Technological Education

Communications

Communications Technology: TV, Video and Movie Production TGV3M1

This course examines communications technology from a media perspective. Students will develop knowledge and skills as they design and produce media projects in the areas of live, recorded, and graphic communications. These areas may include TV, video and movie production; radio and audio production; digital imaging and broadcast journalism. Students will also develop awareness of related environmental and social issues and explore college and university programs and career opportunities in the various communications technology fields.

CREDIT: 1 **TYPE:** University/College **GRADE:** 11

Communications Technology: Digital Imagery and Web Design TGJ4O1

This course enables students to develop knowledge and skills in the areas of photography, digital imaging, animation, 3D modelling, and web design. Students will work both independently and as part of a production team to design and produce media products in a project-driven environment. Practical projects may include photo galleries, digital images, animations, 3D models, and websites. Students will also expand their awareness of environmental and societal issues related to communications technology, and will explore postsecondary education, training, and career opportunities.

CREDIT: 1 **TYPE:** Open **GRADE:** 12

Communications Technology: TV, Video and Movie Production TGV4M1

This course examines film and television from idea development and writing, to production. Techniques illustrated in this course outline the elements used in the area of film making and television broadcast. Students will develop knowledge and skills relating to the complex components, techniques and procedures required in film making. Students also study industry standards, regulations, and health and safety issues. They explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment.

CREDIT: 1 **TYPE:** University/College **GRADE:** 12

PREREQUISITE: TGV3M1 - Communications Technology: TV, Video and Movie Production

Computer Technology

Computer Engineering Technology TEJ3M1

This course examines computer systems and control of external devices. Students will assemble computers and small networks by installing and configuring appropriate hardware and software. Students will develop knowledge and skills in electronics, robotics, programming, and networks, and will build systems that use computer programs and interfaces to control and/or respond to external devices. Students will develop an awareness of related environmental and societal issues, and will learn about college and university programs leading to careers in computer technology.

CREDIT: 1 **TYPE:** University/College **GRADE:** 11

Computer Engineering Technology TEJ4M1

This course extends students' understanding of computer systems and computer interfacing with external

devices. Students will assemble computer systems by installing and configuring appropriate hardware and software, and will learn more about fundamental concepts of electronics, robotics, programming, and networks. Students will examine related environmental and societal issues, and will explore postsecondary pathways leading to careers in computer technology.

CREDIT: 1 **TYPE:** University/College **GRADE:** 12

PREREQUISITE: TEJ3M1 - Computer Engineering Technology

Construction

Construction Technology TCJ2O1

This course introduces students to building materials and processes through opportunities to design and build various construction projects. Students will learn to create and read working drawings; become familiar with common construction materials, components, and processes; and perform a variety of fabrication, assembly, and finishing operations. They will use a variety of hand and power tools and apply knowledge of imperial and metric systems of measurement, as appropriate. Students will develop an awareness of environmental and societal issues related to construction technology, and will explore secondary and postsecondary pathways leading to careers in the industry.

CREDIT: 1 **TYPE:** Open **GRADE:** 10

Construction Engineering Technology TCJ3C1

This course focuses on the development of knowledge and skills related to residential construction. Students will gain hands-on experience using a variety of construction materials, processes, tools, and equipment; learn about building design and planning construction projects; create and interpret working drawings and sections; and learn how the Ontario Building Code and other regulations and standards apply to construction projects. Students will also develop an awareness of environmental and societal issues related to construction technology, and will explore career opportunities in the field.

CREDIT: 1 **TYPE:** College **GRADE:** 11

Construction Engineering Technology TCJ4C1

This course enables students to further develop knowledge and skills related to residential construction and to explore light commercial construction. Students will gain hands-on experience using a variety of materials, processes, tools, and equipment, and will learn more about building design and project planning. They will continue to create and interpret construction drawings and will extend their knowledge of construction terminology and of relevant building codes and regulations, as well as health and safety standards and practices. Students will also focus on environmental and societal issues related to construction engineering technology, and will explore career opportunities in the field.

CREDIT: 1 **TYPE:** College **GRADE:** 12

PREREQUISITE: TCJ3C1 - Construction Engineering Technology

Design

Technological Design TDJ2O1

This course provides students with opportunities to apply a design process to meet a variety of technological challenges. Students will research projects, create designs, build models and/or prototypes, and assess products and/or processes using appropriate tools, techniques, and strategies. Student projects may include designs for homes, vehicles, bridges, robotic arms, clothing, or other products. Students will develop an awareness of environmental and societal issues related to technological design, and will learn about secondary and postsecondary education and training leading to careers in the field.

CREDIT: 1 **TYPE:** Open **GRADE:** 10

Technological Design TDJ3M1

This course examines how technological design is influenced by human, environmental, financial, and material requirements and resources. Students will research, design, build, and assess solutions that meet specific human needs, using working drawings and other communication methods to present their design ideas. They will develop an awareness of environmental, societal, and cultural issues related to technological design, and will explore career opportunities in the field, as well as the college and/or university program requirements for them.

CREDIT: 1 **TYPE:** University/College **GRADE:** 11

Technological Design TDJ4M1

This course introduces students to the fundamentals of design advocacy and marketing, while building on their design skills and their knowledge of professional design practices. Students will apply a systematic design process to research, design, build, and assess solutions that meet specific human needs, using illustrations, presentation drawings, and other communication methods to present their designs. Students will enhance their problem-solving and communication skills, and will explore career opportunities and the postsecondary education and training requirements for them.

