

## TECHNOLOGICAL EDUCATION

Grade	Course	Type	Prerequisite	Course Details
10	TCJ2OI Construction Technology	Open	Highly recommended this be taken as your 1 <sup>st</sup> Construction Tech. Credit.	<b>Beginner Construction Tech:</b> In this foundational course you will learn to safely use many power and hand tools to build a variety of construction, fine woodworking and electrical projects, The skills developed in this course can be base for further study or the foundation for DIY and home projects, allowing you to work safely and confidently.
10	TDJ2OI Technological Design	Open	Highly recommended this be taken as your 1 <sup>st</sup> Tech. Design Credit.	<b>Beginner Tech Design:</b> An excellent starting place for budding Engineers, Interior Designers, and Architects. Students are challenged to solve a variety of problems while developing design skills and an understanding of the design process. Tech Design aims to teach students about the technology and the processes used to creatively develop solutions to real-world Design Challenges. These technologies and processes include Manual Drafting, Computer Assisted Part and Architectural Design software, Model Building and Project Evaluation. Students learn the skills needed to use the 3D printer technology to create a product that they have designed.
10	TEJ2OI Computer Technology	Open	Highly recommended this be taken as your 1 <sup>st</sup> Computer Tech. Credit.	<b>Beginner Computer Engineering:</b> This course builds a core understanding of computer structures and functional concepts while developing skills with electronics, computing concepts, and programming. Presented using a problem-solving model, students design, and build automated and robotic systems, while learning about input and output circuits and devices.
10	TGJ2OI Communications Technology	Open	Highly recommended this be taken as your 1 <sup>st</sup> Communication Technologies Credit.	<b>Beginner Comm Tech:</b> Want to be chased by a dinosaur in a special effects video? Learn video production using a green screen and create your own video. Design your own t-shirt, as well as a sticker for your laptop or skateboard. Produce a radio commercial and podcast. Build your website design skills and showcase them in an e-portfolio.
10	TMJ2OI Manufacturing Technology	Open	Highly recommended this be taken as your 1 <sup>st</sup> Manufacturing Credit.	<b>Beginner Manufacturing Tech:</b> This course introduces you to the skills needed to design and build unique and interesting projects using a variety of processes, tools, and equipment. You will learn how to measure using several precision measuring tools. You will learn to read and produce technical drawings. You will learn to cut and shape a variety of materials such as steel and aluminum using Engine Lathes, CNC Mill and Vertical Mills. You will also learn to fabricate with various metals using the Ironworker, metal brake, and various welding equipment. Coveralls and welding shop coats, auto-darkening welding helmets and personal safety glasses are also provided for shop use.
10	TTJ2OI Transportation Technology	Open	Highly recommended this be taken as your 1 <sup>st</sup> Transportation Credit.	<b>Beginner Transportation Tech:</b> In this dynamic, hands-on shop environment, you will develop basic hand and vehicle service skills by allowing you to work on operational vehicles. Safety and Shop Skill development is emphasized by hands-on shop projects.

