MGCI Technology Department
Course Descriptors

G09	Exploring Technologies	TIJ1O1
G10	Communication Technology Introduction to MultiMedia L1	TGJ2O1
G10	Hospitality / Culinary Arts	TFJ2O1
G10	DesignTechnology	TDJ2O1
G10	Transportation Technology	TTJ2O1
G10	Introduction to Computer Science & Programming	ICS2O1
G11	Art & Design L2 • Advertising	TGJ 3M1
G11	Graphic Arts L2 • Publishing	TGG3M1
G11	MultiMedia L2 • 3D Animation/AudioVideo/PhotoShop	TGI3M1
G11	AutoCAD & Design	TDJ3M1
G11	Transportation Technology	TTJ3C1
G11	Hospitality / Culinary Arts	TFJ3C1 / 3C2
G11	Green Industries • *formally* Horticulture/Landscaping	THJ3O1
G11	Introduction to Computer Science & Programming	ICS3U1 / 3C1
G12	Art & Design L3 • Advertising	TGJ4M1
G12	Graphic L3 • TV & Video Arts	TGG4M1
G12	MultiMedia L3 • 3D Animation or Web Publishing	TGI4M1
G12	Engineering Design & 3D Modelling	TDJ4M1
G12	Transportation Technology	TTJ4C1
G12	Hospitality / Culinary Arts	TFJ4C1
G12	Introduction to Computer Science & Programming	ICS4U1 / 4C1

September 2015

This booklet has been created to help students identify the different courses and codes in technology. The course descriptions give students an idea and an understanding of what is being covered in each of the different technology courses.

Additional information is available now on the MGCI Technology web site and more information will be added throughout the school year.

Exploring Technologies
TIJ1O1 (Grade 9)

G9 Exploring Technologies TIJ1O1

What is Exploring Technologies?

Exploring Technologies introduces the student to both the designing and building of products. Focus will be on developing a product to perform a particular task. Students will have the opportunity to explore different areas of design and the skills required to produce the product. Skill areas range from using basic hand tools to AutoCAD and 3D computers modelling programs.

Do I need to know something about hand tools or computers?

This course has been created to introduce the students to the full range of hand tools and computer software used in CAD drawings.

Why would I want to take this course?

This course exposes the student to many different technical and academic directions for possible future employment. The planning and building of a product will give the student a feel for what is involved in the process and if it is a direction they would like to investigate in greater detail.

Why take this course now?

It is important in grade 9 to start exploring as many different job options as possible. This course allows the student hands-on experience in many different areas. Students also develop an understanding of the difference between the technical and the academic sides of industry.

Academic students do not need to learn hand tools?

YES, University will not require academic students to use trade tools. However, students with a good understanding of trade tools and procedures have an advantage over other designers who do not have the experience of what the tradesperson will have to go through to produce or service the product.

Fun and Competition:

Students will enter two different competitions while in the course. These competitions are fun and exciting. The winners in the competitions will receive an award and title as either the Weight Lifting or Cyborg Champs of the school. There are two categories for the robotic weight lifting: Vertical Lift and Swing Lift categories.

Are you interested in the future?

Then come and discover your potential in exploring technologies, and how it can affect your future!

Introduction to MultiMedia L1

TGJ2O1 (G10)

Communication Technology

AC Approved advanced course for grade 9 • check out this new course with Students Services

G10 Introduction to Multimedia TGJ2O1

Communication Technology

What is it about?

Introduction to MultiMedia introduces the student to the latest tools and equipment in the Communication industry. Students will explore their potential skills and creative abilities in five main areas.

What will be studied?

1. **Information Display & Environments:** Students will plan and produce environments for information displays on the classroom bulletin boards as well as our digital bulletin board and the tech display windows. Students will work with presentation software like Powerpoint and Photoshop. In groups, students may take on the responsibility of managing and planning the digital bulletin board.
2. **Graphic Design and Production:** Using CorelDraw, students will explore the power of this draw programme used in the graphic arts industry. Students will re-create a well-known off-the-shelf package or label and promotional materials for the digital bulletin board. Students will study systems, terminology, basic window parts and purposes, purposes and functions for different peripherals, basic components of the computer and future directions, etc.
3. **Short Audio-Video Production:** Using video cameras, the students will work through a tutorial and at the end they will create a short production. Students will work in groups and will be required to do acting, directing, editing and filming.
4. **Image Production and Processes:** Adobe PhotoShop is used by the students to create and manipulate digital images. Scanners and digital cameras are also explored as input devices for images to be used in PhotoShop. Students will create modified digital images for promotional materials to be used on the digital bulletin board. Students will use Adobe PageMaker to create layouts.
5. **Short Animation:** Students will use the Adobe PhotoShop animation feature to create a short animation. Students will create a 2D animation to be used on the MGCI digital bulletin board. The animation will be burned onto a CD Rom.

