

# MASTER CAREER & TECHNOLOGY STUDIES



## COMMUNICATION TECHNOLOGY

### Communications 10

3 credits - 3/0/0

This course is an introduction to communication studies. Students are presented with a variety of animation techniques and are given the opportunity to produce simple animations. Students will also learn the fundamentals of digital photography and will acquire basic photograph editing techniques.

### Communications 20

3 credits - 0/3/0

*Prerequisite: 50% or more in all communications 10 modules*

A course for students with experience or interest in one or several of the following areas in computer technology including: graphics, audio, video, digital imaging, and animation. These areas will be combined to create multimedia presentations for communications media.

### Communications 30

3 credits - 0/0/3

*Prerequisite: 50% or more in COM2145*

Students will build their production skills through application of prepro-

duction and post-production techniques in producing animation that communicates an idea, message or theme. Projects will include applying and using advanced digital imaging software and techniques by creating posters for the school community.

## CONSTRUCTION TECHNOLOGIES

### Construction Technologies 10

3 credits - 3/0/0

An exploratory course in woodworking and basic building skills. Construction Technology 10 introduces the student to safe use of hand and power tools as applied in the fabrication of various wood projects. A practical course offering basic skills that can be applied in many ways.

Construction 10 is a prerequisite for Construction Technologies 20A and 20B.

### Construction Technologies 20A

#### Cabinet & Furniture Making

6 credits - 0/6/0

*Prerequisite: 50% or more in CON1010 and 1120*

In this course the student investigates standards and procedures in design,

cabinetry and furniture making. Students have the opportunity to work on a project of their own design, in consultation with the instructor. Students will learn theoretical background to CNC (Computer Numeric Control) operation and entry level skills on a CNC Router. Although this course is offered for 6 credits, students are encouraged to take 20A and 20B together for a more complete exposure to the field of carpentry.

### Construction Technologies 20B

#### Basic Residential Framing

6 credits - 1/5/0

*Prerequisite: 50% or more in CON1010*

This course gives students practical experience in residential framing techniques. The program includes basic floor, wall and roof construction, with additional instruction in materials, estimating, siding, soffit, and installing windows and doors.

### Construction Technologies 30A

#### Advanced Cabinetry & Furniture Making

6 credits - 0/0/6

*Prerequisite: 50% or more in CON1130*

In this course the student learns the essentials of good cabinet construc-

tion and all the components that make up the modern cabinet system. The forming of curved shapes is investigated, and students learn how to use advanced techniques in furniture making and furniture restoration to produce a high quality finished product. Students will design and construct a project on a production CNC (Computerized Numerical Control) Router. Construction Technology 20A is a recommended prerequisite for this course.

### Construction Technologies 30B

#### Advanced Building Construction

6 credits - 0/0/6

*Prerequisite:* 50% or more in CON 1070, 2035, 2045 and 2050

This course covers the essentials for finishing many parts of the interior of a residence - from insulation and vapor barriers to wall finish options. Students will construct a set of steps and cover advanced techniques in roof framing such as truss design, dormers and cornice construction. Students will also study how to make an environmental difference.

## COSMETOLOGY STUDIES

### Cosmetology Studies 10

6+ credits - 0/0/6

This practical course will introduce students to the basics of personal grooming. Students will develop basic knowledge in roping, knotting, braiding, hair cleansing, hair conditioning, hair treatments, scalp treatments, various wet and dry styling techniques, eyebrow shaping and eyebrow tinting. Students will develop basic skills through various lab activities and allow students to prepare for more advanced courses in cosmetology.

### Cosmetology Studies 20

6+ credits - 0/0/6

*Prerequisite:* HSA 3900

This intermediate course helps students build on the core competencies developed in Cosmetology 10. Cosmetology 20 will focus on more complex skills including; haircutting, long hair designs, permanent waving, hair coloring and lightening techniques.

### Cosmetology Studies 20

12+ credits - 0/0/12

*Prerequisite:* HSA 3900

This intermediate course helps students build on the core competencies developed in Cosmetology 10. Cosmetology 20 will focus on more complex skills including; barbering, hair cutting, long hair designs, permanent waving, hair coloring, lightening techniques and some client services.

### Cosmetology Studies 30

12+ credits - 0/0/12

*Prerequisite:* COS20

This advanced course provides students with opportunities to build on the skills developed in Cosmetology 20. Students will have the opportunity to explore advanced hair styling skills, advanced haircutting, barbering, hair and scalp care, permanent waving, advanced hair coloring and lightening techniques, wig styling, extensions and chemical relaxing. Another major component of this course is client services.

### Cosmetology Studies 30

12+ credits - 0/0/12

*Prerequisite:* COS30 / COS Teacher Consult

This advanced course provides students with opportunities to build on the skills developed in Cosmetology 30. Students will have the opportunity to explore head anatomy and physiology, salon design, color correction, facial and nape trimming, advanced haircutting and client services.

Students who complete all Cosmetology courses may start a hair stylist or barber apprenticeship.

## DESIGN STUDIES

### Design Studies 10

3 credits - 3/0/0

Design Studies 10 introduces you to sketching, drawing and 3D modeling. This can be applied to hundreds of career areas such as, design, graphics, engineering and architecture.

### Design Studies 20

6 credits - 1/4/1

*Prerequisite:* : 50% or more in DES 1020, 1040 and 1050

This course focuses on architecture and the design of residential structures. Students will use Autodesk software to complete several home plans and cabin models.

### Design Studies 30

6 credits - 0/0/6

*Prerequisite:* 50% or more in DES2035, 2045 and 2075

Students will be investigating design problems from several different areas including landscaping, mechanical engineering, complex 3D projects and 3D printing. To find solutions, a combination of CAD, REVIT, 3D and manual design skills will be used. Design 30 will provide students with base knowledge in careers such as general and industrial engineering and architecture.