Read Grade 11 course descriptions on the next page

**PHS has a NEW SHSM in Manufacturing: See your guidance counsellor to learn more.**

## Grade 11 Courses

Grade	Course	Type	Prerequisite	Course Details
11	TCJ3EI Construction Technology Residential	Workplace	TCJ2OI Highly recommended	<b>Intermediate Construction Technology:</b> This course builds on the safe tool skills previously developed while introducing more in-depth concepts and processes in the areas of construction, fine woodworking and building electrical systems. Hands-on projects and activities improve skills using a variety of materials, processes, tools, and equipment to lay-out and build projects.
11	TDJ3MI Technological Design	University/ College	TDJ2OI Highly recommended	<b>Intermediate Tech Design:</b> Do you want to change the world around you? This course explores the design process and how it applies to the needs of an ever-changing society. You will learn how to apply the design process for researching, designing, building, and assessing solutions to human and environmental needs. Themes may include aspects of interior design, green architectural design, industrial design and mechanical design and part modeling. Tech Design aims to teach students about the technology and the processes used to create design solutions including drafting, computer-assisted part and architectural drawing and model building. Students will use the 3D printer technology to create architectural and parts modeled using several different Computer software such as AutoCAD, Autodesk 3ds Max, Inventor, and SketchUp. You will develop an awareness of environmental and societal issues related to technological design, and will learn about pathways leading to careers in the field.
11	TEJ3MI Computer Engineering Technology	University/ College	TEJ2OI Highly recommended	<b>Intermediate Computer Engineering:</b> Examines computer systems and control of external devices. You will develop knowledge and skills in electronics, robotics, programming, and be introduced to networking. Students design and build systems to respond to sensors and control devices. Projects are presented in the context of social, and environmental impact and responsibility.
11	TGJ3MI Communications Technology	University/ College	TGJ2OI Highly recommended	<b>Intermediate Comm Tech:</b> Ever dreamed of becoming part of a rock band? Produce your own music video, design and print concert shirts, and create a web page. Also in this course, you will learn how to create special effects and your own animated character. Want a sticker for your laptop or skateboard? We'll design and install that too! We also explore interactive and immersive media with virtual reality, 360-degree cameras, and Google Cardboard.
<b>NEW!</b> 11	<b>TMJ3CI*</b> Manufacturing Technology (Metal Trade Skills) <b>Mandatory course for the SHSM in Manufacturing</b>	Workplace	TMJ2OI Highly recommended	<b>College Manufacturing Tech:</b> If you are planning on entering an occupation or apprenticeship that involves Manufacturing or Fabrication skills, then this hands-on, project-based course is designed for you. You will work on a variety of manufacturing projects, developing knowledge and skills in design, fabrication, and problem-solving. You will be using tools and equipment such as engine lathes, milling machines, CNC mill and various types of welders. In addition, you will learn about secondary school pathways that lead to careers in the Manufacturing Industry. Coveralls and welding shop coats, auto-darkening welding helmets and personal safety glasses are also provided for shop use.
11	TMJ3EI Manufacturing Technology (Metal Trade Skills)	Workplace	TMJ2OI Highly recommended	<b>Intermediate Manufacturing Tech:</b> If you are planning on entering an occupation that involves Manufacturing or Fabrication skills, then this hands-on, project-based course is designed for you. You will work on a variety of manufacturing projects, developing knowledge and skills in design, fabrication, and problem-solving. You will be using tools and equipment such as engine lathes, milling machines, CNC mill and various types of welders. In addition, you will learn about secondary school pathways that lead to careers in the Manufacturing Industry. Coveralls and welding shop coats, auto-darkening welding helmets and personal safety glasses are also provided for shop use.
11	TTJ3CI Transportation Technology	College	TTJ2OI Highly recommended	<b>Intermediate Transportation Technology:</b> Interested in a career in the Transportation sector, then this course is for you. You will develop technical knowledge and skills as you study, test, service, and repair engine, electrical, suspension, brake, and steering systems on live vehicles. Enhancement: Upgraded personal cleaning supplies, coveralls, and shop coats are provided.  Want to be an OYAP Student? This course will provide you the opportunity to begin your Automotive Service career as an apprentice. Structured, challenging curriculum, combined with carefully chosen Co-op work placements will prepare you for the Automotive Trade. To be an OYAP student, Co-op must be chosen.

See Grade 12 course descriptions on the next page

## Grade 12 Courses

Ask your guidance counsellor about the [Dual Credit Program](#), where you can attend Conestoga College for one semester in your Grade 12 high school year to start your pathway into a Trade.

