Central Technical School
grade 12 course calendar
2014 / 2015

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* denotes multi-credit course package
Dramatic Arts. Grade 12. College/University Preparation. ADA4M1
This course requires students to experiment with forms and conventions in dramatic literature, and to create, script, and present original and adapted works. Students will do research on dramatic forms, conventions, themes, and theories of acting and directing from different historical periods, and apply their knowledge of these in interpreting dramatic literature, including Canadian works and works from various cultures in the late twentieth century. Students will also examine the significance of dramatic arts in various cultures.  
Prerequisite: ADA3M1

Music. Instrumental Music. Grade 12. College/University Preparation. AMI4M1
Grade 12 Band offers students with a solid background in instrumental music the opportunity to further develop their musical skills. The focus is on performing more intermediate repertoire and learning solo pieces and studies. Theory, composition, and conducting will also be studied in more depth from the Grade 11 course. Repertoire is chosen from popular to traditional styles with the help of students. Previously learned repertoire will be reviewed.  
Prerequisite: Grade 11 Music

In this course you will continue singing various styles of vocal music. Emphasis on breathing, tone production and vowel production will be practiced in daily activities. You will be required to sing solo as well as in a choral setting. The elements of music will be studied through theory and general listening assignments as well as selected songs performed in class, which will help you progress as a musician. You will be required to compose and perform your own original composition. Repertoire is chosen from popular to traditional styles with the help of students. Previously learned repertoire will be reviewed.  
Prerequisite: Grade 11 Music

Music. Repertoire. Grade 12. College/University Preparation. AMR4M1
In this program you will have the opportunity to earn an extra credit for participation in an instrumental or vocal ensemble. You can earn this credit whether you are involved in one of the regular music courses or not. This course is a continuation of the Grade 11 Repertoire course and is particularly attractive to students who wish to continue their study of music but have full timetables. Repertoire is chosen from popular to traditional styles with the help of students. Previously learned repertoire will be reviewed. This course will appear on your timetable in the period 3 slot, although the actual participation times will vary between lunchtime and after school rehearsals.  
Prerequisite: Grade 11 Music

Visual Arts. Grade 12. College/University Preparation. AVI4M1
Taking art in grade twelve means you have officially become an "art student". Congratulations! This course focuses on the refinement of students' skills and knowledge in visual arts. You will focus on drawing what you see realistically, paint with gouache, and produce a body of work demonstrating a personal approach. This journey will also give you an understanding of stylistic changes in modern and contemporary Western art, Canadian (including Native Canadian) art, and art forms from various parts of the world. 
Prerequisite: AVI3M1
Visual Arts Package. +AP4M0 . 4 credits . Specialized Program, application required

This program consists of 4 credits. All credits are offered at the university/college level (designated by M in the course code). It is mandatory that students choose all 4 course codes in the Grade I2 Art package. This course of study is a full year and the package cannot be split.

Sculpture . Grade 12 . College/University . 1 credit

Students will use materials such as clay, plaster, metal, plastics, bronze, and found materials to produce art works in relief and in the round. Through the study of traditional and contemporary artists and media, students will come to understand sculpture as an art form. A critical study of works by historical and contemporary artists will be integrated throughout the course.

Information/Consumer Design

Grade 12 . College/University . 1 credit

Students will learn how the elements and principles of design are used to communicate through areas such as commercial art, advertising, graphic design, packaging design, and television. A critical look at the careers and work of both contemporary and past professional graphic designers will complement studio projects. Computer graphics and video production will be important components of this course.

Drawing & Painting . Grade 12 . College/University . 1 credit

Students will develop skills and techniques in painting and drawing using a variety of tools and materials. They will design creative solutions to problems as they discover vehicles for effective visual communication. This course will also focus on developing a personal creative process and portfolio for post secondary education.

Printmaking . Grade 12 . College/University . 1 credit

In this course traditional, contemporary, and experimental printmaking processes will be taught such as: screen, relief, and intaglio. Students’ understanding and application of the medium will be expanded through a study of historical and contemporary printmaking across a variety of cultures.

Visual Arts Studio Package (Dual Credit)

Grade 12 . College/University . +AA4MO . 2 credits + Dual Credit from Centennial College

This course offers exploration and technical refinement in the areas of painting, drawing (including life drawing), sculpture, and printmaking. It provides an opportunity for students to create a variety of works to build a high quality portfolio. This course helps students to prepare for competitive entry into university and college art and design programs. Students also attend the Art Gallery of Ontario to critically analyze and discuss both historical and contemporary works in the collection.

Prerequisite: Visual Arts, Grade I2, University/College Preparation or Open

Painting & Drawing

Students will develop skills and techniques in painting and drawing using a variety of tools and materials. They will design creative solutions to problems as they discover vehicles for effective visual communication. A critical study of works by historical and contemporary artists will be integrated throughout the course through AGO and other gallery visits.

Art Non-traditional

This course focuses on the refinement of student’s skills and knowledge in the visual arts. Students will analyze art forms, use theories of art in analyzing and producing art; and increase their understanding of stylistic changes in modern and contemporary art, from various parts of the world. Students will produce a body of work demonstrating a personal approach resulting in a portfolio.

GNED200 - Art and Design Portfolio development

The Dual Credit Program was developed through the Ministry of Education and School/College/Work Initiative (SCWI) to build and sustain better linkages between the college system and the secondary school system.
Benefits to participating students include:
▪ Earning a college credit at no financial cost
▪ Potential to earn more than the standard number secondary school credits in one year
▪ Increasing awareness of college and apprenticeship options
▪ Opportunity to experience college first-hand
▪ Contributes to a smooth and more successful transition from secondary school to college

In order to qualify:
▪ students should be at least 16 years of age
▪ have successfully completed the OSSD literacy requirement (either OSSLT or OSSLC).
It is recommended that students have completed at least 16 credits prior to registering. Students will travel to Centennial College once a week - TTC tickets will be provided if necessary.

Co-operative Education

Individual Co-operative Education

(CEAC1 . CEAC2 . CEAC3 . CEAC4). Half-day and Full-day Co-op is available
Co-operative Education is a planned learning experience for which credits are earned. The course integrates classroom theory and learning experiences at a workplace and enables students to apply and refine the knowledge and skills acquired in a related curriculum course. Workplace experience related to Science, Mathematics, English, E.S.L, Social Sciences, Health Sciences, Technological Studies, Computer Science, Art, Health and Physical Education, Performing Arts and Guidance are available. After the pre-placement orientation period, student progress is assessed and monitored at the work site by the co-operative education teacher. Further integration of classroom and workplace learning occurs during scheduled in-school sessions (7 hours per credit). Acceptance is based on credits earned, attendance, punctuality, demonstrated maturity and appropriateness of the request.

