Computer Technology (TEJ2O0)

Culminating Assessments:

Final Project (20% of final grade)

The course will conclude with a final project which will provide the students with an opportunity to demonstrate all the skills they have learned by building and programming a robot. This project will take approximately four weeks to complete.

Final Exam (10% of final grade)

There will be a written exam to test the knowledge and vocabulary that students have acquired the study of computer technology.

Is prepared for through the

Course Units:

Computer Hardware and Networking	Digital Logic and Electronics	Robotics and Computer Interfacing	Computer Software and Programming	Technology, Environment and Society	Professional Practice and Careers
30 hours		30 hours	15 hours	7.5 hours	7.5 hours

which include the following:

Knowledge, Skills and Activities

Computer Hardware and Networking	Digital Logic and Electronics	Robotics and Computer Interfacing	Computer Software and Programming	Technology, Environment and Society	Professional Practice and Careers
• Use precise terminology to identify computer components and peripheral devices. • Connect and configure the hardware for a personal computer system, and install an operating system. • Install and configure a peer-to-peer network.	• Convert between binary, decimal and hexadecimal numbering systems. • Recognize and apply logic gates, like AND, OR, NOT • Safely construct and test electronic circuits, using, e.g., LEDs, transistors, resistors, and integrated circuits. • Use appropriate test equipment to measure electrical quantities.	• Build circuits that can be connected to a computer and controlled by a computer program. • Build circuits that can control devices such as LEDs, electric motors. • Connect simple sensors to change the operation of electronic circuits.	• Explain the difference between operating systems and applications software. • Use utility software to perform basic computer maintenance. • Use a programming language to write progams, using constants and variables. • Use a design process to develop computer programs.	• Recognize harmful effects of computer use on the environment, and identify ways to reduce the harm. • Describe the changes in society brought about by the use of computer technology. • Describe how computer technology has changed the nature of work.	• Use appropriate techniques to ensure safety when working with computers. • Demonstrate an understanding of Internet safety, and acceptable use of computers. • Identify careers in computer technology, and determine the skills and educational requirements.

TEJ2O0 | **Glenforest Secondary School** | **Course Profile**

Participate – Respect – Achieve

And these **Embedded Key Skills:**

Problem Solving Skills
- Apply a creative and flexible approach to problem solving
- Use critical thinking skills, effective research strategies, and communicate the results.
- Develop lifelong learning habits that will help them adapt to technological advances.

Technical Literacy:
- Read technical documents, and locate needed information.
- Read and interpret electrical schematics and drawings.
- Write technical reports using appropriate format and voice.
- Create wiring diagrams.

Planning Skills:
- Use the design process in the completion of projects.
- Communicate design and research ideas through a variety of media.
- Evaluate project work using identified standards.

Technical Skills:
- Build electronic circuits and devices safely and accurately, using appropriate tools.
- Assemble the hardware components of a computer correctly and safely.
- Use software programs for presentations, research, and circuit simulations.

Which lead to the following:

Enduring Understandings:

- Technology develops through a process of identifying needs, developing solutions, comparing and evaluating results, and looking for better solutions.
- The computer is a general purpose tool which can be adapted for use in many diverse applications.
- Computer technicians and engineers use schematic diagrams, logic symbols, and technical drawings.
- Computers are powered by complex electronic circuits.
- Storage devices exploit the properties of electricity, magnetism, and light.
- Computer networking uses a variety of media, including electrical conductors, fibre optic cables, and radio signals.
- There are hundreds of career possibilities in computer related fields, with entry at many levels.
- Health and safety in the workplace is a legal right and the responsibility of everyone.

Which allow students to successfully complete:

Formative Assessments (70% of final grade):

Knowledge 20%; Communication 20%; Thinking and Inquiry 20%; Application 40%

The philosophy that underlies the teaching of technology is that students learn best by doing. The curriculum in this area takes an activity-based, project-driven approach to learning that provides students with knowledge, skills, and experiences of a variety of technologies. Assessments will use a variety of methods including: oral and written testing, self-and peer evaluation, teacher observation, rubrics. The following skills will be assessed: trouble-shooting and problem-solving, circuit design and drawing, use of computer software, computer assembly techniques, and circuit building skills.