

Cedar Ridge High School
Course Package
2018-2019





GRADE 9 COURSE OPTIONS 2018-2019

ADA10	Drama
<p>This course provides opportunities for students to explore dramatic forms and techniques, using material from a wide range of sources and cultures. Students will use the elements of drama to examine situations and issues that are relevant to their lives. Students will create, perform, discuss and analyse drama and then reflect on the experience to develop an understanding of themselves, the art form as well as the world around them. Leadership skills, work habits and teamwork are part of the skills acquired through this course. In this course, assignments, tasks and assessments may be altered or changed according to the skills and individual learning needs of the students in order to best meet their needs. Unit 2-Voice and Unit 3-Movement are interchangeable and may change order depending upon student readiness and interests.</p> <p>Prerequisite: NONE</p>	
AME10	Small Ensemble: Jazz Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on jazz. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: Enrolment into this course is by permission of the instructor. This course occurs during two lunch hours each week.</p>	
AMH10	Stage Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on the rhythm and blues genre. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: This course takes place outside of regular school hours.</p>	
AMU10	Music
<p>This course emphasizes the creation and performance of music at a level consistent with previous experience and is aimed at developing technique, sensitivity, and imagination. Students will develop musical literacy skills by using the creative and critical analysis processes in composition, performance, and a range of reflective and analytical</p>	



<p>activities. Students will develop an understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life.</p> <p>Enrolment in grade 9 music is dependant on the successful completion of an audition. Interested students will be provided audition materials prior to the summer break. Auditions for the music program will occur the first week of classes in September.</p> <p>Prerequisite: NONE</p>	
ATC10	Dance
<p>This course gives students the opportunity to explore their technical and compositional skills by applying the elements of dance and the tools of composition in a variety of performance situations. Students will generate movement through structured and unstructured improvisation, demonstrate an understanding of safe practices with regard to themselves and others in the dance environment, and identify the function and significance of dance within the global community.</p> <p>Prerequisite: None</p>	
AVI10	Visual Arts
<p>This course is exploratory in nature, offering an overview of visual arts as a foundation for further study. Students will become familiar with the elements and principles of design and the expressive qualities of various materials by using a range of media, processes, techniques, and styles. Students will use the creative and critical analysis processes and will interpret art within a personal, contemporary, and historical context.</p> <p>Prerequisite: NONE</p>	
CGC1D	Canadian Geography
<p>This course examines our place in Canada as well as in the world, as it relates to the natural environment, the human environment, and interactions with and between them (<i>pp.63, The Ontario Curriculum</i>). Students will develop skills of gathering and organizing, analysing, interpreting, evaluating, drawing conclusions, and communication of findings to information related to environmental, economic, and social geographic issues that affect Canadians.</p> <p>Prerequisite: NONE</p>	
ENG1D	English
<p>This course is designed to develop the oral communication, reading, writing, and media literacy skills that students need for success in their secondary school academic programs and in their daily lives. Students will analyse literary texts from contemporary and historical periods, interpret informational and graphic texts, and create oral, written, and media texts in a variety of forms. An important focus will be on the use of strategies that contribute to effective communication. The course is intended to prepare students for the Grade 10 academic English course, which leads to university or college preparation courses in Grades 11 and 12.</p> <p>Prerequisite: NONE</p>	



FSF1D	French
<p>This course provides opportunities for students to communicate and interact in French with increasing independence, with a focus on familiar topics related to their daily lives. Students will develop their skills in listening, speaking, reading, and writing by using language learning strategies introduced in the elementary Core French program, and will apply creative and critical thinking skills in various ways. They will also enhance their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p> <p>Prerequisite: NONE</p>	
GLS10	Learning Strategies 1: Skills for Success in Secondary School
<p>This course focuses on learning strategies to help students become better, more independent learners. Students will learn how to develop and apply literacy and numeracy skills, personal management skills, and interpersonal and teamwork skills to improve their learning and achievement in school, the workplace, and the community. The course helps students build confidence and motivation to pursue opportunities for success in secondary school and beyond.</p> <p>Prerequisite: NONE</p>	
LWGBD	International Languages (German), Level 1, Academic
<p>This course provides opportunities for students to begin to develop and apply skills in listening, speaking, reading, and writing in the language of study (German). Students will communicate and interact in structured activities, with a focus on matters of personal interest and familiar topics, and will read and write simple texts in the German language. Throughout the course, students will acquire an understanding and appreciation of diverse communities in regions of the world where the language is spoken. They will also develop skills necessary for lifelong language learning.</p> <p>Prerequisites: NONE</p>	
MFM1P	Foundations of Mathematics
<p>This course enables students to develop an understanding of mathematical concepts related to introductory algebra, proportional reasoning, and measurement and geometry through investigation, the effective use of technology, and hands-on activities. Students will investigate real-life examples to develop various representations of linear relations, and will determine the connections between the representations. They will also explore certain relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.</p> <p>Prerequisite: NONE</p>	
MPM1D	Principles of Mathematics
<p>This course enables students to develop an understanding of mathematical concepts related to algebra, analytic geometry, and measurement and geometry through investigation, the effective use of technology, and abstract reasoning. Students will investigate relationships, which they will then generalize as equations of lines, and will</p>	



<p>determine the connections between different representations of a linear relation. They will also explore relationships that emerge from the measurement of three-dimensional figures and two-dimensional shapes. Students will reason mathematically and communicate their thinking as they solve multi-step problems.</p> <p>Prerequisite: NONE</p>	
PPL10	Healthy Active Living Education
<p>This course aims to help students acquire the knowledge and skills necessary to lead a healthy and active lifestyle now and for their lifetime. The goal of making a student health literate is done by focusing on active participation in a variety of activities, developing movement skills, and examining how to achieve physical, mental, and social well-being. Students will develop self-awareness, coping skills, effective communication, goal setting, and strategies for healthy living.</p> <p>Prerequisite: NONE</p>	
SNC1D	Science
<p>This course enables students to develop their understanding of basic concepts in biology, chemistry, earth and space science, and physics, and to relate science to technology, society, and the environment. Throughout the course, students will develop their skills in the processes of scientific investigation. Students will acquire an understanding of scientific theories and conduct investigations related to sustainable ecosystems; atomic and molecular structures and the properties of elements and compounds; the study of the universe and its properties and components; and the principles of electricity.</p> <p>Prerequisite: NONE</p>	