Why are graphics important?

The computer has created a whole new world of graphics accessible to most people today. This new communication technology is important in creating support graphics and presentations to promote your ideas or concepts. It doesn't matter what field you choose - you will have the need for graphics and/or presentations. This course allows you to develop a solid understanding of this media and the ability to present your ideas and concepts in an interesting and an exciting way.

Hospitality / Culinary Arts
TFJ2O1 (Grade 10)

G10

Hospitality / Culinary Arts

TFJ2O1

TFJ2O1 hospitality (HEY LOOK I CAN COOK !)

This grade 10 course is an introduction to the world of cooking and food. You will learn the basics of baking, cooking, and preparing food.

You will also learn about hygiene and sanitation practices used in a kitchen.

There is no prerequisite for this course.

Technological Design
TDJ2O1 (Grade 10)

G10 Technological Design TDJ2O1

In this course you will first be introduced to Computer-Aided Drafting and Designing (CAD) learning 2 dimensional skills using AutoCAD software and then 3 dimensional with ProDESKTOP. The focus of study will be on becoming proficient with these software programs. We also design shapes in 3D and then may actually create them using computer numerical control manufacturing machinery (CNC).

If you are considering a career in the Engineering Field as a Technician, Technologist, Engineer, or are interested in architecture, design or manufacturing, get a head-start by taking the Technological Design Grade 10 course. This will enable you to easily progress to the more advanced Technological Design Grade 11 & 12 courses, and will give you a clear advantage in the post-secondary Technological Education at any level.

You will start by learning the most common AutoCAD features and use this knowledge to produce simple and more complex drawings. Next you learn the principles of Orthographic Projections first using simple non-cylindrical objects and slowly progress to more complex objects. Finally you may design objects in 3D and actually produce them on the CNC machinery!

Artistic talent is not required basic computer and math skills are recomended. This design program is crucial for anyone intending to continue on to post-secondary studies in the areas of engineering, architecture, interior design, manufacturing, and construction.

Project driven course with no final exam.
Prerequisite: Basic Math Skills recommended

Transportation Technology
TTJ2O1 (Grade 10)

G10 Transportation Technology TTJ2O1

What is Transportation Technology?
Transportation Technology introduces the student to the transportion of people and goods. In this course you will increase your knowledge about all forms of transportation, how each type will effect our environment and how you, the consumer, influence this industry. Students will also be exploring alternative sources of power and modes of transportation which are important in our social and economic environment.

What will I be learning?
This program has been designed to enable students to build projects and to learn about service procedures related to different modes of transportation. Students will have the opportunity to learn about the following areas of study: support systems for transporting people and products; measurement systems and methods; the analysis, design, and manufacture of a system to convert and to make practical use of energy; the function of major vehicle system components; the impact of transportation systems on the environment; communication skills, and transportation-related careers. This program will benefit students who will be operating a motor vehicle, and will provide students with a basic foundation of automotive practices and principles.

Introduction to Computer Studies
ICS2O1 (Grade 10)

Introduction to Computer Studies

G10 Introduction to Computer Studies ICS2O1

What is it about?
The Grade 10 open course will appeal to any student interested in exploring how computers are used to solve problems. The course provides students with the opportunity to develop the logical thinking processes used in designing computer solutions to problems and to acquire basic computer programming skills that will enable them to create a working computer program.

What will be studied?

1. Problem-Solving: Learn to analyze problems and develop solutions using planning diagrams, point form outlines and pictures.

2. Programming: Use the Java programming language to create programs that implement the solutions to problems. Core programming topics covered are input, processing, output, variables, decisions, repetition and error diagnostics. Simple graphics, animation and game development will also be studied.

3. Understanding Computers: Study the basics of computer hardware, software and home networking.

4. Computers and Society: Study the impact of computer technology, ethical computer use and career opportunities in computer science.

Why should you take this course?
If you enjoy solving problems and are interested in creating software instead of simply using it, this is a good starting point.

Art & Design L2 • Advertising

TGJ3M1 (Grade 11)

Print and Web Publishing

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G11 Art & Design • Advertising TGJ3M1

Purpose: Concentrating on applied art, design and layout as it relates to advertising agencies and design studios, and to enhance the skill and knowledge levels of the students in the main areas below.

