an organized binder to assist with your studies ● Keep an organized "digital binder" of all digital materials provided ● Set and focus on realistic goals for each class, each unit, the whole course ● Record daily achievements to set and meet new challenges ● Review learning at home daily ● Home study in preparation for each class to enrich your learning ● Take advantage of extra help and lab hours to assist in meeting goals ● Provide help to peers to consolidate your learning and increase confidence ● Ask and answer questions; look hard for answers; participate!