GRADE 10 COURSE OPTIONS 2018-2019

ADA20	Drama
<p>This course provides opportunities for students to explore dramatic forms and techniques, using material from a wide range of sources and cultures. Students will use the elements of drama to examine situations and issues that are relevant to their lives. Students will create, perform, discuss and analyse drama and then reflect on the experience to develop an understanding of themselves, the art form as well as the world around them. Leadership skills, work habits and teamwork are part of the skills acquired through this course. In this course, assignments, tasks and assessments may be altered or changed according to the skills and individual learning needs of the students in order to best meet their needs.</p> <p>Prerequisite: NONE</p>	
AME20	Small Ensemble: Jazz Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on jazz. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: Enrolment into this course is by permission of the instructor. This course occurs during two lunch hours each week.</p>	
AMH20	Stage Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on the rhythm and blues genre. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: This course takes place outside of regular school hours.</p>	
AMU20	Music
<p>This course emphasizes the creation and performance of music at a level consistent with previous experience. Students will develop musical literacy skills by using the creative and critical analysis processes in composition, performance, and a range of reflective and analytical activities. Students will develop their understanding of musical conventions, practices, and terminology and apply the elements of music in a range of activities. They will also explore the function of music in society with reference to the self, communities, and cultures.</p>	



Prerequisite: NONE	
ASM20	Media Arts
<p>This course enables students to create media art works by exploring new media, emerging technologies such as digital animation, and a variety of traditional art forms such as film, photography, video, and visual arts. Students will acquire communications skills that are transferable beyond the media arts classroom and develop an understanding of responsible practices related to the creative process. Students will develop the skills necessary to create and interpret media art works.</p>	
Prerequisite: NONE	
ATC20	Dance
<p>This course emphasizes the development of students' technique and creative skills relating to the elements of dance and the tools of composition in a variety of performance situations. Students will identify responsible personal and interpersonal practices related to dance processes and production, and will apply technologies and techniques throughout the process of creation to develop artistic scope in the dance arts.</p>	
Prerequisite: None	
AVI20	Visual Arts
<p>This course enables students to develop their skills in producing and presenting art by introducing them to new ideas, materials, and processes for artistic exploration and experimentation. Students will apply the elements and principles of design when exploring the creative process. Students will use the critical analysis process to reflect on and interpret art within a personal, contemporary, and historical context.</p>	
Prerequisite: None	
BBI20	Introduction to Business
<p>This course introduces students to the world of business. Students will develop an understanding of the functions of business, including accounting, marketing, information and communication technology, human resources, and production, and of the importance of ethics and social responsibility. This course builds a foundation for further studies in business and helps students develop the business knowledge and skills they will need in their everyday lives.</p>	
Prerequisite: NONE	
CHC2D	Canadian History Since WWI
<p>This course explores social, economic, and political developments and events and their impact on the lives of different groups in Canada since 1914. Students will examine the role of conflict and cooperation in Canadian society, Canada's evolving role within the global community, and the impact of various individuals, organisations, and events on Canadian identity, citizenship, and heritage. They will develop their ability to apply the concepts of historical thinking and the historical inquiry process, including the interpretation and analysis of evidence, when investigating key issues and events in Canadian history since 1914.</p>	



Prerequisite: NONE	
CHV20	Civics & Citizenship
<p>This course explores rights and responsibilities associated with being an active citizen in a democratic society. Students will explore issues of civic importance such as healthy schools, community planning, environmental responsibility, and the influence of social media, while developing their understanding of the role of civic engagement and of political processes in the local, national, and/or global community. Students will apply the concepts of political thinking and the political inquiry process to investigate, and express informed opinions about, a range of political issues and developments that are both of significance in today's world and of personal interest to them.</p>	
Prerequisite: NONE	
ENG2D	English
<p>This course is designed to extend the range of oral communication, reading, writing, and media literacy skills that students need for success in their secondary school academic programs and in their daily lives. Students will analyse literary texts from contemporary and historical periods, interpret and evaluate informational and graphic texts, and create oral, written, and media texts in a variety of forms. An important focus will be on the selective use of strategies that contribute to effective communication. This course is intended to prepare students for the compulsory Grade 11 university or college preparation course.</p>	
Prerequisite: English, Grade 9, Academic or Applied	
FIF2D	French Immersion
<p>This course provides students with extensive opportunities to communicate, interact, and think critically and creatively in French. Students will use a variety of language learning strategies in listening, speaking, reading, and writing, and will respond to and interact with print, oral, visual, and electronic texts. Students will develop their knowledge of the French language through the study of contemporary French literature and historically well-known French European literature. They will also increase their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p>	
Prerequisite: French Immersion, Grade 9, Academic or Applied	
FSF2D	Core French
<p>This course provides opportunities for students to communicate in French about personally relevant, familiar, and academic topics in real-life situations with increasing independence. Students will exchange information, ideas, and opinions with others in guided and increasingly spontaneous spoken interactions. Students will develop their skills in listening, speaking, reading, and writing through the selective use of strategies that contribute to effective communication. They will also increase their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p>	
Prerequisite: Core French, Grade 9, Academic or Applied	



