

Computer Engineering, Grade 11, University/College Preparation (ICE3M)

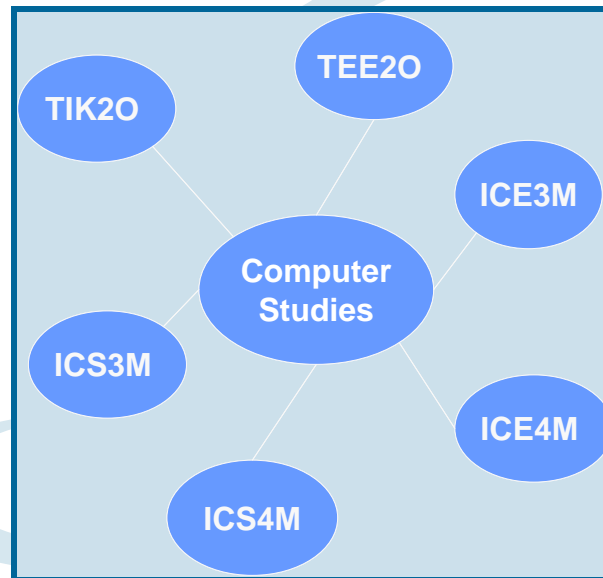
- This course helps you understand how computer hardware and software are used to solve computer-related problems from an engineering perspective.
- You will explore ways of connecting computers, interfaces, and peripherals using their knowledge of logic gates, computer components, peripherals, programming, networks, and operating systems.
- You will also construct systems that use computer programs to interact with hardware, install and configure key computer hardware and software components, develop an understanding of the ethical use of computers, and explore careers in computer engineering.

Computer Engineering, Grade 12, University/College Preparation (ICE4M)

- This course helps you understand and apply computer engineering concepts.
- You will analyse and design computer components such as logic circuits and interfaces; develop and construct systems and write the associated computer programs to drive real-world devices such as traffic lights, models, and robots; and explore networking hardware, protocols, and configurations. As well as developing project management skills, students will examine the ethics of computer use and explore related educational requirements and careers.
- **Prerequisite:** Computer Engineering, Grade 11, University/College Preparation or Computer and Information Science, Grade 11, University/College Preparation

Take a step into computers

- Make Computer studies part of your future
- Bubble in your selections on bubble day, February 23rd



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Computer Studies @ York Memorial

Why Computer Studies?

- **Computers**, their pervasiveness, and continual advances demand a rigorous curriculum and the commitment of educators to understand it, promote their responsible use, and enable students to become problem solvers who are self-sufficient, entrepreneurial, and technologically literate.
- **Students** must acquire the **computer** skills and knowledge required to participate in a competitive, global economy. They must become critical and innovative thinkers, able to question, understand, and respond to the implications of **computer** innovation, as well as to find solutions and develop products.
- **Computer** education focuses on developing students' ability to work creatively and competently with a technology that is central to their lives. Their development as **computer** literate individuals throughout secondary school enhances their success in postsecondary studies and in the workplace.
- Similarly, **computer studies** supports students' work in other subjects. It develops research skills, supports development in literacy and mathematics, and fosters creativity, critical thinking, and problem solving. In addition, it promotes global citizenship and environmental awareness.

Computer Studies @ York Memorial

- Computer and Information Science (TIK2O)
- Computer Engineering Technology (TEE2O)
- Computer and Information Science (ICS3M)

- Computer and Information Science (ICS4M)
- Computer Engineering (ICE3M)
- Computer Engineering (ICE4M)

Computer and Information Science (TIK2O)

- This course introduces students to computer science concepts.
- You will 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.
- You will also develop an awareness of computer-related careers.

Computer Engineering Technology (TEE2O)

- This course examines computer hardware and the control of external components from an engineering perspective.
- You will learn how to solve problems, and will study the functions of key computer components and peripherals, logic gates, fundamental programming concepts, internal numbering and character representation systems, and operating systems and networks.
- You will also develop an awareness of potential careers in the field of computer engineering.

Computer and Information Science, Grade 11, University/College Preparation (ICS3M)

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

Computer and Information Science, Grade 12, University/College Preparation (ICS4M)

- This course helps you use programming and software engineering principles to design and develop algorithms and programs.
- You will use software development and diagnostic tools, implement data structures and algorithms, and use file management techniques in project settings.
- You will also develop an understanding of the ethics of computer use and the impact of information technology on the community, and will explore postsecondary education and career paths in computer science.
 - **Prerequisite:** Computer and Information Science, Grade 11, University/College Preparation

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