Prerequisite: A student application and teacher interview is required.

Computer and Business Studies

Accounting . Grade 12 . College/University Preparation . BAT4M1
This course introduces students to advanced accounting principles that will prepare them for postsecondary studies in business. Students will learn about financial statements for various forms of business ownership and how those statements are interpreted in making business decisions. This course expands students’ knowledge of sources of financing, further develops accounting methods for assets, and introduces accounting for partnerships and corporations.  

Prerequisite: BAF3M1

Computer Science . Grade 12 . University Preparation . ICS4U1
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, from planning through to project review. Students will also analyse algorithms for effectiveness. 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: ICS3U1

English

English . Grade 12 . Workplace Preparation . ENG4E1
This course emphasizes consolidation of literacy, critical thinking, and communication skills. Students will study informational texts and literature from various countries and cultures; write summaries, reports, resumes, and short essays; complete an independent research project; and explain the connections among media forms, audiences, and media industry practices. An important focus will be on using specialized language related to the workplace accurately and coherently in appropriate contexts.

Prerequisite: Grade 11 English
**English . Grade 12 . College Preparation . ENG4C1 and ENG4C8**
This course emphasizes consolidation of literacy, critical thinking, and communication skills. Students will analyse informational texts and literary works from various time periods, countries, and cultures; write research reports, summaries, and short analytical essays; complete an independent study project; and analyse the interactions among media forms, audiences, and media industry practices. An important focus will be on establishing appropriate style and using business and technical language effectively. Also offered is ENG4C8 which is accommodated for ESL students.

Prerequisite: ENG3C1 or ENG3C8

**English . Grade 12 . University Preparation . ENG4U1 and ENG4U8**
This course emphasizes consolidation of literacy, critical thinking, and communication skills. Students will analyze a range of challenging texts from various time periods, countries, and cultures; write analytical and argumentative essays and a major paper for an independent literary research project; and apply key concepts to analyze media works. An important focus will be on understanding academic language and using it coherently and confidently in discussion and argument. Also offered: ENG4U8 for ESL students who have passed ENG3U8 or ESL teacher’s recommendation.

Prerequisite: ENG3C1 or ENG3C8

**Studies in Media . Grade 12 . University Preparation . IDP4U**
This interdisciplinary course combines the expectations of 12U Philosophy with English Media Studies. The purpose is to familiarize students with trends in philosophy and cultural/media theory. The course begins with an exploration of the philosophical debate between rationalism and empiricism which serves to illustrate the problem of identifying human connectivity with ultimate realities (Kant, Hume, Descartes). The course continues with the examination of print advertising images as an analysis of social/cultural trends in dominant meaning making systems (Saussure, Derrida.) This is continued with an examination of the power relations within the culture which dictate social meaning (Foucault, Baudrillard.) The course concludes with a unit on the effects of technology and social media connectivity on the individual and the culture (McLuhan, Baudrillard.)

This course is primarily intended for students interested in pursuing studies in Marketing, Communications, New Media, Design, English or Philosophy at the University level. In order to be successful in this course it is necessary that students possess a high level of proficiency in reading, writing and, hopefully, more than a passing interest in abstract reasoning and cultural theory.

Prerequisite: ENG3U1 or ENG3U8

**Studies in Literature . Grade 12 . University Preparation . ETS4U1**
This course is for students with a special interest in literature and literary criticism. The course may focus on themes, genres, time periods, or countries. Students will analyse a range of forms and stylistic elements of literary texts and respond personally, critically, and creatively to them. They will also assess critical interpretations, write analytical essays, and complete an independent study project.

Prerequisite: ENG3U1 or ENG3U8

**The Writer’s Craft . Grade 12 . University Preparation . EWC4U1**
This course emphasizes knowledge and skills related to the craft of writing. Students will analyse models of effective writing; use a workshop approach to produce a range of works; identify and use techniques required for specialized forms of writing; and identify effective ways to improve the quality of their writing. They will also complete a major paper as part of a creative or analytical independent study project and investigate opportunities for publication and for writing careers.

Prerequisite: ENG3U1 or ENG3U8
English Language Learning

**English Language Learning** . **Level 5** . **ESLE08**
This course provides students with the skills and strategies they need to make the transition to college and university preparation courses in English and other secondary school disciplines. Students will be encouraged to develop independence in a range of academic tasks. They will participate in debates and lead classroom workshops; read and interpret literary works and academic texts; write essays, narratives, and reports; and apply a range of learning strategies and research skills effectively. Students will further develop their ability to respond critically to print and media texts.

**ELL Option Courses**
In addition to their English language courses, students are supported in their language development by options in a variety of subject areas. These sections allow the teacher to focus on the content area while providing added language support. ELL sections of the following courses are offered to senior level students:
- Canadian History (CHC2P8)
- Travel and Tourism (CGG3O8)
- Law (CLU3M8)
- General Learning Strategies (GLS4O8)
- English Presentation and Speaking Skills (EPS3O8)

**General Learning Strategies** . **TGLS4O8**
This course will provide ELLs (English Language Learners) with the learning strategies necessary to prepare for post-secondary education. The students will further develop academic level reading, auditory and written output so they practise the skills and strategies they need in order to improve their critical thinking. The material for the course will be drawn from the TOEFL (Test of English as a Foreign Language) and IELTS (International English Language Testing System) tests, as well as other similar tests and exams, that students must pass in order to attend post-secondary institutions in Canada.

**English Presentation and Speaking Skills** . **EPS3O8**
Are you worried about speaking in class? Do you struggle with English pronunciation? This course introduces English language learners to the knowledge and skills required to plan and make effective presentations and to speak effectively in both formal and informal contexts. The course will emphasize using such forms as reports, speeches, debates, discussions, storytelling, interviews, and multimedia presentations. Students will view and analyse the content and characteristics of effective presentations, convincing speeches and the techniques of effective speakers. They will also learn how to listen effectively listen and take notes. In addition, students will design and rehearse presentations for a variety of purposes and audiences. Students will also be introduced to the International Phonetic Alphabet and taught how to use it to improve their pronunciation. Finally, students will assess the effectiveness of their own and others' presentations.