GLC20	Career Studies
<p>This course teaches students how to develop and achieve personal goals for future learning, work, and community involvement. Students will assess their interests, skills, and characteristics and investigate current economic and workplace trends, work opportunities, and ways to search for work. The course explores postsecondary learning and career options, prepares students for managing work and life transitions, and helps students focus on their goals through the development of a career plan. (<i>Guidance and Career Education, The Ontario Curriculum, Grade 9 and 10, 2006</i>).</p> <p>Prerequisite: NONE</p>	
GLE20	Learning Strategies 1: Skills for Success in Secondary School
<p>This course focuses on learning strategies to help students become better, more independent learners. Students will learn how to develop and apply literacy and numeracy skills, personal management skills, and interpersonal and teamwork skills to improve their learning and achievement in school, the workplace, and the community. The course helps students build confidence and motivation to pursue opportunities for success in secondary school and beyond.</p> <p>Prerequisite: Recommendation of principal</p>	
HFN20	Food and Nutrition
<p>This course focuses on guidelines for making nutritious food choices. Students will investigate factors that influence food choices, including beliefs, attitudes, current trends, traditional eating patterns, food-marketing strategies, and individual needs. Students will also explore the environmental impact of a variety of food choices at the local and global level. The course provides students with opportunities to develop food-preparation skills and introduces them to the use of social science research methods in the area of food and nutrition.</p> <p>Prerequisite: NONE</p>	
ICS20	Introduction to Computer Studies
<p>This course introduces students to computer programming. Students will plan and write simple computer programs by applying fundamental programming concepts, and learn to create clear and maintainable internal documentation. They will also learn to manage a computer by studying hardware configurations, software selection, operating system functions, networking, and safe computing practices. Students will also investigate the social impact of computer technologies, and develop an understanding of environmental and ethical issues related to the use of computers.</p> <p>Prerequisite: NONE</p>	
LWGBD	International Languages (German), Level 1, Academic
<p>This course provides opportunities for students to begin to develop and apply skills in listening, speaking, reading, and writing in the language of study (German). Students will communicate and interact in structured activities, with a focus on matters of personal interest and familiar topics, and will read and write simple texts in the German language. Throughout the course, students will acquire an understanding and appreciation of diverse</p>	



communities in regions of the world where the language is spoken. They will also develop skills necessary for lifelong language learning.

Prerequisites: None

MFM2P	Foundations of Mathematics
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This course enables students to consolidate their understanding of linear relations and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and hands-on activities. Students will develop and graph equations in analytic geometry; solve and apply linear systems, using real-life examples; and explore and interpret graphs of quadratic relations. Students will investigate similar triangles, the trigonometry of right triangles, and the measurement of three-dimensional figures. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Prerequisite: Grade 9 Mathematics, Academic or Applied

MPM2D	Principles of Mathematics
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This course enables students to broaden their understanding of relationships and extend their problem-solving and algebraic skills through investigation, the effective use of technology, and abstract reasoning. Students will explore quadratic relations and their applications; solve and apply linear systems; verify properties of geometric figures using analytic geometry; and investigate the trigonometry of right and acute triangles. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

Prerequisite: Grade 9 Mathematics, Academic

PAD2O	Outdoor Education
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This co-ed, group-oriented course takes place primarily within 'the outdoor classroom' (on/around the school grounds, local Outdoor Education centre, and extended field trips) as well as within the conventional classroom and challenges students to learn by doing. Guided by Outdoor Education's '3 Rs' (Respect, Relatedness, and Responsibility) students will be expected to explore and demonstrate appropriate knowledge, skills, and attitudes within three interconnected themes of Outdoor Skills, Personal and Group Development and Environmental Understandings

Prerequisite: NONE

PPL2O	Healthy Active Living Education
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This course aims to help students acquire the knowledge and skills necessary to lead a healthy and active lifestyle now and for their lifetime. The goal of making a student health literate is done by focusing on active participation in a variety of activities, developing movement skills, and examining how to achieve physical, mental, and social well-being. Student will develop self-awareness, coping skills, effective communication, goal setting, and strategies for healthy living.

Prerequisite: NONE



SNC2D	Science
<p>This course enables students to enhance their understanding of concepts in biology, chemistry, earth and space science, and physics, and of the interrelationships between science, technology, society, and the environment. Students are also given opportunities to further develop their scientific investigation skills. Students will plan and conduct investigations and develop their understanding of scientific theories related to the connections between cells and systems in animals and plants; chemical reactions, with a particular focus on acid/base reactions; forces that affect climate and climate change; and the interaction of light and matter.</p> <p>Prerequisite: Science, Grade 9, Academic or Applied</p>	



GRADE 11 COURSE OPTIONS 2018-2019

ADA3M	Drama
<p>This course requires students to create and perform in dramatic presentations. Students will analyse, interpret, and perform dramatic works from various cultures and time periods. Students will research various acting styles and conventions that could be used in their presentations, and analyse the functions of playwrights, directors, actors, designers, technicians, and audiences.</p> <p>Prerequisite: Drama, Grade 9 or 10, Open</p>	
AME3M	Small Ensemble: Jazz Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on jazz. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: Enrolment into this course is by permission of the instructor. This course occurs during two lunch hours each week.</p>	
AMH3M	Stage Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on the rhythm and blues genre. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: This course takes place outside of regular school hours.</p>	
AMH3O	Stage-Band Music
<p>This course provides students with opportunities to develop their musical literacy through the creation, appreciation, analysis, and performance of music, including traditional, commercial, and art music. Students will apply the creative process when performing appropriate technical exercises and repertoire and will employ the critical analysis processes when reflecting on, responding to, and analysing live and recorded performances. Students will consider the function of music in society and the impact of music on individuals and communities. They will explore how to apply skills developed in music to their life and careers.</p> <p>Prerequisite: NONE</p>	



