



# MASTER CAREER & TECHNOLOGY STUDIES

23

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 communication 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 COM 2145*

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.

## 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 CON 1010, 1120 and 1130*

In this course the student investigates standards and procedures in design, fabrication and finishing of cabine-

try and furniture making. Students will construct a number of specified projects as well as having the opportunity to work on something 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 CON 1010*

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

### Construction Technologies 30A

#### Advanced Cabinetry & Furniture Making

6 credits - 0/0/6

*Prerequisite: 50% or more in CON 1130*

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

3 credits - 2/0/1

Cosmetology 10 is an introduction to basic nail care (manicures and hand and arm massage), skin care (facials and make-up application), and hair care (cleansing, conditioning, hair treatments, scalp treatments and various styling techniques. This introductory course enables students to engage in personal grooming and allows students to prepare for more advanced modules in cosmetology.

### Cosmetology Studies 20

6 credits - 0/1/5

*Prerequisite: 50% or more in COS 1010, 1020, 3400,3430 and 3520*

Cosmetology 20 gives students the opportunity to build on previous skills learned in Cosmetology 10 and experience new skills like hair cutting, long hair designs, permanent waving and hair coloring.

### Cosmetology Studies 20

12 credits - 0/2/10 *Prerequisite: 50% or more in COS 1010, 1020, 3400,3430 and 3520*

Cosmetology 20 (12 credit) gives students the opportunity to build on previous skills learned in Cosmetology 10 and experience new skills including advanced long hair designs, hair cutting, permanent waving, hair coloring, foiling and customer service.

## DESIGN STUDIES

### Design Studies 10

3 credits - 3/0/0

Have you ever dreamed of designing something? A home, skateboard park, playground modeling; Design Studies 10 introduces you to sketching, drawing and 3D modeling, skills required to make dreams a reality. 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*

For this final year of Design Studies, 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 an excellent base for any future design careers such as general and industrial engineering, and architecture.

## ELECTRO TECHNOLOGIES

### Electro Technologies 10

3 credits - 3/0/0

This course will introduce you to electronic and electro-magnetic devices and cables. It then 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 - 2/4/0

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 light wave communications may also be explored.

## FABRICATION STUDIES

### Fabrication Studies 10

3 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 2010, 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 course per term).

### Fabrication 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.

### Foods 20

3 Credits - 0/3/0

*Prerequisite: 50% or more in FOD 1010*

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.

### Foods 30

6 credits - 0/0/6

*Prerequisite: 50% or more in FOD 1010*

This advanced 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, refine their advanced skills related to soup and sauce creation, discover cuisine from other cultures, focus on food presentation, assemble creative baking projects and entertain with food.

### Commercial Kitchen

10/20/30

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

### 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 motor vehicle procedures necessary to ensure that adequate maintenance of a motor vehicle.



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## Mechanics 20A

6 credits - 1/5/0

*Prerequisites: Completion of Mechanics 10 is required for success of this class*

Students will be expected to develop the required knowledge, skills and attitudes to service and repair vehicle components. Students will focus on the operating principles of automotive electrical, ignition, lubrication, and cooling systems.

\* This course is a prerequisite for Mechanics 30-A.

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## Mechanics 20B

6 credits -2/4/0

*Prerequisites: Completion of Mechanics 10 is required for success of this class*

Students will develop the required knowledge, skills and attitudes to service and repair vehicle components. Students will focus on the operating principles of Pneumatics, hydraulics, automotive braking systems, and vehicle steering & suspension.

\* This course is a prerequisite for Mechanics 30-B.

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## Mechanics 30A

6 credits - 0/1/5

*Prerequisites: Completion of Mechanics 20A is required for success of this class*

Students will develop the required knowledge, skills and attitudes to service and repair vehicles. Students will focus on engine diagnosis will be expected to demonstrate professionalism in their repairs and demonstrate proper procedures used in industry.

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## Mechanics 30B

6 credits - 0/1/5

*Prerequisites: Completion of Mechanics 20B is required for success of this class*

Students will develop the required knowledge, skills and attitudes to service and repair vehicles. Students will focus on wheel alignment and drive line, drive train systems. There is a self-directed student project that builds on previously gained knowledge. Students will be expected to demonstrate professionalism in their repairs and demonstrate proper procedures used in industry.

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## ROBOTICS

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### 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.

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### Robotics 20

0/3/0 3 credits

*Prerequisites: 50% or more in ELT1130*

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.

