COMPUTER SCIENCE

The problem solving skills and understanding of information management gained from this sequence of courses will be of use to students in any career choice. The ability to program in modern object-oriented languages is an extremely useful skill in our modern economy. Computer Science 30 may be used as Science for University entrance. As well, students are able to challenge the Advanced Placement Computer Science exam, which provides an excellent head start for those who are interested in courses in many fields at the post-secondary level, including Computer Science, Engineering, Software Development, Physics, Digital Animation, etc.

COMPUTER SCIENCE 10 (6 Credits)

This course will give students an introduction to programming using the Python language. Also, they will study computer architecture and basic logic circuits. We also have some fun in experimenting with graphics and developing a text-based game by the end of the course. Prior programming experience is NOT necessary for success. However, students should be comfortable with Mathematics.

COMPUTER SCIENCE 20 (5 credits)

Students will extend their knowledge from Computer Science 10. They will write code to solve more complex problems in an object-oriented approach. They will be introduced to Java as a second programming language, while working in a fully integrated development environment. The design and implementation of Graphical Interfaces and Code Management will also be covered.

COMPUTER SCIENCE 30 (5 credits)

Students will learn about and apply advanced concepts in object-oriented programming such as inheritance and polymorphism. They will also focus on dynamic data structures and both iterative and recursive algorithms. There will be an opportunity to develop mobile applications for Android or iPhones.

COMPUTER SCIENCE 30 AP (5 credits)

This Advanced Placement course is equivalent to a first year course in post-secondary computer science, with elements of second year Computer Science covered as well. The core modules used are identical to Computer Science 30, but they are accelerated and there is an added emphasis on preparation for the AP Computer Science A Exam in May. Students still have an opportunity for a large independent project at the end of the semester.

Computer Science 10	**Computer Science 20**	**Computer Science 30 / 30 AP**
NET1010 Digital Technology 1	CSE2140 Second Language Programming	CSE3130 Object-Oriented Programming
CSE1010 Computer Science 1	CSE3120 Object-Oriented Programming	CSE3110 Iterative Algorithms 1
CSE1110 Structured Programming 1	CSE2120: Data Structures 1	CSE3310 Recursive Algorithms 1
CSE1120 Structured Programming 2	CSE2910: Project B	CSE3320 Dynamic Data Structures 1
CSE2110 Procedural Programming 1	CSE2920 Project C	CSE3910 Project D
CSE1910 Project A		