AMU3M	Instrumental Music
<p>This course provides students with opportunities to develop their musical literacy through the creation, appreciation, analysis, and performance of music, including traditional, commercial, and art music. Students will apply the creative process when performing appropriate technical exercises and repertoire and will employ the critical analysis process when reflecting on, responding to, and analysing live and recorded performances. Students will consider the function of music in society and the impact of music on individuals and communities. They will explore how to apply skills developed in music to their life and careers.</p> <p>Prerequisite: NONE</p>	
ASM3M	Visual Arts
<p>This course focuses on the development of media arts skills through the production of art works involving traditional and emerging technologies, tools, and techniques such as new media, computer animation, and web environments. Students will explore the evolution of media arts as an extension of traditional art forms, use the creative process to produce effective media art works, and critically analyse the unique characteristics of this art form. Students will examine the role of media artists in shaping audience perceptions of identity, culture, and values.</p> <p>Prerequisite: Media Arts, Grade 10, Open</p>	
ATC3M	Dance – University/College Preparation
<p>This course emphasizes the development of students’ artistry, improvisational and compositional skills, and technical proficiency in dance genres from around the world. Students will apply dance elements, techniques, and tools in a variety of ways, including performance situations; describe and model responsible practices related to the dance environment; and reflect on how the study of dance affects personal and artistic development.</p> <p>Prerequisite: Dance, Grade 9 or 10, Open</p>	
ATC3O	Dance
<p>This course emphasizes the development of students’ movement vocabulary relating to dance genres from around the world, and of their understanding of the elements of dance and the tools of composition in a variety of performance situations. Students will research and explain how physical, intellectual, and artistic skills developed in dance can be applied in a wide range of careers. They will apply tools and techniques throughout the process of creation and presentation, and reflect on how studies in the dance arts affect personal identity.</p> <p>Prerequisite: None</p>	
AVI3M	Visual Arts
<p>This course enables students to further develop their knowledge and skills in visual arts. Students will use the creative process to explore a wide range of themes through studio work that may include drawing, painting, sculpting, and printmaking, as well as the creation of collage, multimedia works, and works using emerging technologies. Students will use the critical analysis process when evaluating their own work and the work of others. The course may be delivered as a comprehensive program or through a program focused on a particular art form (e.g., photography, video, computer graphics, and information design).</p>	



Prerequisite: Visual Arts, Grade 9 or 10, Open	
BAF3M	Financial Accounting Fundamentals
<p>This course introduces students to the fundamental principles and procedures of accounting. Students will develop financial analysis and decision-making skills that will assist them in future studies and/or career opportunities in business. Students will acquire an understanding of accounting for a service and a merchandising business, computerized accounting, financial analysis, and ethics and current issues in accounting.</p>	
Prerequisite: NONE	
BDP30	Entrepreneurship: The Enterprising Person
<p>This course examines the importance of enterprising employees in today's changing business environment. Students will learn about the skills and attributes of enterprising employees, the distinguishing features of their work environments, and the challenges and rewards of becoming an enterprising person. Students will also have an opportunity to demonstrate and develop enterprising skills by planning and organizing a school or community event.</p>	
Prerequisite: NONE	
CHW3M	World History to the end of the 15 th Century
<p>This course explores the history of various societies and civilizations around the world, from earliest times to around 1500 CE. Students will investigate a range of factors that contributed to the rise, success, and decline of various ancient and pre-modern societies throughout the world and will examine life in and the cultural and political legacy of these societies. Students will extend their ability to apply the concepts of historical thinking and the historical inquiry process, including the interpretation and analysis of evidence, when investigating social, political, and economic structures and historical forces at work in various societies and in different historical eras.</p>	
Prerequisite: Canadian History since World War I, Grade 10, Academic or Applied	
CLU3M	Understanding Canadian Law
<p>This course explores Canadian law, with a focus on legal issues that are relevant to the lives of people in Canada. Students will gain an understanding of laws relating to rights and freedoms in Canada; our legal system; and family, contract, employment, tort, and criminal law. Students will develop legal reasoning skills and will apply the concepts of legal thinking and the legal studies inquiry process when investigating a range of legal issues and formulating and communicating informed opinions about them.</p>	
Prerequisite: Canadian History since World War I, Grade 10, Academic or Applied	
EMS30	Media Studies
<p>This course emphasizes knowledge and skills that will enable students to understand media communication in the twenty-first century and to use media effectively and responsibly. Through analysing the forms and messages of a variety of media works and audience responses to them, and through creating their own media works, students will develop critical thinking skills, aesthetic and ethical judgement, and skills in viewing, representing, listening,</p>	



speaking, reading, and writing.	
Prerequisite: English, Grade 10, Academic or Applied	
ENG3U	English
<p>This course emphasizes the development of literacy, communication and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse challenging literary texts from various periods, countries, and cultures, as well as a range of informational and graphic texts, and create oral, written and media texts in a variety of forms. An important focus will be on using language with precision and clarity and incorporating stylistic devices appropriately and effectively. This course is intended to prepare students for the compulsory Grade 12 university or college preparation course.</p>	
Prerequisite: English, Grade 10, Academic	
FIF3U	French Immersion
<p>This course provides opportunities for students to consolidate the communication skills required to speak and interact with increasing confidence and accuracy in French in a variety of academic and social contexts. Students will use their skills in listening, speaking, reading, and writing and apply language learning strategies while exploring a variety of concrete and abstract topics. Students will increase their knowledge of the French language through the study of French literature from around the world. They will also deepen their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p>	
Prerequisite: French Immersion, Grade 10, Academic	
FSF3U	Core French
<p>This course offers students extended opportunities to speak and interact in real-life situations in French with greater independence. Students will develop their listening, speaking, reading, and writing skills, as well as their creative and critical thinking skills, through responding to and exploring a variety of oral and written texts. They will also broaden their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p>	
Prerequisite: Core French, Grade 10, Academic	
GLE3O	Advanced Learning Strategies: Skills For Success after Secondary School
<p>This course improves students' learning and personal-management skills, preparing them to make successful transitions to work, training, and/or postsecondary education destinations. Students will assess their learning abilities and use literacy, numeracy, and research skills and personal-management techniques to maximize their learning. Students will investigate trends and resources to support their postsecondary employment, training, and/or education choices and develop a plan to help them meet their learning and career goals.</p>	
Prerequisite: Recommendation of principal	