Health and Physical Education

**Healthy Active Living Education** . **Grade 12** . **Open, PPL4O1**
Do you want to take a physical education course where you are able to choose the activities that interest you and will keep you healthy, active and fit? Then this is the course for you! This Grade 12 Health and Phys. Ed. course is an elective course where you have the opportunity to select (with the exception of some required activities) the sports/physical activities best suited to you and your interests. This course focuses on the development of a personalized approach to healthy active living through participation in a variety of sports and recreational activities such as volleyball, soccer, basketball, floor hockey, lacrosse, European handball, ultimate frisbee, golf, archery, aquatic games, snorkeling and many more. Students will be able to apply the sport-specific knowledge they will
learn by leading classes in warm-up activities, being involved in skill teaching and designing drills to practice the skills taught. In addition, students will participate in improving their own fitness level using our fully-equipped fitness gym, and will learn how to develop and implement their own personal fitness plans. The healthy living topics will give students opportunities to refine their decision-making, conflict resolution and interpersonal skills, with a view to enhancing their mental health and their relationships with others. This course is open to all students. In addition, those students with an interest in the Recreation and Fitness Leadership course and/or the Exercise Science course should select this course.

Prerequisite: none

**Personal Fitness and Weight Training Activities**. Grade 12. Open. PAF401

Fed up with feeling tired all the time? Are you having a hard time carrying your backpack from class to class? Perhaps you would like to lose a few pounds or add some muscle! Maybe you like your body just the way it is and want to stay fit and keep it toned. This class is just for you! Participants will be performing a variety of strength and conditioning activities (e.g. sport specific weight training, circuit training, skill progression and development) with an emphasis on weight training. Students will have the opportunity to design their own custom workout program specific to their sport, activity and/or goals as well as instruction on healthy diet and nutrition. In addition, they will learn how to refine their decision-making, conflict resolution, and interpersonal skills, with a view to enhancing their mental health and their relationships with others. The ultimate goals for you will be to experience short term positive results, learn, understand and develop lifelong fitness techniques and most of all, have fun.

Prerequisite: Senior Students

**Recreation and Fitness Leadership**. Grade 12. College Preparation. PLF4C1

Do you want to get more involved at your school and help to increase school spirit? Have you ever wondered how our school’s intramural program works? If you are someone who likes to get involved and help run and organize school and charity events, this course is for you. By joining the Recreation and Fitness Leadership class, you will be a leader in your school community. This course focuses on leadership development related to recreational and fitness activities. In this course you will acquire the skills and knowledge needed to plan, organize and implement events and activities. You will have the opportunity to promote physical fitness, personal well-being and personal safety to others through mentoring. You will gain an understanding of outdoor education and inclusive activities through field trips during the semester. This course will prepare you for college programs in recreational, leisure and fitness activities. Most of all, it will provide you with the skills to be an effective leader; it will increase your involvement at the school and – most of all – it will be an enjoyable experience!

Prerequisite: Any grade 11 or 12 open course in Health and Physical Education

**Exercise Science**. Grade 12. University Preparation. PSE4U1

The hockey player skates down the ice towards the opponent’s goal, draws back their stick for a slap shot and then BOOM fires the puck into the back of the net – GOAL!! How was the player able to do that? Where did all the force and speed come from to make that shot? What joints and muscles were used? What energy system was utilized to perform the slap shot? The answers to these questions and more can be found by taking this course. You don’t have to be an athlete to take this course; this course is for anyone who wants learn about human movement, how we use our bodies when we engage in physical activity, and how we can keep ourselves physically fit and healthy. Students will learn about the effects of physical activity on health and performance, the evolution of physical activity and sports, and the factors that influence an individual’s participation in physical activity. Students learning will focus on topics such as the anatomy and physiology of the skeletal, muscular, cardiovascular and respiratory systems; biomechanical principles; nutrition and the principles of fitness. Other topics include the energy systems; motor development and learning; coaching; and the history and sociology of sport and physical activity. The course prepares students for university programs in physical education, kinesiology, recreation, and sports administration. In addition, it prepares students who wish to pursue post-secondary studies/careers in the field of health promotion such as nursing, physiotherapy, fitness and sports medicine.

Prerequisite: Grade 11 U or M Science course or Grade 11 or 12 O course in Health/PhysEd
Large Group Activities: Football Focus. Grade 11. Open. Co-ed. PAL4OF
Down, set, hut, hut! If you have ever played football, want to play football, a fan of football, or just want to learn what all the hype is about the game of football, this course wants you. This course will have a balance of physical content as well as strategic content. Learn and participate in football drills used in high school, university and professional football training. Included in this course is a fitness component that focuses on football strength activities, agility activities, and speed training; a “playbook” component that introduces offensive and defensive plays and strategies; a health unit that looks at the multi-billion dollar supplement business related to football as well as drugs (legal and illegal performance enhancing). Proper nutrition required to perform football related activities will also be introduced. Learn how to create your own coaching strategies and find out if they actually work in a game situation!

This course requires active participation and instruction will be outside for the majority of the course (temperature will not be a factor, however; rain will take the class inside).

Prerequisite: senior students

Mathematics

Advanced Functions. Grade 12. University Preparation. MHF4U1
This course extends students’ experience with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; broaden their understanding of rates of change; and develop facility in applying these concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended both for students who plan to study mathematics in university and for those wishing to consolidate their understanding of mathematics before proceeding to any one of a variety of university programs.

Prerequisite: MCR3U or MCT4C

Calculus and Vectors. Grade 12. University Preparation. MCV4U1
This course builds on students’ previous experience with functions and their developing understanding of rates of change. Students will solve problems involving geometric and algebraic representations of vectors, and representations of lines and planes in three-dimensional space; broaden their understanding of rates of change to include the derivatives of polynomial, rational, exponential, and sinusoidal functions; and apply these concepts and skills to the modelling of real-world relationships. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended for students who plan to study mathematics in university and who may choose to pursue careers in fields such as physics and engineering.

Note: The new Advanced Functions can be taken concurrently with or can precede Calculus and Vectors.

Prerequisite: MHF4U or concurrent

Foundations for College. Grade 12. College Preparation. MAP4C1
This course enables students to broaden their understanding of real-world applications of mathematics. Students will analyse data using statistical methods; solve problems involving applications of geometry and trigonometry; apply measurement in designing and constructing physical models; simplify expressions; and solve equations. Students will reason mathematically and communicate their thinking as they solve multi-step problems. This course prepares students for college programs in areas such as Business, Health Sciences and Human Services, and for certain skilled trades.