CREDIT: 1 **TYPE:** University/College **GRADE:** 12

PREREQUISITE: TDJ3M1 - Technological Design

Exploring Technology

Exploring Technologies TIJ1O1

This course enables students to further explore and develop technological knowledge and skills introduced in the elementary science and technology program. Students will be given the opportunity to design and create products and/or provide services related to the various technological areas or industries, working with a variety of tools, equipment, and software commonly used in industry. Students will develop an awareness of environmental and societal issues, and will begin to explore secondary and postsecondary education and training pathways leading to careers in technology-related fields.

CREDIT: 1 **TYPE:** Open **GRADE:** 9

Healthcare

Health Care TPJ2O1

This course introduces students to personal health promotion, child and adolescent health concerns, and a variety of medical services, treatments, and technologies. Students will become familiar with various instruments and equipment and will learn about human anatomy, organs, and body chemistry, as well as the effects that lifestyle choices can have on personal well-being. They will plan recreational activities for youth, perform a dietary analysis, and evaluate health care practices. Students will develop an awareness of environmental and societal issues related to health care, and will explore secondary and postsecondary pathways leading to careers in the field.

CREDIT: 1 **TYPE:** Open **GRADE:** 10

Health Care TPJ3M1

This course enables students to develop their understanding of basic health care procedures, including the safe use of appropriate instruments, equipment, and materials. Students will focus on health care fundamentals, including the anatomical features and physiology of the major body systems and the

factors that affect homeostasis in the human body. Students will develop an awareness of health and safety issues in the health care field, analyse environmental and societal issues related to health care, and learn about professional practice standards and career opportunities in the field.

CREDIT: 1 **TYPE:** University/College **GRADE:** 11

Health Care TPJ4M1

This course focuses on the development of a range of skills needed to analyse and interpret clinical findings. Students will learn about accepted health care practices and demonstrate an understanding of basic procedures and the use of appropriate instruments and equipment. They will acquire an understanding of basic concepts related to the function of the human immune system and explore the relationship between pathology and disease prevention and treatment. Students will expand their awareness of workers' health and safety issues, analyse environmental and societal issues related to health care, and further explore professional practice standards and postsecondary destinations in the field.

CREDIT: 1 **TYPE:** University/College **GRADE:** 12

PREREQUISITE: TPJ3M1 - Health Care

Manufacturing

Manufacturing Technology TMJ2O1

This course introduces students to the manufacturing industry by giving them an opportunity to design and fabricate products using a variety of processes, tools, and equipment. Students will learn about technical drawing, properties and preparation of materials, and manufacturing techniques. Student projects may include a robotic challenge, a design challenge, or a fabrication project involving processes such as machining, welding, vacuum forming, or injection moulding. Students will develop an awareness of environmental and societal issues related to manufacturing, and will learn about secondary and postsecondary pathways leading to careers in the industry.

CREDIT: 1 **TYPE:** Open **GRADE:** 10

Manufacturing Engineering Technology TMJ3M1

This course enables students to develop knowledge and skills related to design, process planning, control systems, and quality assurance. Students will use a broad range of tools and equipment and will combine modern manufacturing techniques and processes with computer-aided manufacturing as they develop critical decision-making, problem-solving, and project-management skills. Students will develop an awareness of environmental and societal issues related to manufacturing and will learn about pathways leading to careers in the industry.

CREDIT: 1 **TYPE:** University/College **GRADE:** 11

Manufacturing Engineering Technology TMJ4M1

This course enables students to further develop knowledge and skills related to design, process planning, control systems, project management, quality assurance, and business operations. Students will use a broad range of tools and equipment, enhance their skills in computer-aided design, and collaborate in managing a project. Students will critically analyse and solve complex problems involved in manufacturing products. Students will expand their awareness of environmental and societal issues and of career opportunities in the manufacturing industry.

CREDIT: 1 **TYPE:** University/College **GRADE:** 12

PREREQUISITE: TMJ3M1 - Manufacturing Engineering Technology

Technological Education

Health Care TPJ2O1

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PREREQUISITE: TGV3M1 - Communications Technology: TV, Video and Movie Production

Transportation

Transportation Technology TTJ2O1

This course introduces students to the service and maintenance of vehicles, aircraft, and/or watercraft. Students will develop knowledge and skills related to the construction and operation of vehicle/craft systems and learn maintenance and repair techniques. Student projects may include the construction of a

self-propelled vehicle or craft, engine service, tire/wheel service, electrical/battery service, and proper body care. Students will develop an awareness of related environmental and societal issues, and will explore secondary and postsecondary pathways leading to careers in the transportation industry.

CREDIT: 1 **TYPE:** Open **GRADE:** 10

Transportation Technology TTJ3C1

This course enables students to develop technical knowledge and skills as they study, test, service, and repair engine, electrical, suspension, brake, and steering systems on vehicles, aircraft, and/or watercraft. Students will develop communication and teamwork skills through practical tasks, using a variety of tools and equipment. Students will develop an awareness of environmental and societal issues related to transportation, and will learn about apprenticeship and college programs leading to careers in the transportation industry.

CREDIT: 1 **TYPE:** College **GRADE:** 11

Transportation Technology TTJ4C1

This course enables students to further develop technical knowledge and skills as they study, test, service, and repair engine management systems; powertrains; steering/control, suspension, brake, and body systems on vehicles, aircraft, and/or watercraft; and/or small-engine products. Students will refine communication and teamwork skills through practical tasks, using a variety of tools and equipment. Students will expand their awareness of environmental and societal issues related to transportation and their knowledge of apprenticeship and college programs leading to careers in the transportation industry.

CREDIT: 1 **TYPE:** College **GRADE:** 12

PREREQUISITE: TTJ3C1 - Transportation Technology