## ELECTRO TECHNOLOGIES

### Electro Technologies 10

3 credits - 3/0/0

This course will introduce students to electronic and electromagnetic devices and cables. It explores the world of consumer audio devices, and finally the fundamentals of sensors, controls, and warning devices found in security systems.



### Electro Technologies 20

6 credits - 2/4/6

*Prerequisite: 50% or more in ELT10*

In this course will further expand on your knowledge of process controls, electronic power supplies, and build on knowledge of security systems and consumer audio. Topics such as laser and lightwave communications may also be explored.

## FABRICATION STUDIES

### Fabrication Studies 10

6 credits - 3/0/0

Students taking the introductory fabrication class will develop basic hand tool and production skills to safely transform base materials into useful products. We will begin with hand tools, progress into fabrication principles and methods, and finish with welding

### Fabrication Studies 20

6 credits - 0/6/0

Taking Fabrication 20 will allow students to begin working on their strengths by choosing a set of courses that are of interest. A mandatory 3 credits of coursework include Fab 2020, Fab 2050 and Fab 2060 followed by a choice of 3 or more optional credits from the 1000 or 2000 levels (Please note: there will be a limit of one project per term).

### Fabrication Studies 30

6 credits - 0/6/0

Students taking Fabrication 30 will be able to continue to work on the skills that they have learned at the 10- and 20-levels.

## FOOD STUDIES

### Food Studies 10

3 credits - 3/0/0

This practical course will introduce students to the basics of working in the kitchen including food safety, kitchen equipment and basic cooking and baking methods. Students explore the role of nutrition in our diets as well as tools for meal planning. The student will develop basic knowledge and skills through a variety of activities and preparation of food.

### Food Studies 20

3 credits - 3/0/0

*Prerequisite: 50% or more in FOD1010*

Intermediate courses help students to build on the core competencies developed at the introductory level of foods. There is a focus on developing more complex food skills and background knowledge. Students learn about food decisions and health, more advanced cooking techniques and are introduced to the presentation of food through creative assignments.

### Food Studies 30

6 credits - 0/0/6

*Prerequisite: 50% or more in FOD1010*

This course provides students with opportunities to become independent in the kitchen and explore careers within the food industry. Students have the opportunity to further explore nutrition in our diets and refine their advanced skills related to creation of more complex and diverse recipes. They will focus on the processing of foods, presentation of food, as well as assemble creative baking products, and using food for entertaining.

### Commercial Kitchen

10/20/30

3 or 6 credits

Commercial kitchen is a multi-level course aimed at teaching students about working within the food industry. Students will learn to make bread, baked goods, soups and sauces and hot entrees in large quantities for the WCHS Cafe. In addition, industry standards on common practices, safety, and sanitation will be introduced. Students will be ready to enter the workforce with a broader understanding of customer service and food preparation after taking this course. Dual credit programs for culinary training may be offered in the future. Students must be willing to work in the Cafe as part of this course.



## MECHANICS

### Car Ownership

3 credits - 3/0/0

This course is for ANYONE who would like to develop knowledge & skills relating to vehicle ownership. Students will learn about basic vehicle checks, emergency tire changes, vehicle detailing, and other vital car ownership skills. Students will gain confidence and learn the ins and outs of dealing with automotive service shops. From lightbulbs to oil, we will cover the very basics that every driver should know. What to keep in your car, when to bring your car in for servicing, and what drivers can do to keep their car in good shape, all without having to get covered in grease & grime.

\*This course is NOT intended to provide a foundation for further Mechanics courses..

### Mechanics 10

3 credits - 3/0/0

Students will develop knowledge, skills and attitudes that enable an individual to care for and service a motor vehicle. Students will investigate and describe operating principles of engines and applications as they relate to the motor vehicle. In addition, students will perform basic service procedures necessary to ensure that adequate

maintenance of a motor vehicle. This course is intended to provide a foundation for further Mechanics courses. j

### Mechanics 20

6 credits - 3/3/0

*Prerequisite: MEC10*

Students will develop the required knowledge & skills to service and repair vehicle components. Students will focus on the operating principles of automotive electrical, hydraulic, braking, suspension steering, ignition, lubrication, and cooling systems

### Mechanics 30

6 credits - 0/1/5

*Prerequisite: MEC20*

Students will develop the required Knowledge & skills to service and repair vehicles. Students will focus on engine diagnosis, wheel alignment, and drive train systems. The course includes a self-directed student project that builds on previously gained knowledge. Students will be expected to demonstrate professionalism in their repairs and perform proper procedures as used in industry.

## ROBOTICS

### Robotics 10

3 credits - 3/0/0

Students will apply the fundamentals of robotics systems and basic robotic functions. Students will be able to design and build a simple robot and apply basic programming to make it functional.

### Robotics 20

3 credits - 0/3/0

Students will use the basic programming functions from Robotics 10 to gain an intermediate level of programming. Students develop skills in robotics/simulation software control by creating, modifying and using programs that incorporate computer controlled movements and events in robotic activities and applications.






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### Robotics 30

*3 credits - 0/0/3*

This Course will enable students to fine tune their knowledge of robotics components and demonstrate knowledge of electric motor operations and loading characteristics. This will create opportunities for students to engage in planning, computational thinking and collaborative problem solving skills. The students will be using Vex Robotics classroom tools and will further develop their programming skills with project based building

Transport Canada. Other topics for this course include aerial photography and videography, and the use of software to edit and present these visual formats.

## OTHER COURSES

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### Drones 10

*3 credits - 3/0/0*

Students taking this introductory course will learn the basics of drone flight. Students will also apply for the Drone Pilot Certificate (Basic Operations level) from