GPP30	Leadership & Peer Support
<p>This course prepares students to act in leadership and peer support roles. They will design and implement a plan for contributing to their school and/or community; develop skills in communication, interpersonal relations, teamwork, and conflict management; and apply those skills in leadership and/or peer support roles – for example, as a student council member or a peer tutor. Students will examine group dynamics and learn the value of diversity within groups and communities.</p> <p>Prerequisite: NONE</p>	
HSP3U	Introduction to Anthropology, Psychology & Sociology
<p>This course provides students with opportunities to think critically about theories, questions, and issues related to anthropology, psychology, and sociology. Students will develop an understanding of the approaches and research methods used by social scientists. They will be given opportunities to explore theories from a variety of perspectives, to conduct social science research, and to become familiar with current thinking on a range of issues within the three disciplines.</p> <p>Prerequisite: The Grade 10 academic course in English, or the Grade 10 academic history course (Canadian and world studies)</p>	
ICS3U	Introduction to Computer Science
<p>This course introduces students to computer science. Students will design software independently and as part of a team, using industry-standard programming tools and applying the software development life-cycle model. They will also write and use subprograms within computer programs. Students will develop creative solutions for various types of problems as their understanding of the computing environment grows. They will also explore environmental and ergonomic issues, emerging research in computer science, and global career trends in computer-related fields.</p> <p>Prerequisite: NONE</p>	
IDC30	Interdisciplinary Studies: This is the IMPACT! course
<p>This course will help students combine the skills required for and knowledge of different subjects and disciplines to solve problems, make decisions, create personal meaning, and present findings beyond the scope of a single subject or discipline. Through individual and collaborative inquiry and research, students will analyse the connections among diverse subjects and disciplines; develop information literacy skills in analysing, selecting, evaluating, and communicating information; and become aware of a variety of resources and viewpoints on contemporary issues. They will also examine their own learning styles, relate their inquiries and research to real-life situations, and investigate career opportunities in new disciplines.</p> <p>Prerequisite: NONE</p>	
LVGBD	Classical Languages, Level 1 (Ancient Greek)
<p>This course introduces students to the achievements of the classical world through the study of Latin or ancient Greek. Students will learn vocabulary and grammatical concepts essential for reading and translating adapted</p>	



classical texts. English is the language of instruction, and students will develop their oral communication, reading, and writing skills in both English and the classical language. Through a variety of enrichment activities, students will explore aspects of life in the ancient world, including trade, commerce, education, arts, sports, ecology, daily life, and social practices, and will make connections across the curriculum between the classical world and the world around them.

Prerequisite: NONE

LWGBD	International Languages (German), Level 1, Academic
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This course provides opportunities for students to begin to develop and apply skills in listening, speaking, reading, and writing in the language of study (German). Students will communicate and interact in structured activities, with a focus on matters of personal interest and familiar topics, and will read and write simple texts in the German language. Throughout the course, students will acquire an understanding and appreciation of diverse communities in regions of the world where the language is spoken. They will also develop skills necessary for lifelong language learning.

Prerequisites: None

MBF3C	Foundations for College Mathematics
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This course enables students to broaden their understanding of mathematics as a problem solving tool in the real world. Students will extend their understanding of quadratic relations; investigate situations involving exponential growth; solve problems involving compound interest; solve financial problems connected with vehicle ownership; develop their ability to reason by collecting, analyzing, and evaluating data involving one variable; connect probability and statistics; and solve problems in geometry and trigonometry. Students will consolidate their mathematical skills as they solve problems and communicate their thinking.

Prerequisite: Foundations of Mathematics, Grade 10, Applied

MCR3U	Math Functions
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This course introduces the mathematical concept of the function by extending students' experiences with linear and quadratic relations. Students will investigate properties of discrete and continuous functions, including trigonometric and exponential functions; represent functions numerically, algebraically, and graphically; solve problems involving applications of functions; investigate inverse functions; and develop facility in determining equivalent algebraic expressions. Students will reason mathematically and communicate their thinking as they solve multi-step problems.

Prerequisite: Principles of Mathematics, Grade 10, Academic

PAD3O	Outdoor Education
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This co-ed, group-oriented course takes place primarily within 'the outdoor classroom' (on/around the school grounds, local Outdoor Education centre, and extended field trips) as well as within the conventional classroom and challenges students to learn by doing. Guided by Outdoor Education's '3 Rs' (Respect, Relatedness, and Responsibility) students will be expected to explore and demonstrate appropriate knowledge, skills, and attitudes within three interconnected themes of Outdoor Skills, Personal and Group Development and Environmental