What is it about?

Publishing Technology has had major changes in the last 10 years. This courses will show the students what the publishing industry has undergone, what is happening today and why it is happening. Students will have the opportunity to use the same current industrial software the professionals are using.

What will be studied?

1. **Systems & General Publishing Knowledge:** This section deals with different systems, terminology and history of the printing industry.
2. **Art, Design and Layout:** The course will be looking at the applied side of art, design and layout. Also, we will be learning the different types of layout methods and setups used in the industry. Students will be asked to create rough layouts, then work the rough layout through to the finished artwork which will be suitable for print or web publication.
3. **Print Publishing:** Using Adobe Illustrator/CorelDraw, students will explore the power of this draw programme used in the Graphic Arts industry to develop graphic illustrations and logos. For the second part of the print unit the students will be using a layout programme PageMaker/InDesign. With the layout programme students will be assembling their designs. The designs will range from retail ads, packaging, form design, and corporate identification.
4. **Web Publishing:** Using Macromedia's Flash, students will develop Flash and Shockwave 2D animations with sound for use on the Internet and/or MultiMedia presentations. For the second part of the web unit the students will be exploring the three methods of creating html pages (raw coding, low-end editors and high-end editors).

No coding knowledge is required for the web publishing section.

Why are graphics important?

Everyone needs to show off or demonstrate their ideas no matter what profession they enter. The better one can present their ideas, the better the chance they will have to succeed in the future. This is an ideal course to develop the skills required to promote your ideas and concepts.

Graphic Arts Level 2 • Publishing

TGG3M1 (Grade 11)

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G11 Graphic Arts • Publishing TGG3M1

This course will introduce students to Graphic Arts focusing on the after design stage and the final printed product. Different areas of publishing will be discussed, as students will become familiar with terms and processes. Designing for print, management techniques, production skills and finishing procedures will be covered. Hands-on techniques on promotional printing, such as note pads, buttons etc. will be included.

What is it about?
Basic entry levels of publishing will be introduced: Creative (writing and designing for print output); Management skills (pricing and workflow); Production (offset printing and shop management) and Finishing (how to prepare the printed product for delivery).

What will be studied?
Creativity: The applied side of art and how it works. Creativity and how it is used in a production environment will be examined. Saving files for print output will be a primary focus.

Management: Workflow systems and how to devise workable scenarios as well as determining and minimizing cost factors. Students will have the opportunity of setting up a company and devising ways to promote the products they produce.

Production and Finishing: Offset Printing (hands-on application) will be the main focus as students become familiar with the printing process and how the equipment works. Digital Printing will the covered as the industry's solution to the future of print. Several bindery (Finishing) techniques and procedures will be addressed.

The above topics will hopefully prepare the student for any entry-level position in the Graphic Arts Industry. The knowledge acquired will be beneficial in any career direction chosen, since it has been proven over and over again that the better one can present ideas and concepts, the greater the chances of being successful.

MultiMedia L2

TGI3M1 (Grade 11)

3D Animation • AudioVideo • PhotoShop

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G11 MultiMedia • L2 TGI3M1

What is it about?

MultiMedia Level 2 will introduce the student to the multimedia side of industry today. Students will examine systems, raster images, digital cameras, video editing software/equipment and 3D animation software. Students will be required to develop their concepts for use in either the school's TV studio, electronic bulletin board or display cases.

What will be studied?

1. **Systems:** This section deals with different systems, terminology and history of the computer, video and cameras.

2. **PhotoShop:** Students will examine the different features and tools in PhotoShop which are important for creating graphics for Video, textures and graphics for 3D animations. PhotoShop is one of the most important software programmes in use throughout the movie and animation industry.

3. **Videography:** Students will use digital video camera and a non-linear editing software to create a video production. The unit will be looking at the different steps in making a production, creating a script and storyboards, lighting, blue screen and more...

4. **3D Animation:** Maxon's Cinema 4D XL will introduce the student to 3D animations. They will learn the skills and knowledge needed to create a simple animation. This animation package is a popular software programme and is used extensively in the industry.

What is important about this course?

This new technology is exploding with many exciting job opportunities. Students will have an opportunity to see where this training may lead in regards to future employment. It also allows the student to better understand this media which they are exposed to everyday.

Students will have the opportunity to compete in competitions. This is a great way to start building a portfolio for post-secondary education.

