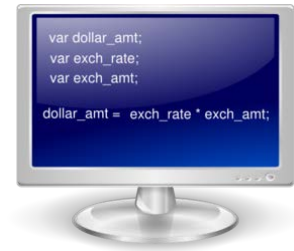


COURSE OVERVIEW

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.



PREREQUISITE: *None*

CURRICULUM STRANDS AND OVERALL EXPECTATIONS

UNDERSTANDING COMPUTERS

By the end of the course students will:

- Describe the functions of different types of hardware components, and assess the hardware needs of users.
- Describe the different types of software products, and assess the software needs of users.
- Use the basic functions of an operating system correctly.
- Demonstrate an understanding of home computer networking concepts.
- Explain the importance of software updates and system maintenance to manage the performance and increase the security of a computer.

INTRODUCTION TO PROGRAMMING

By the end of the course students will:

- Describe fundamental programming concepts and constructs.
- Plan and write simple programs using fundamental programming concepts.
- Apply basic code maintenance techniques when writing programs.

COMPUTERS AND SOCIETY

By the end of the course students will:

- Describe key aspects of the impact of computers and related technologies on society.
- Describe computer use policies that promote environmental stewardship and sustainability.
- Describe legal and ethical issues related to the use of computing devices.
- Describe postsecondary education and career prospects related to computer studies.

UNITS OF STUDY

UNIT 1: Hardware, Software and Networks

UNIT 2: Introduction to GameMaker

UNIT 3: Advanced Tools and Techniques

UNIT 4: Computers and Society

UNIT 5: Introduction to GML Programming

UNIT 6: Putting It All Together

ASSESSMENT AND EVALUATION

Evidence of student achievement for evaluation is collected over time from three different sources – observations, conversations, and student products. Student products may be in the form of tests or exams and/or assignments (which may include rich performance tasks, demonstrations, projects, and/or essays). The final grade will be determined based on **term work (70%)** and a **final evaluation (30%)**, comprised of a **Culminating Performance Task (15%)** and a **Final Exam (15%)**.

Within these two areas, marks will be obtained using the four categories specified in the *Ontario Curriculum Grades 10 to 12: Computer Studies, 2008*.

KNOWLEDGE AND UNDERSTANDING (25%)

- Knowledge of content (e.g., facts, technical terminology, definitions, procedures, standards).
- Understanding of content (e.g., concepts, principles, methodologies, use of tools).

THINKING (25%)

- Use of planning skills (e.g., focusing research, gathering information, selecting strategies, organizing a project).
- Use of processing skills (e.g., analysing, interpreting, assessing, reasoning, evaluating, integrating, synthesizing).
- Use of critical/creative thinking processes (e.g., evaluation of computer solutions, problem solving, decision-making, detecting and correcting flaws, research).

COMMUNICATION (20%)

- Expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, visual, and written forms, including electronic forms (e.g., presentations, charts, graphs, tables, maps, models, web pages, reports).
- Communication for different audiences (e.g., peers, computer users, company supervisor) and purposes (e.g., to inform, to persuade) in oral, visual, and written forms, including electronic forms.
- Use of conventions, vocabulary, and terminology of the discipline in oral, visual, and written forms, including electronic forms.

APPLICATION (30%)

- Application of knowledge and skills (e.g., concepts, procedures, processes, use of tools) in familiar contexts.
- Transfer of knowledge and skills (e.g., choice of tools and software, ethical standards, concepts, procedures, technologies) to new contexts.
- Making connections within and between various contexts (e.g., between computer studies and personal experiences, opportunities, social and global challenges and perspectives; between subjects and disciplines).