Understandings	
Prerequisite: NONE	
PPL30	Healthy Active Living Education
<p>This course enables students to further develop the knowledge and skills they need to make healthy choices now and lead healthy, active lives in the future. Through participation in a wide range of physical activities and exposure to a broader range of activity settings, students enhance their movement competence, personal fitness, and confidence. Students also acquire an understanding of the factors and skills that contribute to healthy development and learn how their own well-being is affected by, and affects, the world around them. Students build their sense of self, learn to interact positively with others, and develop their ability to think critically and creatively.</p>	
Prerequisite: NONE	
PPZ3C	Health for Life
<p>This course enables students to examine the factors that influence their own health practices and behaviours as well as those factors that contribute to the development of healthy communities. It emphasizes the concept of wellness, which addresses all aspects of well-being – physical, cognitive, emotional, spiritual, and social – and promotes healthy eating, physical activity, and building and maintaining a positive sense of self. Students will develop the skills necessary to make healthy choices and create a personal wellness plan. They will also design initiatives that encourage others to lead healthy, active lives. The course prepares students for college programs in health sciences, fitness, wellness, and health promotion.</p>	
Prerequisite: None	
SBI3U	Biology
<p>This course furthers students' understanding of the processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biodiversity; evolution; genetic processes; the structure and function of animals; and the anatomy, growth, and function of plants. The course focuses on the theoretical aspects of the topics under study, and helps students refine skills related to scientific investigation.</p>	
Prerequisite: Science, Grade 10, Academic	
SCH3U	Chemistry
<p>This course enables students to deepen their understanding of chemistry through the study of the properties of chemicals and chemical bonds; chemical reactions and quantitative relationships in those reactions; solutions and solubility; and atmospheric chemistry and the behaviour of gases. Students will further develop their analytical skills and investigate the qualitative and quantitative properties of matter, as well as the impact of some common chemical reactions on society and the environment.</p>	
Prerequisite: Science, Grade 10, Academic	



SPH3U	Physics
<p>This course develops students' understanding of the basic concepts of physics. Students will explore kinematics, with an emphasis on linear motion; different kinds of forces; energy transformations; the properties of mechanical waves and sound; and electricity and magnetism. They will enhance their scientific investigation skills as they test laws of physics. In addition, they will analyse the interrelationships between physics and technology, and consider the impact of technological applications of physics on society and the environment.</p> <p>Prerequisite: Science, Grade 10, Academic</p>	
SVN3M	Environmental Science
<p>This course provides students with the fundamental knowledge of and skills relating to environmental science that will help them succeed in life after secondary school. Students will explore a range of topics, including the role of science in addressing contemporary environmental challenges; the impact of the environment on human health; sustainable agriculture and forestry; the reduction and management of waste; and the conservation of energy. Students will increase their scientific and environmental literacy and examine the interrelationships between science, the environment, and society in a variety of areas.</p> <p>Prerequisite: Grade 10 Science, Applied or Academic</p>	
TDJ3O	Technological Design and the Environment
<p>This course enables students to apply a systematic process for researching, designing, building, and assessing solutions to address specific human and environmental challenges. Through their work on various projects, students will explore broad themes that may include aspects of industrial design, mechanical design, architectural design, control system design, and/or apparel design. Students will develop an awareness of environmental and societal issues related to technological design, and will learn about secondary and postsecondary pathways leading to careers in the field.</p> <p>Prerequisite: None</p>	



GRADE 12

COURSE OPTIONS 2018-2019

AME4M	Small Ensemble: Jazz Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on jazz. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: Enrolment into this course is by permission of the instructor. This course occurs during two lunch hours each week.</p>	
AMH4M	Stage Band
<p>This course emphasizes the appreciation, analysis, and performance of various types of music, with a focus on the rhythm and blues genre. Students will perform technical exercises and appropriate repertoire for their level, complete detailed creative activities, and analyze and evaluate live and recorded performances. They will continue to increase their understanding of the conventions and elements of music and of safe practices related to music, and will develop a variety of skills transferable to other areas of their life. This course is group performance-oriented in its structure.</p> <p>Credit 0.5 Note: This course takes place outside of regular school hours.</p>	
AMU4M	Music
<p>This course enables students to enhance their musical literacy through the creation, appreciation, analysis, and performance of music. Students will perform traditional, commercial, and art music, and will respond with insight to live and recorded performances. Students will enhance their understanding of the function of music in society and the impact of music on themselves and various communities and cultures. Students will analyse how to apply skills developed in music to their life and careers.</p> <p>Prerequisite: Music, Grade 11, University/College Preparation</p>	
ATC4E	Dance – Workplace Preparation
<p>This course enables students to develop performance and interpersonal skills through the study of dance. Students will apply the elements of dance and the tools of composition to develop a physical vocabulary that can be used to create and communicate through dance. Students will research and explain how physical, intellectual, and artistic skills developed in the dance arts are transferable to a wide range of careers and workplace environments. They will develop an understanding of practices associated with healthy living, the benefits of self-discipline, and the importance of continuing engagement in the arts.</p> <p>Prerequisite: Dance, Grade 11, Open</p>	



ATC4M	Dance – University/College Preparation
<p>This course emphasizes the development of students’ technical proficiency, fluency in the language of movement in dance genres from around the world, and understanding of dance science. Students will explain the social, cultural, and historical contexts of dance; apply the creative process through the art of dance in a variety of ways; and exhibit an understanding of the purpose and possibilities of continuing engagement in the arts as a lifelong learner.</p> <p>Prerequisite: Dance, Grade 11, University/College Preparation</p>	
AVI4M	Visual Arts
<p>This course focuses on enabling students to refine their use of the creative process when creating and presenting two- and three-dimensional art works using a variety of traditional and emerging media and technologies. Students will use the critical analysis process to deconstruct art works and explore connections between art and society. The studio program enables students to explore a range of materials, processes, and techniques that can be applied in their own art production. Students will also make connections between various works of art in personal, contemporary, historical, and cultural contexts.</p> <p>Prerequisite: Visual Arts, Grade 11, University/College Preparation</p>	
BAT4M	Financial Accounting Principles
<p>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.</p> <p>Prerequisite: Financial Accounting Fundamentals, Grade 11, University/College Preparation</p>	
BBB4M	International Business Fundamentals
<p>This course provides an overview of the importance of international business and trade in the global economy and explores the factors that influence success in international markets. Students will learn about the techniques and strategies associated with marketing, distribution, and managing international business effectively. This course prepares students for postsecondary programs in business, including international business, marketing, and management.</p> <p>Prerequisite: None</p>	
BOH4M	Business Leadership
<p>This course focuses on the development of leadership skills used in managing a successful business. Students will analyse the role of a leader in business, with a focus on decision making, management of group dynamics, workplace stress and conflict, motivation of employees, and planning. Effective business communication skills, ethics, and social responsibility are also emphasized.</p> <p>Prerequisite: None</p>	