AutoCAD & Design
TDJ3M1 (Grade 11)

G11 AutoCAD & Design TDJ3M1

This Computer-Aided Drafting course is designed for Grade 11 students looking for a career path in a subject area which requires experience in using CAD programs.

TDJ3M1 is for University and College entrance.
This is an introductory course which will prepare students with CAD skills giving them an advantage when taking University and College courses that require students to have the basics in CAD programs.

This course is designed to develop students' design and drafing skills with Computer Aided Drafting (CAD) software. The focus of study will be on becoming familiar with AutoCAD and 3D modelling software through various exercises and problem-solving techniques. Artistic talent is not required, however, basic computer skills are recommended.

What is Important About this Course?
While students are learning basic technical drawing skills on the computer, they will also be increasing their general technical knowledge. An understanding of this design program is important for anyone who intends to work in areas of manufacturing, engineering, architecture, building, and construction to name a few. Even in everyday life, knowledge of technical drawing is helpful in understanding house plans, product assembly, maintenance and operating instructions for many manufactured products - even plans and specifications for hobbies.

Transportation Technology
TTJ3C1 (Grade 11)

TTJ3C1 is a college prep program.

Transportation Technology places an emphasis on vehicle function and design. This program provides students with a hands-on activities that teach students valuable knowledge and skills. Students will gain practical experience by participating in a wide range of applied projects that are essential for all skilled trades and engineering careers.

Hospitality / Culinary Arts
TFJ3C1 / 3C2 (Grade 11)

G11

Hospitality / Culinary Arts

TFJ3C1
TFJ3C2

What is this course about?
This course introduces students to the hospitality and food preparation industry. The students will focus on food preparation activities, equipment and facilities. Students will aquire skills in dessert preparation, , cake decoration, pastries and will learn how to prepare, present, and serve food.

Important:
Hospitality / Culinary Arts also has a 2 credit course **"TFJ3C2"**

Green Industries
THJ3O1 (Grade 11)

Need copy...

Computer Science & Programming

ICS3U1 / 3C1 (G11)

Introduction to Computer Studies

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G11

Computer Science
Computer Programming

ICS3U1
ICS3C1

What is it about?
This course introduces students to computer science. Students will design software independently and as part of a team, using industry-standard programming tools and applying the software development life-cycle model. They will also write and use subprograms within computer programs. Students will develop creative solutions for various types of problems as their understanding of the computing environment grows. They will also explore environmental and ergonomic issues, emerging research in computer science, and career trends in computer-related fields.

What will be studied?

1. Software Development: Learn to analyze problems and develop solutions using a variety of techniques.

2. Programming: Use the Java programming language to create programs and modules that implement the solutions to problems. Core programming topics covered are decisions, repetition, methods, arrays and code maintenance. Graphics, animation, simulations and game development may also be studied.

3. Computer Science Topics: Study the impact of computers on the environment, ethical computer use and educational pathways in computer science.

Why should you take this course?
If you are considering a career in information technology or simply enjoy solving problems, this course can be both challenging and enjoyable.

Note: Grade 10 Computer Studies (ICS 2O1) or Computer Engineering (TEJ 2O1) is strongly recommended, but not a pre-requisite. A strong academic student (especially in math) should be successful in this course. Please speak to Mr. Jay if you are unsure.

Art & Design L3 • Yearbook

TGJ4M1 (Grade 12)

Project-Driven Courses • No Exam

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G12

Art & Design • Yearbook

TGJ4M1

Purpose: Exploring what Adverising Agencies and Design Studios are all about. The focus will be on applied art, creativity and the work ethic that reflects the workplace.

What is it about?

Establishing an environment in the classroom that best reflects agencies and studios. Second is to pushing the creative limit in as many of the main areas as one would deal with in the workplace. While working through the main areas students will be creating samples for their portfolio.

What will be studied?

1. **Systems & General Publishing Knowledge:** This section deals with different systems, terminology and history of the publishing industry.
2. **Exploring Creativity:** This is the key component which everything revolves around. Creativity is similiar to a water tap, when you turn the tap on you get water flowing out, however, creativity does not always flow out when you turn the tap on. We will be exploring different techniques which can help keep that creativity flowing.
3. **Adobe Illustrator:** Using Adobe Illustartor students will explore the power of this important draw programme used in the graphic arts industry. Students will develop an understanding for the discipline required to create and design (.eps) graphics suitable for a publication.
4. **Adobe PhotoShop:** Using Adobe PhotoShop, the leading raster software for the industry, students will develop the skills required to create or manipulate images for publishing. We will be looking at cropping and close cropping of images, colour correcting, mode changes, masking, scanning, resolution adjustments and the variety of industrial file formats, advantages and limitations as well as reasons for exporting.
5. **Adobe InDesign:** InDesign will be used to learn the different types of layout methods and setups used in the industry. Students will be asked to create layouts as a rough comp and then work them through to the finished artwork on the computer which will be suitable for publication.
6: **Adobe Acrobat:** This is one of the fastest growing pieces of software in both the business and graphic areas today. We will be creating and optimizing (Distiller) these files for industrial use.