Grade	Course	Type	Prerequisite	Course Details
12	TCJ4EI Construction Technology  Residential	Workplace	TCJ3EI	<b>Specialized Construction Technology:</b> This course continues to develop technical expertise in residential construction and fine woodworking and introduces light commercial construction. You will continue to develop skills working with a variety of materials, processes, tools, and equipment. Students will read and interpret construction drawings, codes, and specifications, learning more about building design and project planning. Students explore career and postsecondary opportunities in the industry that can be pursued after graduation.
12	TDJ4MI Technological Design	University/ College	TDJ3MI	<b>Specialized Tech Design:</b> This course focuses on the relationship between society and technological development that meets the demands of an ever-changing world. Students will learn to use appropriate tools, relevant techniques, and strategies to research, design, build and assess products or processes that respond to society's changing demands. You will learn to follow the steps of the design cycle to develop projects using standardized drafting methods, multiple Computer Aided Drawing and Computer Aided Manufacturing software such as AutoCAD, Autodesk 3ds Max, Inventor, SketchUp and 3D printer technologies to create prototypes that students have chosen to design.
12	TEJ4MI Computer Engineering	University/ College	TEJ3MI	<b>Specialized Computer Engineering:</b> This course will extend your understanding of computer systems and computer interfacing with external devices. You will learn more about the fundamental concepts of electronics theory and practice, robotics, programming, and networks. A greater emphasis is placed on problem solving and design. Related environmental and societal issues will be examined and you will explore postsecondary pathways leading to careers in computer technology.
12	TGJ4MI Communications Technology	University/ College	TGJ3MI	<b>Specialized Comm Tech:</b> Make a dinosaur chase someone into a space portal or have a chat with an animated character. Grade 12 is about creating special effects and animations. Graphic design is also studied in this course. Design vinyl graphics for various print mediums such as a sticker or paint job for your laptop or skateboard. Other projects may include wearable technology, virtual reality, motion tracking animation, and radio production through Internet Radio.
12	TGG4MI Yearbook	University	TGG3MI	This course is for students who hope to take a greater leadership role (editor or editor-in-chief) in creating the Preston Yearbook. Editors will take a larger role in theme selection, page layout and creation, decision-making, and developing teamwork amongst their fellow students. In addition, students will develop more effective camera skills, design skills and editing techniques.
12	TMJ4EI Manufacturing Technology	Workplace	TMJ3EI	<b>Specialized Manufacturing Tech:</b> This project-driven, hands-on course will build on your experiences in manufacturing technology. You will continue to develop knowledge and skills related to the use of engine lathes, milling machines, CNC Milling, various welding equipment and other tools and specialized equipment as you design and fabricate solutions to a variety of technological challenges in manufacturing. In addition, you will learn about secondary school pathways that lead to careers in the manufacturing industry. Coveralls and welding shop coats, Auto-darkening welding helmets and personal safety glasses also provided for shop use.

12	TTJ4EI Transportation Technology  Vehicle Maintenance	Workplace	Suitable for students new to Tech	<b>Vehicle Maintenance:</b> This is a practical course for the student who wishes to be able to maintain their own vehicle. This course will introduce students to basic maintenance and repairs that can be done by the vehicle owner. <b><i>There is no prerequisite for this course and is suitable for students that have not previously taken a Transportation course.</i></b>
<b>Grade</b>	<b>Course</b>	<b>Type</b>	<b>Prerequisite</b>	<b>Course Details</b>
12	TTJ4CI Transportation Technology	College	TTJ3CI  <a href="#">What is OYAP?</a>	<b>Specialized Transportation Technology:</b> If you are planning on a career in the Transportation sector, then this course is for you. You will develop technical knowledge and skills as you study, test, service, and repair engine management systems, powertrains, steering/control suspension, brake & body systems on live vehicles. Upgraded personal cleaning supplies, coveralls, and shop coats are provided for shop use.  <b>If you are currently an OYAP student</b> - This course is part of a multi-course package and will provide you the opportunity to begin your Automotive Service career as an apprentice. Structured, challenging curriculum, combined with carefully chosen Co-op work placements will prepare you for the Automotive Trade. If you are an OYAP student, Co-op must be chosen.