

NCC Secondary School Course Descriptions 2020-21

The following brief course descriptions give an overview of the current course offerings for your grade here at NCC. Full details may also be accessed through the Ontario Ministry of Education website (www.edu.gov.on.ca).

Grade 9

INSTRUMENTAL MUSIC, Grade 9, Open (AMI10)

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 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. **Prerequisite:** None

VISUAL ARTS, Grade 9, Open (AVI10)

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. **Prerequisite:** None

ENGLISH, Grade 9, Academic (ENG1D)

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. **Prerequisite:** None

LISTENING AND ORAL LANGUAGE DEVELOPMENT (ENG1L)

This course provides foundational literacy and communication skills to prepare students for success in their daily lives, in the workplace, and in the Grade 10 LDCC Course. The course is organized into units that develop listening and talking skills, reading and viewing skills, and writing skills. In all units, the focus is on developing foundational literacy skills and on using language clearly and accurately in a variety of authentic contexts. **Prerequisite:** None

ENGLISH AS A SECOND LANGUAGE, ESL Level 1, Open (ESLAO)

This course builds on students' previous education and language knowledge to introduce them to the English language and help them adjust to the diversity in their new environment. Students will use beginning English language skills in listening, speaking, reading, and writing for everyday and essential academic purposes. They will engage in short conversations using basic English language structures and simple sentence patterns; read short adapted texts; and write phrases and short sentences. The course also provides students with the knowledge and skills they need to begin to adapt to their new lives in Canada. **Prerequisite:** None

ENGLISH AS A SECOND LANGUAGE, ESL Level 2, Open (ESLBO)

This course extends students' listening, speaking, reading, and writing skills in English for everyday and academic purposes. Students will participate in conversations in structured situations on a variety of familiar and new topics; read a variety of texts designed or adapted for English language learners; expand their knowledge of English grammatical structures and sentence patterns; and link English sentences to compose paragraphs. The course also supports students' continuing adaptation to the Ontario school system by expanding their knowledge of diversity in their new province and country. **Prerequisite:** ESL Level 1 or Equivalent

CORE FRENCH, Grade 9, Academic (FSF1D)

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.

Prerequisite: Minimum of 600 hours of French instruction, or equivalent.

CORE FRENCH, Grade 9, Applied (FSF1P)

This course provides opportunities for students to communicate and interact in French in structured situations, with a focus on everyday topics, and to apply their knowledge of French in everyday situations. Students will develop listening, speaking, reading, and writing skills introduced in the elementary Core French program, through practical applications and concrete examples, and will use 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. **Prerequisite:** Minimum of 600 hours of French instruction, or equivalent.

ISSUES IN CANADIAN GEOGRAPHY, Grade 9, Academic (CGC1D)

This course examines interrelationships within and between Canada's natural and human systems and how these systems interconnect with those in other parts of the world. Students will explore environmental, economic, and social geographic issues relating to topics such as transportation options, energy choices, and urban development. Students will apply the concepts of geographic thinking and the geographic inquiry process, including spatial technologies, to investigate various geographic issues and to develop possible approaches for making Canada a more sustainable place in which to live. **Prerequisite:** None

ISSUES IN CANADIAN GEOGRAPHY, Grade 9, Applied (CGC1P)

This course focuses on current geographic issues that affect Canadians. Students will draw on their personal and everyday experiences as they explore issues relating to food and water supplies, competing land uses, interactions with the natural environment, and other topics relevant to sustainable living in Canada. They will also develop an awareness that issues that affect their lives in Canada are interconnected with issues in other parts of the world.

Throughout the course, students will use the concepts of geographic thinking, the geographic inquiry process, and spatial technologies to guide and support their investigations.

Prerequisite: None

PRINCIPLES OF MATHEMATICS, Grade 9, Academic (MPM1D)

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 determine the connections between different representations of 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. **Prerequisite:** None

FOUNDATIONS OF MATHEMATICS, Grade 9, Applied (MFM1P)

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. **Prerequisite:** None

HEALTHY ACTIVE LIVING EDUCATION, Grade 9, Open (co-ed) (PPL1O)

This course equips students with 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, students develop knowledge and skills related to movement competence and personal fitness that provide a foundation for active living. 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. **Prerequisite:** None

SCIENCE, Grade 9, Academic (SNC1D)