The concept is only half the way. Being able to quickly and effeciently put the concept together is what will give the power to get the ideas across effectively. No matter where you go after high school this course will help you present your idea quickly and efficiently.

The next level in design and publishing is Graphic Arts (TGG 4M1) where students create industrial samples for their portfolio.

Graphic Arts L3 • Publishing

TGG4M1 (Grade 12)

Project-Driven Courses • No Exam

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G12

Graphic Arts • Publishing

TGG4M1

Purpose: Is to give students a solid understanding of the process and problems as they work through the first design right up to the finished product. Priority is given to creating industrial samples for their portfolios, evaluating process and pricing. Hands-on techniques on promotional printing, such as T-shirts, mugs etc. will be included.

What is it about?

This course will be looking at the three basic entry levels into the publishing industry: Creative (writing and designing), Production (sales and shop management) and Processing (neg. production, assembly and printing). Each of these three have many different entry points which will be explored. Level two in publishing technology will introduce the students to both the skills and knowledge required for entry level positions.

What will be studied?

1. **Creativity** (writing and designing): The applied side of art and how it works is studied. What creativity really is and how the industry looks at art and design will be examined. We will examine copywriting, promotional writing, support writing and the details on finding and researching technical manuals and tutorials used in industry.

2. **Promotion** (sales and shop management): Expectations and directions are looked at in this area. Dealing with sales executives and production managers and understanding their crucial role in the print and production areas will be examined. Simulated situations will be set up to give the students an understanding of these vocations.

3. **Processing** (neg. production, stripping and printing): The processes in printing will be studied so the student can get a grasp of the complete picture of this huge industry. Each area will be examined as we will look at the different entry levels, the future of print publishing versus web publishing, and the knowledge and skills required when designing print materials.

The skills and knowledge in creating graphics and print materials to promote your concepts and ideas are invaluable no matter what career directions you take. It has been proven over and over again in industry that the better you can present your concepts and ideas, the greater your chances are of being successful.

MultiMedia L3

TGI4M1 (Grade 12)

Project-Driven Courses • No Exam

SHSM

Approved Specialist High Skills Major course • check out this new program with Students Services

G12

MultiMedia L3

TGI4M1

Students will choose between Animation or Web Publishing. The course will be Project-Driven. Student's final evaluation will be based on their final project.

What is the Animation course about?

This course is a 3D Animation production class. Students will be using Maxon's Cinema 4D XL. The software will give the students experience working with professional animation a programme and working on a mini-production. As the students work through the course, they will gain an understanding of the complexity and the demands prevalent in the computer industry today. It is important that the student have the grade 11 experience in 3D Animation. The animation course is an exciting and fascinating course which is fun and demanding.

What will be studied?

The focus on the course is to develop an animated production with a story line and a sound track. Students will work through the three different steps: Pre-Production, Production and Post-Production to develop their animation in teams of one or two.

Pre-Production: Students will develop a story, script, storyboard, characters and props for their animation.

Production: Each student will be assigned sections of the story to model and animate.

Post-Production: Student will create the credits, assemble the rendered sequences, add the sound track(s) and any voice over. Once everything is completed, the students will burn the animation to CD Rom.

What is Web Publishing course about?

This course is meant to provide students who took the grade 11 MultiMedia course and wish to continue web development to the next level. Students will work with the high-end editors to create sites. Students will also compare and develop animated web graphics in both frame and time sequencing software to be used with their web creations.

What will be studied?

Adobe's PhotoShop, Macromedia's Flash and Dreamweaver will be explored by completing given exercises. Students will create specialized sites and will be required to develop page sections for the MGCI web site and the Adult Learning Network for publishing on the Toronto District School Board web site.

No coding knowledge is required for the WEB or animation course.

Competitions: All animation and web sites are aimed for competition which could be at the school, board or provincial level.