Prerequisite: MBF3C1 or MCF3M1 or MCR3U1

Mathematics of Data Management. Grade 12. University Preparation. MDM4U1
This course broadens students’ understanding of mathematics as it relates to managing information. Students will apply methods for organizing large amounts of information; solve problems involving counting techniques, probability, and statistics; and carry out a culminating project that integrates the expectations of the course. Students will continue to develop the mathematical processes necessary for success in senior mathematics. This course prepares students for university programs in Business, the Social Sciences, and the Humanities.

Prerequisite: MCR3U1 or MCF3M1
Science

**Biology . Grade 12 . University Preparation . SBI4U1**

A much more rigorous course than its 11 predecessor, the concepts in metabolism and genetics combines many previously learned ideas from previous chemical and biological courses. Some of the important topics and concepts that are studied in this course are: industrial application of enzymes, the molecular basis of inheritance, DNA technologies and hormonal control of body systems. Students will conduct investigations about enzymes, photosynthesis, DNA fingerprinting, urinalysis and animals’ responses to stimuli. Emphasis will be placed on achievement of the detailed knowledge and refined skills needed for further study in various branches of the life sciences and related fields.  

Prerequisite: SBI3U

**Chemistry . Grade 12 . College Preparation . SCH4C1**

You are working in a laboratory and are asked to determine the presence of ions in a contaminated sample of river water. The evidence you provide may effect how a well-known chemical company deals with its chemical waste. You are asked by the police department to perform various qualitative analysis techniques in order to detect drug use or to identify counterfeit money in a potential suspect. You sit on a health and safety panel; you discuss how organic chemistry has led to the development of many useful products, including synthetic fabrics, automobile body panels, and artificial heart valves. On the other hand, issues connected to the growing use of organic products such as consumption of fossil fuels and waste disposal encourages the discussion of alternative environmentally friendly materials. The above scenarios indicate only a few of the topics and discussions that you will encounter in the Chemistry, Grade 12 College Preparation course. Students who take this course may decide to further their studies at college in the fields of Quality Control Technician, Chemical or Food Processing, or Chemical Research Technician.  

Prerequisite: SNC2D or SNC2P1/9

**Chemistry . Grade 12 . University Preparation . SCH4U1**

Attention all budding scientists, veterinarians, engineers, etc.: before you get to medical school you need to complete the Chemistry Grade 12 University course. This university preparatory course continues to build on the solid foundation of its prerequisite course: Grade 11, University. Once again this course is taught in a very constructivist manner whereby topics such as organic chemistry, energy changes, rates of reactions, chemical systems and equilibrium, electrochemistry, atomic and molecular structure are complemented by many concrete laboratory activities. A focus on refining laboratory techniques and the ability to communicate scientific information effectively is also a focus. A deeper understanding of chemical technology is explored through the study of chemistry in daily life and its impact on the environment at large.  

Prerequisite: SCH3U1

**Earth and Space Science . Grade 12 . University Preparation . SES4U**

This course develops students’ understanding of earth and its place in the universe. Students will investigate the properties of and forces in the universe and solar system and analyze techniques scientists use to generate knowledge about them. Students will closely examine the materials of Earth, its internal and surficial processes and its geological history, and will learn how Earth’s systems interact and how they have changed over time. Throughout the course, students will learn how these forces, processes and materials affect their daily lives. The course draws on biology, chemistry, physics and mathematics in its consideration of geological and astronomical processes that can be observed directly or inferred from other evidence.  

Prerequisite: SNC2D
Advanced Forensic Science . Grade 12 . University Preparation . IDC4U1

Are you looking for a different type of grade 12 university level credit? Are you a CSI fan? Do you like mysteries? Have you ever wondered how science can be used to solve crimes? If so, then this is the course for you. Advanced Forensic Science will build on the knowledge and skills learned in the Introductory Forensic science course and allow students the opportunity to gain a further understanding of more challenging topics within the field of forensic science. Participants will learn modern, scientifically-based investigation techniques culminating in the design and analysis of their own crime scenes. This course enables students, including those who do not intend to pursue science-related programs at the postsecondary level, to increase their understanding of science. Forensic science encompasses many scientific disciplines including biology, chemistry, physics and earth and space science. Students will explore a range of topics, including chemical analysis; toxicology and poisons; forensic anthropology; odontology, entomology; advanced DNA fingerprint analysis; ballistics and arson. Students will use diverse resources and research methods to explore the history and development of many forensic science techniques by reviewing contemporary and classical Forensic case studies. Emphasis will be placed on the application of critical thinking skills and the use of the techniques learned in this course as it applies to forensic science. As well, the role of science and technology in the field of forensic science and forensic science in the media will be examined.  

Prerequisite: IDC3O1 Introductory Forensic Science or both SBI3U1 and SCH 3U1

Physics . Grade 12 . College Preparation . SPH4C1

Our natural physical world has always affected us in many ways, but as technology continues to develop, our artificial physical world will affect us more so; to understand the physics behind these developments is necessary to fully understand these impacts on our lives. This course develops students' understanding of the basic concepts of physics. Students will explore these concepts as they relate to mechanical, electrical, fluid (hydraulic and pneumatic), and communications systems, as well as to the operation of commonly used tools and equipment. They will develop scientific-inquiry skills as they verify accepted laws of physics and solve both assigned problems and those emerging from their investigations. Students will also consider the impact of technological applications of physics on society and the environment.  

Prerequisite: SNC2P1/9 or SNC2D1, Grade 11 math strongly recommended

Physics . Grade 12 . University Preparation . SPH4U1

Our natural physical world has always affected us in many ways, but as technology continues to develop, our artificial physical world will affect us more so; to understand the physics behind these developments is necessary to fully understand these impacts on our lives. This course enables students to deepen their understanding of the concepts and theories of physics. Students will explore further the laws of dynamics and energy transformations, and will investigate electrical, gravitational, and magnetic fields; electromagnetic radiation; and the interface between energy and matter. They will further develop inquiry skills, learning, for example, how the interpretation of experimental data can provide indirect evidence to support the development of a scientific model. Students will also consider the impact on society and the environment of technological applications of physics. Students may have the opportunity to physically experience the physics of motion and dynamics and energy during a year-end field trip to Canada’s Wonderland.  

Prerequisite: SPH3U1, Grade 11 math strongly recommended

Canadian & World Studies

The Environment and Resources Management
Grade 12 . College/University Preparation . CGR4M1

This course investigates the complexity and fragility of ecosystems and the effects of human activities on them. Students will study the principles of sustainability and resource management and evaluate various approaches to achieving a more sustainable relationship among the environment, society and the economy.  

Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities
Canadian and World Issues: A Geographic Analysis
Grade 12 . University Preparation . CGW4U1
This course draws on geographical concepts, skills, methods, and technologies to analyze significant issues facing Canadians as Citizens of an interdependent world. Students will examine the challenges of creating a sustainable and equitable future through the study of a range of topics, including economic interdependence; geopolitical conflict; regional disparities in the ability to meet basic human needs; and protection of the planet's life-support systems.
Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities

Analyzing Current Economic Issues . Grade 12 . University Preparation . CIA4U1
What is economics? Why do we have money? What determines the cost of the things we buy? Are you interested in learning about our economy? How about learning about trading on the stock market? In this course you will learn about scarcity, supply and demand, how businesses make decisions, and how the Canadian and international economies are performing. Debating these current economic situations will lead the way to a hands-on connection of the economy and business to you. Why are big corporations and the people who run them so successful? Starting with information like this, they learned to understand Economics.
Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities

Canada: History, Identity and Culture . Grade 12 . University Preparation . CHI4U1
This course examines the evolution of a Canadian national identity. Students will learn how modern Canada was shaped by the interaction among Aboriginal peoples, the French, the English, and subsequent immigrant groups. This course will enable students to evaluate major social, economic, and political changes in Canadian history from pre-contact to the present. The understanding students gain through their examination of Canada's historical and cultural roots will allow them to formulate a definition of what it means to be Canadian.
Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities

Canadian and International Law . Grade 12 . University Preparation . CLN4U1
What rights do a person really have in Canada? How can those rights be respected? Are we really innocent until proven guilty? These questions and more will be studied in this course. Students will learn about the connections between the historical and philosophical sources of law and issues in contemporary society. They will also learn to analyze legal issues, conduct independent research and communicate the results of their inquiries in a variety of ways. Add to all of that a hands-on set of activities that lead to legal expertise in areas such as mock trials, field trips, and case studies and you have a grade 12 university preparation course that improves your communication and critical thinking skills, and helps make sense of what they are really doing on ‘Law and Order.’ All of this is available in your very own courtroom here at CTS.
Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities

World History: The West and the World . Grade 12 . University Preparation . CHY4U1
Have you ever wondered why English is so widely spoken around the world? Did Columbus really discover America? If you are interested in exploring the answers to these questions, this may be the course for you. This course investigates the major trends in Western civilization and world history from the 16th century to the present. Students will learn about the interaction between the emerging west and other regions of the world and about the development of modern social, political, and economic systems. The skills and knowledge developed in the course will enable students to understand and appreciate both the character of historical change and the historical roots of contemporary issues.
Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities
Social Sciences & the Humanities

Challenge and Change in Society . Grade 12. College/University . HSB4U1
Has the culture of Canada become too Americanized? Is abortion immoral? Is the Internet making society illiterate? Should prostitution be legalized? Should drug use be decriminalized? Is hip hop the new rock ‘n roll? This social science course examines several theories and methodologies used in the studies of Anthropology, Psychology, and Sociology to investigate and explain shifts in knowledge, attitudes, beliefs, and behaviour and their impact on society. You will analyze cultural, social, and biological patterns in human societies, looking at the ways in which those patterns change over time. You will also explore the ideas of classical and contemporary social theorists, and will apply those ideas to the analysis of contemporary issues.

Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities

Philosophy: Questions and Theories . Grade 12. University Preparation . HZT4U1
So many people always seem to question and wonder about our place on this planet, and as a grade 12 student you are no different. Now, imagine earning a Grade 12 University Preparation credit for thinking and learning about these very questions and topics: Where do we come from? What is right and what is wrong? What is a good life? How can I know the truth of anything? Are we alone in the universe? What is the nature of beauty in our life? Why is there censorship in art and music? And many more! Through exercises in critical thinking students will learn how their own experiences apply to these types of questions, and how philosophy truly connects with everything they do.

Prerequisite: Any University or University/College Preparation course in Canadian and World Studies, English, or Social Sciences and Humanities

LAWS Program

LAWS Program . Grade 12. College/University Preparation . +LW4U0 . 2 credits
This package is a continuation of the grade 11 LAWS Program. Students will take Grade 12 Law (CLN4U1) and Grade 12 English (ENG4U1). In conjunction with the Faculty of Law at the University of Toronto, students will go on field trips, attend workshops, have guest speakers and do mock trials. The Advanced Forensic Science (IDC4U1) is an option for LAWS students.

Strongly recommended: +LW3U0

Special Education

Advanced Learning Strategies: Skills for Success after Secondary School
Grade 12 . Open . GLE4O1
This course improves students’ learning skills, preparing them to make successful transitions to work and post-secondary education and become independent, life long learners. Students will learn how to assess their learning abilities and use critical reading, time management, and other techniques for promoting effective learning. In addition, they will investigate learning requirements for employment and post-secondary education or training and develop plans for learning after secondary school.

Prerequisite: IEP and recommendation of principal
TECHNOLOGICAL COURSES and PACKAGES
**Communications Technology**

**Graphic Design**. Grade 12. College/University Preparation. +PR4M0. 2 credits
In this program you will begin to develop the skills you will need to become a Graphic Designer and build a portfolio that can be used when applying to a Graphic Design program at the college or university level. Students will use industry standard desktop publishing programs (Quark XPress, Adobe InDesign, Photoshop, and Illustrator) to design and create products for print such as: logos, business cards, ads, magazines, newspapers, and packaging. Students will work on the live production, layout and design of the school newspaper and yearbook. You will also learn the fundamentals of photography using digital SLR cameras to capture and enhance photographic images that will be used in the design process. In addition the different methods of printing and how to prepare digital files for print will be studied. Students will also have the opportunity to print the products they design using offset lithographic printing presses.

Prerequisite: +PR3M0

**Interactive New Media and Web Design**
Grade 12. College/University Preparation. TGI4M1
This course examines communications systems and design and production as it applies to the Internet. Students will create, manage, and distribute complex electronic, graphic, recorded, or audio-visual projects independently and in project teams. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment. Topics include, but are not limited to, Macromedia Flash with action scripts, Dreamweaver web page design, Java Script and plug-ins, Shockwave applications used in animation, Hardware control using Embedded Internet, Network protocols ie:TCP/IP, POP, STMP AND FTP, Commercial Web design using PHP and Perl scripts.