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. **Prerequisite:** None

EXPLORING TECHNOLOGIES, Grade 9, Open (TIJ1O)

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

issues, and will begin to explore secondary and postsecondary education and training pathways leading to careers in technology-related fields. **Prerequisite:** None

Grade 10

INSTRUMENTAL MUSIC - BAND, Grade 10, Open (AMI2O)

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. **Prerequisite:** None

VISUAL ARTS, Grade 10, Open (AVI2O)

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. **Prerequisite:** None

CANADIAN HISTORY SINCE WORLD WAR I, Grade 10, Academic (CHC2D)

This course explores social, economic, and political developments and events and their impact on the lives of different individuals, groups, and communities, including First Nations, Métis, and Inuit individuals and communities, 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, organizations, and events on identities, citizenship, and heritage in Canada. Students will develop an understanding of some of the political developments and government policies that have had a lasting impact on First Nations, Métis, and Inuit individuals and communities. 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. **Prerequisite:** None

CANADIAN HISTORY SINCE WORLD WAR I, Grade 10, Applied (CHC2P)

This course focuses on the social context of historical developments and events and how they have affected the lives of people in Canada, including First Nations, Métis, and Inuit

individuals and communities, since 1914. Students will explore interactions between various communities in Canada as well as contributions of individuals and groups to heritage and identities in Canada. Students will develop an understanding of some key political developments and government policies that have had an impact on First Nations, Métis, and Inuit individuals and communities. 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 the continuing relevance of historical developments and how they have helped shape communities in present-day Canada. **Prerequisite:** None

CIVICS AND CITIZENSHIP, Grade 10, Open (CHV2O) (0.5 Credit)

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. **Prerequisite:** None

ENGLISH, Grade 10, Academic (ENG2D)

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. **Prerequisite:** English, Grade 9, Academic or Applied

ENGLISH AS A SECOND LANGUAGE, ESL Level 3, Open (ESLCO)

This course further extends students' skills in listening, speaking, reading, and writing in English for a variety of everyday and academic purposes. Students will make short classroom oral presentations; read a variety of adapted and original texts in English; and write using a variety of text forms. As well, students will expand their academic vocabulary and their study skills to facilitate their transition to the mainstream school program. This course also introduces students to the rights and responsibilities inherent in Canadian citizenship, and to a variety of current Canadian issues. **Prerequisite:** ESL Level 2 or Equivalent

ENGLISH, Locally Developed Compulsory Credit Course, Grade 10 (ENG2L)

In this course, students focus on extending their literacy and communication skills to prepare for success in their daily lives, in the workplace and in future English as a Second Language (ESL) courses. The course is organized into strands that extend listening and talking skills, reading and viewing skills, and writing skills. In all strands, the focus is on refining foundational literacy skills and on using language clearly and accurately in a variety of authentic contexts. Students build on their strategies and engage in the processes involved in talking, listening, reading, viewing, writing, and thinking, and reflect regularly on their growth.

Prerequisite: English, Grade 9, Academic or Applied, or a Grade 9 English LDCC (locally developed compulsory credit) course

LITERACY SKILLS: READING AND WRITING, Grade 10, Open (ELS2O)

This course is designed to help students strengthen essential reading and writing skills, providing them with the extra literacy support they need in order to graduate. Students will read informational, graphic, and literary texts, with a focus on locating information, identifying main ideas and supporting details, building vocabulary, and consolidating skills in the application of key comprehension strategies. The course will also help students develop core learning strategies.

Prerequisite: English, Grade 9, Academic or Applied, or a Grade 9 English LDCC (locally developed compulsory credit) course

CORE FRENCH, Grade 10, Academic (FSF2D)

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. **Prerequisite:** Core French, Grade 9, Academic or Applied

CAREER STUDIES, Grade 10, Open (GLC2O) (0.5 Credit)

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. **Prerequisite:** None

INTRODUCTION TO THE STORY OF REDEMPTION – Grade 10, Open (HRE23)

The course explores the place of the Bible in human history as a document that tells the Story of Redemption. By looking at the Creation, humankind's Fall into sin, God's promise of redemption through the Hebrew people and fulfilled in Jesus Christ for all people, students will be exposed to the hope of Jesus' return to make all things new. Students will examine scripture broadly as an historical document and the sacred text for Christians. Students will learn how to read and interpret scripture through an historical-redemptive approach that will allow them to understand the Story of Redemption. Certain passages and books are studied in depth so that students can discover and share key themes and issues, and learn the principles of biblical interpretation and apply them in their learning. The overall theme is for students to understand the Story of Redemption and their place in it. This is a locally-developed course approved by the Ministry of Education. **Prerequisite:** None