Engineering Design & 3D Modelling
TDJ4M1 (Grade 12)

G12 Engineering Design & 3D Modelling TDJ4M1

This Computer-Aided Drafting course is designed for Grade 12 students looking for a career path in a post secondary areas requiring a knowledge of 3D CAD drafting in areas like engineering, manufacturing and CNC (Computer Numerical Control) machining.

TDJ4MD is for University and College entrance.
This is an advanced course to prepare students going on to University and College, giving them an advantage when taking design and engneering courses. As many Universities and Colleges require students to have the basics in CAD programs before takng certain courses.

TDJ4ED is for workplace credit.
This is a great course for students interested in going directly into a work place position after high school. The Technology Department will be working with the Co-op Department to give these students actual workplace experience in the industry before leaving high school.

This course is designed to develop students' design and drafing skills with Computer Aided Drafting (CAD) software. The focus of study will be on becoming more proficient with AutoCAD and explore 3D Design with Desktop–Pro through various exercises and problem-solving techniques. Artistic talent is not required, a basic knowledge of AutoCAD is necessary.

What is Important About this Course?
While students are learning advanced technical drawing skills on the computer, they will also be increasing their general technical knowledge through seeing the process of utilising a design drawing to create a finished product using a CNC machining station. An understanding of these design programs is important for anyone who intends to work in areas of engineering and manufacturing. Experience in AutoCAD and Desktop–Pro could lead to possible careers in manufacturing, engineering, architecture, building, and construction to name a few. Even in everyday life, understanding of technical drawings is helpful in making sense of house plans, product assembly, maintenance and operating instructions of manufactured products and even plans and specifications for hobbies.

Transportation Technology
TTJ4C1 (Grade 12)

G12 Transportanto Technology TTJ4C1

TTJ4C1 is a college prep program.

This Transportation Technology program is a continuation of the Grade 11 program. This course provides students with an in-depth exploration of the technical design and application of current automotive vehicle systems. This program prepares students for College Apprenticeship and/or University Engineering programs. Student will have the opportunity to gain hands-on experience and a working knowledge of Transportation Technology. Projects are designed to enable students to gain valuable skills that are essential to become successful within the field of Transportation.

Hospitality / Culinary Arts
TFJ4C1 (Grade 12)

G12 Hospitality / Culinary Arts TFJ4C1

What is this course about?
This course introduces students to Restaurant Service and Bake Shop fundamentals. This course will focus on all facets of kitchen operations and they will be taught how to prepare soups, stocks, sauces and a variety of international dishes. Good cleaning practices and work habits are stressed, and a study of raw products are covered. It also stresses cooperation, responsibility, and reliability. Students will also have the opportunity to enhance their abilities to prepare high technical food stuffs, enhance advanced food preparation and presentation skills. The students will be able to study advanced food recipes and develop some management techniques. Students can also expand baking techniques. Experience in table service and how to deal with guests will be provided. Catering will be stressed.

Prerequisite: TFJ 3C1 or TFJ 3C2

Computer Science & Programming
ICS4U1 / 4C1 (12)

SHSM Approved Specialist High Skills Major course • check out this new program with Students Services

G12

Computer Science
Computer Programming

ICS4U1
ICS4C1

What is it about?
This course enables students to further develop knowledge and skills in computer science. Students will use modular design principles to create complex and fully documented programs, according to industry standards. Student teams will manage a large software development project with a graphical user interface, from planning through to project review. They will investigate ethical issues in computing and further explore environmental issues, emerging technologies, areas of research in computer science, and careers in the field.

Prerequisite: ICS 4U1 - Introduction to Computer Science, Grade 11, University Preparation (ICS 3U1) or Introduction to Computer Studies, Grade 10 TOPS (ICS 2O1)
ICS 4C1 - Introduction to Computer Programming, Grade 11, College Preparation

What will be studied?

1. Software Development: manage the software development process effectively, through all of its stages – planning, development, production, and closing. Work effectively as part of a team in managing large projects (greater emphasis in ICS 4U1).

2. Programming: Use the Java programming language to create programs and modules that implement the solutions to problems. Core programming topics covered are object-oriented programming, data structures, algorithm design and code maintenance. GUI development, simulations and game development will also be studied.

3. Modular Design: Object-oriented design and algorithm analysis (ICS 4U) will be studied.

4. Computer Science Topics: Study the impact of computers on the environment, ethical computer use, research in computer science and careers in computer science.

Why should you take these courses?
If you are considering a career in computer software development or simply enjoy programming, this course can be both challenging and enjoyable.