Prerequisite: TGI3M1

**Photography and Digital Imaging**. Communications Technology
Grade 12. College/University Preparation. TGP4M1
This course examines communications systems and production processes in the areas of electronic, live, recorded, and graphic communications. This course is a practical integrated activity subject that will focus on black and white still photography. Individually, and in groups, the students will use the camera and enlarger as a tool to accumulate a year-end portfolio of photography. Using different lighting techniques and the darkroom process, student photos will be conceptually executed building knowledge, skills and values. This is a fun, photo-assignments oriented course that will help prepare the student for the communications industry.

Prerequisite: TGP3M1

**Photojournalism**. Grade 12. College/University Preparation. TGJ4M1
Are you thinking of applying to a college/university level Graphic Design program? Well this advanced level communications course will help you prepare a portfolio and build on your graphic design skills as you produce the school yearbook. Students will build on the basic communication skills acquired in the introductory course and will develop advanced level skills in Adobe Photoshop, Bridge, and Indesign. You will also learn advanced level photographic techniques for capturing and managing photographs, as well as build on your layout and design skills as you create industry standard, quality page layouts for the CTS Vulcan yearbook.

Prerequisite: TGJ3M1
Television, Video and Movie Production
Grade 12. College/University Preparation. TGV4M1
This course examines communications systems and design and production processes in the areas of electronic, live, recorded, and graphic communications. Students will create, manage, and distribute complex electronic, graphic, recorded, or audio-visual projects independently and in project teams. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment. The main focus will be on producing a short mini promotional video which includes story boarding, scripting, refinement of shooting techniques, operation, set up, and final packaging of the video. Students will use both analog and computer based digital hardware/software to help them assemble the final production. Prerequisite: TGV3M1

Computer Studies

Computer Engineering. Grade 12. College/University Preparation. 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 environmental and societal issues related to the use of computers, and explore postsecondary pathways leading to careers in computer engineering and related fields. Prerequisite: TEJ3M1

Electronics. Grade 12. College/University Preparation. TEL4M1
This course examines communications systems and design and production processes in the areas of electronic, live, recorded, and graphic communications. Students will create, manage, and distribute complex electronic, graphic, recorded, or audio-visual projects independently and in project teams. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment. Students will be involved in testing and analyzing AC circuits, audio, radio, video, and operational amplifiers. Students will be able to design a simple audio amplifier and power supply. Prerequisite: TEL3M1

Construction Technology

Construction Specialist High Skills Major (SHSM)
Grade 12. University/College/Apprenticeship/Workplace Preparation
The Specialist High Skills Major is a Ministry of Education approved specialized program that allows students to focus their learning on a specific economic sector (in this case construction) while meeting the requirements for the Ontario Secondary School Diploma. (OSSD) It is meant to assist students in their transition from secondary school to apprenticeship training, college, university or the workplace.

The SHSM is a bundle of 11 credits over grades 11 and 12 that includes:
- 5 construction credits
- 4 academic credits which have units that are linked to construction
- 2 co-operative education credits in a construction related field
- construction recognized certifications such as first aid and CPR
- experiential and “reach ahead” activities that relate to construction
- an Ontario Skills Passport (essential skills and work habits)

Any student enrolling in a technological major in plumbing, electrical, woodworking or in a grade 11 Technological Design- Drafting is eligible for the SHSM. Prerequisite: Successful completion of Grade 11 component
Electrical: Grade 12. +HS4CE. 4 credits (includes 2 co-op)

If you enjoyed the grade 11 electrical package and still think you have what it takes to become a registered electrical apprentice, then you may be right for the grade 12 electrical package. This course is designed for the serious student that has decided that electrical is for them. There will be a review of residential wiring followed by commercial and industrial wiring. After term one you will enter a full-time Co-op as a registered electrical apprentice, where you will get real work experience in the electrical trade and possibly continue on to become a licensed electrician.

Electrical Co-operative Component
The co-operative education component is delivered during the last 9 weeks of the second semester, which occurs from April to June. Students spend Tuesdays to Friday with their co-op employer refining the skills taught at school, returning to school on Mondays for integration and further instruction. The out-of-school component, depending on the placement, will give the students hands-on experience in residential, commercial, industrial wiring, trouble shooting scenarios, blueprint reading, design built applications, fire alarm, computer cabling installations, PLC’s and motor control installations. Evaluation progress will be monitored by the teacher based on pre-placement orientation, worksite visits, weekly logs, and integration sessions. All pre-placement instruction is done in the first 9 weeks of the semester to ensure that students are safely prepared for the workplace experience.

Only electrical and cabling students who have extensive in-school preparation for the electrical trade, and who have demonstrated good attendance, maturity, and dependability are those selected for workplace experience. Students are expected to attend regularly and work diligently at their work site. As well, because students are working in a compulsory trade, they are registered as apprentices with the Ontario Ministry of Training, Colleges, and Universities through the Toronto District School Board’s Ontario Youth Apprenticeship Program (OYAP). OYAP provides significant benefits if students choose to complete their apprenticeship training. All hours worked for their co-op employer are deducted from the time they must spend as an apprentice. All co-op students regardless of their career path are monitored and assessed by their co-op teacher for the entire period of their co-op placement.

Prerequisite: Grade 11 Electrical, +HS3CE

Residential Plumbing: Grade 12. +HS4CP. 4 credits (includes 2 co-op)
Calling a plumber is sometimes too expensive. Need a cheaper option? What better way than learning the home plumbing field. Understanding and knowing home plumbing, installation and repair tips is important for any residence. Building on the foundation from the Grade 11 Plumbing Program, you will work on advanced plumbing projects like installing working 3-4 piece washrooms, kitchens sinks and dishwashers, showers, laundry tubs, service repair work, etc, etc, etc. You will learn to understand the appropriate use of materials (Cast Iron, ABS, black iron, copper pipes, plastic water piping, etc.) The importance of industry certifications like WHMIS, Fall Protection, Scaffold, Electrical, Trench Safety are some of the topics that will be covered. You will also learn materials and installation techniques, blueprint reading, green plumbing solutions, Part 7 (Plumbing) of the Ontario Building Code, plumbing fixtures and equipment installation. This course will give you the opportunity to continue on in the Co-operative Plumbing Program, and potentially, a head start into a career in the plumbing industry.