CGR4M	The Environment & Resource Management
<p>This course investigates interactions between natural and human systems, with a particular emphasis on the impacts of human activity on ecosystems and natural processes. Students will use the geographic inquiry process, apply the concepts of geographic thinking, and employ a variety of spatial skills and technologies to analyse these impacts and propose ways of reducing them. In the course of their investigations, they will assess resource management and sustainability practices, as well as related government policies and international accords. They will also consider questions of individual responsibility and environmental stewardship as they explore ways of developing a more sustainable relationship with the environment.</p> <p>Prerequisite: Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities</p>	
CGR4M	The Environment & Resource Management
<p>This course investigates interactions between natural and human systems, with a particular emphasis on the impacts of human activity on ecosystems and natural processes. Students will use the geographic inquiry process, apply the concepts of geographic thinking, and employ a variety of spatial skills and technologies to analyse these impacts and propose ways of reducing them. In the course of their investigations, they will assess resource management and sustainability practices, as well as related government policies and international accords. They will also consider questions of individual responsibility and environmental stewardship as they explore ways of developing a more sustainable relationship with the environment.</p> <p>Prerequisite: Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities</p>	
CHY4U	World History since the 15 th Century
<p>This course traces major developments and events in world history since approximately 1450. Students will explore social, economic, and political changes, the historical roots of contemporary issues, and the role of conflict and cooperation in global interrelationships. They will extend their ability to apply the concepts of historical thinking and the historical inquiry process, including the interpretation and analysis of evidence, as they investigate key issues and ideas and assess societal progress or decline in world history.</p> <p>Prerequisite: Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities</p>	
CLN4U	Canadian & International Law
<p>This course explores a range of contemporary legal issues and how they are addressed in both Canadian and international law. Students will develop an understanding of the principles of Canadian and international law and of issues related to human rights and freedoms, conflict resolution, and criminal, environmental, and workplace law, both in Canada and internationally. Students will apply the concepts of legal thinking and the legal studies inquiry process, and will develop legal reasoning skills, when investigating these and other issues in both Canadian and international contexts.</p>	



Prerequisite: Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities.	
ENG4U	English
<p>This course emphasizes the consolidation of the literacy, communication and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse a range of challenging literary texts from various periods, countries, and cultures; interpret and evaluate informational and graphic texts; and create oral, written and media texts in a variety of forms. An important focus will be on using academic language with coherently and confidently, selecting the reading strategies best suited to particular texts and particular purposes for reading, and developing greater control in writing. This course is intended to prepare students for university, college or the workplace.</p> <p>Prerequisite: English, Grade 11, University Preparation</p>	
EWC4U	The Writer's Craft
<p>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.</p> <p>Prerequisite: English, Grade 11, University Preparation</p>	
FIF4U	French Immersion
<p>This course provides students with extensive opportunities to communicate, interact, and think critically and creatively in French. Students will consolidate their listening, speaking, reading, and writing skills and apply language learning strategies while communicating about concrete and abstract topics, and will independently respond to and interact with a variety of oral and written texts. Students will study a selection of French literature from the Middle Ages to the present. They will also enrich their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p> <p>Prerequisite: French Immersion, Grade 11, University Preparation</p>	
FSF4U	Core French
<p>This course provides extensive opportunities for students to speak and interact in French independently. Students will develop their listening, speaking, reading, and writing skills, apply language learning strategies in a wide variety of real-life situations, and develop their creative and critical thinking skills through responding to and interacting with a variety of oral and written texts. They will also enrich their understanding and appreciation of diverse French-speaking communities, and will develop skills necessary for lifelong language learning.</p> <p>Prerequisite: Core French, Grade 11, University Preparation</p>	
GLS4O	Advanced Learning Strategies: Skills for Success After Secondary School
This course improves students' learning and personal-management skills, preparing them to make successful	

transitions to work, training, and/or postsecondary education destinations. Students will assess their learning abilities and use literacy, numeracy, and research skills and personal-management techniques to maximize their learning. Students will investigate trends and resources to support their postsecondary employment, training, and/or education choices and develop a plan to help them meet their learning and career goals.

Prerequisite: NONE

HSB4U	Challenges & Changes in Society
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This course focuses on the use of social science theories, perspectives, and methodologies to investigate and explain shifts in knowledge, attitudes, beliefs, and behaviour and their impact on society. Students will critically analyse how and why cultural, social, and behavioural patterns change over time. They will explore the ideas of social theorists and use those ideas to analyse causes of and responses to challenges such as technological change, deviance, and global inequalities. Students will explore ways in which social science research methods can be used to study social change.

Prerequisite: Any university or university/college preparation course in social sciences and humanities, English, or Canadian and world studies

HSE4M	Equity and Social Justice: From Theory to Practice
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This course enables students to develop an understanding of the theoretical, social, and historical underpinnings of various equity and social justice issues and to analyse strategies for bringing about positive social change. Students will learn about historical and contemporary equity and social justice issues in Canada and globally. They will explore power relations and the impact of a variety of factors on equity and social justice. Students will develop and apply research skills and will design and implement a social action initiative relating to an equity or social justice issue.

Prerequisites: Any university, college, or university/college preparation course in social sciences and humanities, English, or Canadian and world studies

HZT4U	Philosophy: Questions & Theories
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This course enables students to acquire an understanding of the nature of philosophy and philosophical reasoning skills and to develop and apply their knowledge and skills while exploring specialized branches of philosophy (the course will cover at least three of the following branches: metaphysics, ethics, epistemology, philosophy of science, social and political philosophy, aesthetics).* Students will develop critical thinking and philosophical reasoning skills as they formulate and evaluate arguments related to a variety of philosophical questions and theories. They will also develop research and inquiry skills related to the study and practice of philosophy.