Residential Plumbing Co-operative Component
In addition to the in-school plumbing component, there is a 2-credit co-operative education portion in the grade 12 program. The goals of the plumbing co-operative education program at Central Technical School are to assist students in developing the attitudes, skills, and knowledge necessary to succeed in the workforce and assist them in their career preparation. Senior plumbing students who have extensive in-school preparation for the plumbing trade, an interest in furthering their careers through work experience or who have demonstrated good attendance, maturity, and dependability are those selected for workplace experience. Students continued
are expected to attend regularly and work diligently at their work site. As well, because students are working in a compulsory trade, they are registered as apprentices with the Ontario Ministry of Training, Colleges, and Universities through the Toronto District School Boards Ontario Youth Apprenticeship Program (OYAP). OYAP provides significant benefits if students choose to complete their apprenticeship training. All hours worked for their co-op employer are deducted from the time they must spend as an apprentice and if they change employers when co-op is finished they are already registered with the Ministry of Training, Colleges, and Universities. Students with a sufficiently high average at the end of Grade 12 Plumbing will have an opportunity to write a Ministry of Training exam granting them an exemption for the in-school portion of Basic Level, Plumbing Apprenticeship Training.

**Prerequisite:** Grade 11 Plumbing, +PL3C0

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**Woodworking** . Grade 12 . +HS4CW . 4 credits (includes 2 co-op)  
If you have completed the Grade 11 Carpentry Major Program (+HS3CW), then you will be ready to complete your carpentry education at CTS by enrolling in this program. For the first 9 weeks of this program, you will spend all 4 classroom periods every day in one of the CTS wood shops, earning 2 credits while learning about some aspect of interior finishing. It might include building some kitchen or bathroom cabinets, or installing insulation and drywall, or some stair-building. Whatever it is that you do, it will add to your knowledge of house building and prepare you for your Co-op experience. While building your projects, you will expand your knowledge of woodworking tools and machinery, as well as continue to learn about the many varieties of building materials. Some construction math and blueprint reading will also be covered.

**Carpentry/Woodworking Co-operative Component**  
For the second half of the semester, you will be out at a Co-operative Education placement, helping you develop further some of the knowledge and skills that you learned in the classroom. You may be placed in a cabinet shop, with a renovation company, a company that builds and repairs boats, or perhaps you’ll be helping to restore old historic buildings. In any case, you’ll be out working with trades’ people in demanding situations and this placement experience will help you move towards your future career. This Co-op program is 2 credits and is for senior carpentry students who have had proper in-school preparation for the building trade and who have demonstrated good attendance, maturity, and dependability. Students are expected to attend their placement regularly and work diligently at their work site. **Prerequisite:** Grade 11 Woodworking +HS3CW

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**Design/Build: Mechanical and Industrial Design** . Grade 12 . +WW4M0 . 2 credits  
Do you love design? Are you creative? What about designing and making your ideas into reality? If so, this is the package for you. In this two course package, you will learn to quickly sketch your ideas on paper and then transfer these ideas to real working drawings that you can build from. Using computer software such as AutoCAD and a quick and easy 3D modeling program called SketchUp you can swiftly see how your idea will look. You will then create models/prototypes of your design before building them full size. Now that you have designed your object, you are ready to start using the tools and machinery to build it. Part of this package is the safe and proper use of woodworking tools and machinery to make your design a reality. At the end of the semester you will be able to take home any projects that you have created and built. **Prerequisite:** TWJ3E1

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**Health and Personal Services** . Grade 12 . College Preparation . TOJ4C1  
This course enables students to examine the stages of child development. Students will study the processes of disease and factors contributing to health and well-being in early and later life, and will develop skills required to meet the needs of children. Students will also learn about legislation governing the care of children and older adults; evaluate social and recreational activities, programs, and services for improving quality of life; and develop an awareness of health and safety issues, environmental and social issues, and career opportunities related to child care and gerontology. **Prerequisite:** none
Hairyling and Aesthetics (Cosmetology)
Grade 12 . Workplace Preparation . +CO4EC . 4 credits (including 2 co-op)
This course builds on the Grade 11 course to provide a solid foundation for students wishing to pursue a career in cosmetology. Students will continue to develop practical skills and knowledge pertaining to the beauty industry. They will also gain an awareness of the entrepreneurial skills required to own and operate a salon. The course will focus on either hairstyling, but may include a combination of both hairstyling and aesthetics. In addition to the above-mentioned skills, the students may complete a comprehensive portfolio of work completed in the areas of hairstyling and/or aesthetics.
Note: There will be a $10.00 supply fee at the beginning of each semester. This fee will be refunded at the end of each semester provided all supplies are promptly returned.
Prerequisite: Grade 11 Cosmetology, +CO3E0

Health Care . Grade 12 . College Preparation . TPJ4C1
This course focuses on the development of clinical skills needed to assess general health status. Students will learn about accepted health care practices and about how to perform various basic procedures, using appropriate instruments and equipment. They will learn about the human immune system, pathology, and disease prevention and treatment. Students will also expand their awareness of workers' health and safety issues, environmental and societal issues related to health care, and postsecondary destinations in the field.
Prerequisite: TPJ3C1

Hospitality and Tourism

Hospitality Specialist High Skills Major (SHSM)
Grade 12 . University/College/Apprenticeship/Workplace Preparation
The Specialist High Skills Major is a Ministry of Education approved specialized program that allows you to focus your learning on a specific economic sector (in this case the Hospitality service) while meeting the requirements for the Ontario Secondary School Diploma (OSSD). It is meant to assist you in your transition from secondary school to apprenticeship training, college, university or the workplace.

The SHSM has five components in a bundle of 10 credits over grades 11 and 12 that includes:
- 5 Hospitality credits
- 3 academic credits which have units that are linked to Hospitality
- 2 co-operative education credits in an automotive related field
- industry recognized certifications such as first aid and CPR
- experiential and "reach ahead" activities that relate to Hospitality
- an Ontario Skills Passport (essential skills and work habits)

Any student enrolled in the grade 11 Hospitality SHSM is able to enrol in the Grade 12 Hospitality SHSM.  
Prerequisite: Successful completion of the grade 11 component (+HS3CH).

Hospitality . Culinary Arts and Management
Grade 12 . +HS4CH . 4 credits (includes 2 co-op credits)
Do you think you have what it takes to maybe become the next great celebrity chef? The fast-paced hospitality industry has a variety of career opportunities for you!
In this course you will be able to explore and experience the daily routine of a professional kitchen through hands-on food preparation, product management, menu planning, and service, while maintaining professional health and safety standards.
You will also see what's involved in the planning and execution of catering events.
Professional certifications will be delivered for: Smart Serve, Service Excellence, Food Handlers Permit, First Aid and WHMIS.
Through our co-op program, you will be placed in a professional culinary arts environment to receive the most practical, hands-on training possible.
Prerequisite: Grade 11 Hospitality TFR3C3 (Culinary Arts and Management)
**Precision Machining** . Manufacturing Technology
Grade 12 . College Preparation . TMP4C1
Do you like to create and make things? Do you enjoy a hands-on approach to learning? Are you interested in how products, tools and other objects fit together and come apart – and how they are made? Do you want to learn a skilled trade? In this course, you will learn to make decorative, ornamental, mechanical and practical projects that you can take home! Using conventional and computer-controlled machines with CAD/CAM software, you will learn the fundamentals of product design and manufacturing using a variety of plastics and metals, in a fully equipped machining facility that is second-to-none in North America! This course builds on what you learn in TMP3C1; it is an excellent foundation for apprenticeships, further workplace training, and mechanical/industrial/aerospace/automotive engineering at the post-secondary level.  
**Prerequisite:** TMP3C1

**Welding Technician** . Manufacturing Technology
Grade 12 . College Preparation . TMY4C1
This course, taught by industry certified instructors, offers you a manufacturing technology program incorporating design, metal fabrication and welding technologies. You will elaborate on your grade 11 experiences and continue to practice various welding methods and processes, such as: gas welding, mig welding, arc welding, torch cutting, plasma arc cutting, grinding and fitting etc. You will solve problems and make the critical decisions necessary to develop efficient production systems. You will also study the broad range of career opportunities available in the manufacturing sector and their educational requirements, and will research the scope of the manufacturing industry and the impact of its products on individuals, society, and the environment.  
**Prerequisite:** TMY3C

**Architectural Design** . College/University Preparation . TDA4M1
This course provides students with opportunities to solve problems in design through the use of technical drawings, model building, testing, and marketing. Students use the design process and Computer-Assisted drafting (CAD), 3-D modelling and animation software to research, design, and test solutions for residential or commercial architecture, industrial engineering, and manufacturing. They will also examine the educational and portfolio requirements of a technical design-related career in architecture, engineering or industrial design.  
**Prerequisite:** TDJ3M1 or special permission from the Instructor

**Architectural and Construction Engineering Technology**
Grade 12 . +DR4M0 . 6 credits (includes 3 dual credits)
This program, unique in the TDSB, allows students to explore, experience, and prepare for a career in the design and management of our built environment while simultaneously completing high school and 1st semester college! In this six credit/one semester course, students are exposed to a rigorous combination of 1st semester concepts from the George Brown College Architectural Technology and Construction Engineering Technology Programs. Key concepts are chosen from: construction field practices, housing and small building construction, building science and the environment, architectural technology and sustainable design, architectural computer drawing, building industry practices, and history of architecture. In addition, students receive transferable in-class dual credit courses in: Mathematics for Building Technologies, College English, and Computer Skills and Applications. On successful completion of the program, students are graduated in time to join the 2nd semester of either George Brown’s Architectural Technology or Construction Engineering Technology programs.  
**Prerequisite:** Students must have completed all 18 compulsory credits including Grade 12 English and Grade 11 Math, and be within 6 credits of earning their diploma. Guidance Counsellor approval and Instructor interview required.
Fashion Technology
Grade 12 . University/College Preparation . +FA4M0 (4 credits, including co-op)
This course will continue to build on the skills and techniques acquired in Grade 11 Fashion, and prepare you for post-secondary Fashion or Design studies. Specialty construction techniques and various surface design and embellishment methods will be practiced and applied to outerwear, active wear or lingerie and evening wear projects. Emphasis will be placed on professional construction and finishing methods as well as suitable material and equipment selection. You will explore the design possibilities of the “bodice” and practice industrial pattern drafting techniques for shirts, sleeves and collars. Wardrobe planning, fashion trend forecasting, and promotion techniques for publicity, advertising and events, will be introduced. You will also give presentations of your work and plan and participate in your own fashion show. You will have the opportunity to earn 2 Experiential Learning (Co-Op) credits through placements in the fashion industry during Semester 2.
Prerequisite: +FA3MO, Grade 11 Fashion Technology package (3 credits)

Transportation Technology
Small Engine and Recreational Equipment
Grade 12 . College Preparation . TTS4C1
This course, taught by government licensed instructors, covers in more detail, four-stroke and two-stroke engines, fuel systems, ignition systems, cooling systems, starter units, various drive units and their applications. You will be given the opportunity to learn about and repair recreational equipment: lawnmowers, snow blowers, chainsaws, go-karts, ATV’s, outboard engines and personal watercraft propulsion units.
You will solve problems related to vehicles and transportation systems; examine transportation-related issues such as energy conversion, power transfer, control systems, and environmental and societal impact; and investigate the educational requirements of career opportunities in the transportation sector.
Prerequisite: any TTJ3C or TTS3C course

Transportation Specialist High Skills Major (SHSM)
The Specialist High Skills Major is a Ministry of Education approved specialized program that allows you to focus your learning on a specific economic sector (in this case automotive service and repair) while meeting the requirements for the Ontario Secondary School Diploma. (OSSD) It is meant to assist you in your transition from secondary school to apprenticeship training, college, university or the workplace.
The SHSM has five components in a bundle of 10 credits over grades 11 and 12 that includes:
▪ 5 automotive credits,
▪ 3 academic credits which have units that are linked to automotive
▪ 2 co-operative education credits in an automotive related field
▪ industry recognized certifications such as first aid and CPR
▪ experiential and “reach ahead” activities that relate to automotive
▪ an Ontario Skills Passport (essential skills and work habits)
Any student enrolled in the grade 11 Automotive SHSM is able to enrol in the Grade 12 Automotive SHSM.

Automotive Service . Grade 12 . +HS4CA . 4 credits (includes 2 co-op credits)
This course, taught by a government certified automotive service technician covers in greater depth the topics outlined in the Grade 11 course, with the addition of such topics as vehicle electronics, computerized engine testing, anti lock braking systems, component testing and overhaul, customer relations, ownership and formation of sequential procedures of diagnosis and repair. Classes are taught in our school’s government licensed repair facilities. Theory lessons will be re-enforced by practical work on live vehicles. You will be asked to solve problems related to vehicles and transportation systems; examine transportation-related...
issues such as energy conversion, power transfer, control systems, and environmental and societal impact; and investigate the educational requirements of career opportunities in the transportation sector. You will be introduced to policies and procedures that they will encounter while working in a repair facility during their co-op placement.

Prerequisite: Successful completion of the grade 11 component, +HS3CA