Prerequisite: Any university or university/college preparation course in social sciences and humanities, English, or Canadian and world studies

ICS4U	Computer Science
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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: Introduction to Computer Science, Grade 11, University Preparation

IDC4U	Interdisciplinary Studies – This is the IMPACT! course
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This course will help students develop and consolidate the skills required for and knowledge of different subjects and disciplines to solve problems, make decisions, create personal meaning, and present findings beyond the scope of a single subject or discipline. Students will apply the principles and processes of inquiry and research to effectively use a range of print, electronic, and mass media resources; to analyse historical innovations and exemplary research; and to investigate real-life situations and career opportunities in interdisciplinary endeavours. They will also assess their own cognitive and affective strategies, apply general skills in both familiar and new contexts, create innovative products, and communicate new knowledge.

Prerequisites: Any university or university/college preparation course

LVV4U	Classical Civilization, University Preparation
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This course introduces students to the rich cultural legacy of the classical world. Students will investigate aspects of classical culture, including mythology, literature, art, architecture, philosophy, science, and technology, as well as elements of the ancient Greek and Latin languages. Students will develop creative and critical thinking skills through exploring and responding to works by classical authors in English translation and examining material culture brought to light through archaeology. They will also increase their communication and research skills by working both collaboratively and independently, and will acquire an understanding and appreciation of the interconnectedness of ancient and modern societies.

Prerequisite: English, Grade 10, Academic, or Classical Languages, Level 2, University Preparation

LWGBD	International Languages (German), Level 1, Academic
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This course provides opportunities for students to begin to develop and apply skills in listening, speaking, reading, and writing in the language of study (German). Students will communicate and interact in structured activities, with a focus on matters of personal interest and familiar topics, and will read and write simple texts in the German language. Throughout the course, students will acquire an understanding and appreciation of diverse communities in regions of the world where the language is spoken. They will also develop skills necessary for lifelong language learning.

Prerequisites: None

MCV4U	Calculus & Vectors
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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, sinusoidal, exponential, rational, and radical 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 choose to pursue careers in fields such as science, engineering, economics, and some areas of business, including those students who will be required to take a university-level calculus, linear algebra, or physics course.

Prerequisites: Advanced Functions MHF4U

MHF4U	Advanced Functions
<p>This course extends students' experience with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; develop techniques for combining 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 taking the Calculus and Vectors course as a prerequisite for a university program and for those wishing to consolidate their understanding of mathematics before proceeding to any one of a variety of university programs.</p>	

Prerequisite: Functions MCR3U

PAD40	Healthy Living and Outdoor Activities
<p>This course enables students to further develop the knowledge and skills they need to make healthy choices. It places special emphasis on how students can maintain the habits of healthy, active living throughout their lives as they make the transition to adulthood and independent living. Through participation in a wide range of physical activities in a variety of settings, students can enhance their movement competence, personal fitness, and confidence. Students also acquire an understanding of the factors and skills that contribute to healthy development and learn how their own well-being is affected by, and affects, the world around them. Students build their sense of self, learn to interact positively with others, and develop their ability to think critically and creatively.</p>	

PLF4M	Recreation & Healthy Active Living Leadership
<p>This course enables students to explore the benefits of lifelong participation in active recreation and healthy leisure and to develop the leadership and coordinating skills needed to plan, organize, and safely implement recreational events and other activities related to healthy, active living. Students will also learn how to promote the benefits of healthy, active living to others through mentoring and assisting them in making informed decisions that enhance their well-being. The course will prepare students for university programs in physical education and health and kinesiology and for college and university programs in recreation and leisure management, fitness and health promotion, and fitness leadership.</p>	

Prerequisite: Any health and physical education course

PSK4U	Introductory Kinesiology
<p>This course focuses on the study of human movement and of systems, factors, and principles involved in human development. Students will learn about the effects of physical activity on health and performance, the evolution of physical activity and sport, and the physiological, psychological, and social factors that influence an individual's participation in physical activity and sport. The course prepares students for university programs in physical</p>	



education and health, kinesiology, health sciences, health studies, recreation, and sports administration.

Prerequisite: Any Grade 11 university or university/college preparation course in science, or any Grade 11 or 12 course in health and physical education

SBI4U	Biology
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This course provides students with the opportunity for in-depth study of the concepts and processes associated with biological systems. Students will study theory and conduct investigations in the areas of biochemistry, metabolic processes, molecular genetics, homeostasis, and population dynamics. Emphasis will be placed on achievement of the detailed knowledge and refinement of skills needed for further study in various branches of the life sciences and related fields.

Prerequisite: Biology, Grade 11, University Preparation

SCH4U	Chemistry
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This course enables students to deepen their understanding of chemistry through the study of organic chemistry, the structure and properties of matter, energy changes and rates of reaction, equilibrium in chemical systems, and electrochemistry. Students will further develop their problem-solving and investigation skills as they investigate chemical processes, and will refine their ability to communicate scientific information. Emphasis will be placed on the importance of chemistry in everyday life and on evaluating the impact of chemical technology on the environment.

Prerequisite: Chemistry, Grade 11, University Preparation

SES4U	Earth and Space Science, Grade 12 University Preparation
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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 analyse 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: Science, Grade 10, Academic

SPH4U	Physics
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This course enables students to deepen their understanding of physics concepts and theories. Students will continue their exploration of energy transformations and the forces that affect motion, and will investigate electrical, gravitational, and magnetic fields and electromagnetic radiation. Students will also explore the wave nature of light, quantum mechanics, and special relativity. They will further develop their scientific investigation skills, learning, for example, how to analyse, qualitatively and quantitatively, data related to a variety of physics concepts and principles. Students will also consider the impact of technological applications of physics on society and the environment.



Prerequisite: Physics, Grade 11, University Preparation