INTRODUCTION TO COMPUTER STUDIES, Grade 10, Open (ICS20)

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. **Prerequisite:** None

PRINCIPLES OF MATHEMATICS, Grade 10, Academic (MPM2D)

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 Math, Academic or Grade 9 Math, Applied (with transfer course)

FOUNDATIONS OF MATHEMATICS, Grade 10, Applied (MFM2P)

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 Math, Academic or Applied

HEALTHY ACTIVE LIVING EDUCATION, Grade 10, Open (PPL2O)

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, students develop knowledge and skills related to movement competence and personal fitness that provide a foundation for active living. 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. **Prerequisite:** None

SCIENCE, Grade 10, Academic (SNC2D)

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. **Prerequisite:** Science, Grade 9, Academic or Applied

Grade 11

NEW!!! DRAMA, Grade 11, University/College Preparation (ADA3M)

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. **Prerequisite:** Drama, Grade 9 or 10, Open (For questions about pre-requisite waivers, please contact the NCC Student Services Department.)

MUSIC: INSTRUMENTAL - BAND, Grade 11, Open (AMI3M)

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. **Prerequisite:** Music, Grade 9 or 10, Open

NEW!!! MUSIC AND COMPUTERS, Grade 11, University/College Preparation (AMM3M)

This course provides an opportunity for students to use web-based sequencing and recording software to explore the concepts of film score, music composition, songwriting and recording. Independently, and collaboratively, students will use current technology as well as the creative and critical analysis processes to plan, produce, present, and market musical productions at a level consistent with previous experience. Students will respond to, reflect on, and analyze music from various genres and periods; they will develop skills transferable to other aspects of their life and their careers. This course is ideal for students interested in the foundations of songwriting, recording engineering, and music production. **Prerequisite:** Any Grade 9 or 10 music course.

MUSIC: INSTRUMENTAL - KEYBOARDING, Grade 11, University/College Preparation (AMK3M)

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. The focus of this course will be on keyboarding. **Prerequisite:** Music, Grade 9 or 10, Open

VISUAL ARTS, Grade 11, University/College Preparation (AVI3M)

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, information design). **Prerequisite:** Visual Arts, Grade 9 or 10, Open

FINANCIAL ACCOUNTING FUNDAMENTALS, Grade 11, University/College Prep (BAF3M)

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. **Prerequisite:** None

FORCES OF NATURE: PHYSICAL PROCESSES AND DISASTERS, Grade 11, University/College Preparation (CGF3M)

This course will explore the physical systems of water, land, and air. Students will investigate how these systems interact with human systems in both positive and negative ways. Students will look at natural disasters and how they impact human disasters and crisis. Students will be looking at disaster planning of communities around the world and Canada. Students will look at historical disaster events and current events. Students interested in environmental sciences, social services, city planning, environmental engineering, emergency relief, and applied project based activities will enjoy this course. **Prerequisite:** Any Grade 9 Geography course

TRAVEL AND TOURISM: A GEOGRAPHIC PERSPECTIVE, Grade 11, Open (CGG30)

This course focuses on issues related to travel and tourism within and between various regions of the world. Students will investigate unique environmental, sociocultural, economic, and political characteristics of selected world regions. They will explore travel patterns and trends, as well as tensions related to tourism, and will predict future tourism destinations. Students will apply the concepts of geographic thinking and the geographic inquiry process, including spatial technologies, to investigate the impact of the travel industry on natural environments and human communities. **Prerequisite:** Geography of Canada, Grade 9 Academic or Applied

UNDERSTANDING CANADIAN LAW, Grade 11, University/College Preparation (CLU3M)

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.

Prerequisite: Canadian History Since World War I, Grade 10, Academic or Applied

WORLD HISTORY SINCE 1900: GLOBAL AND REGIONAL INTERACTIONS, Grade 11, Open (CHT30)

This course focuses on major developments in world history from 1900 to the present. Students will explore the causes and consequences of global and regional conflicts, the impact of significant individuals and social movements, and the effects of social, economic, and political developments around the world. 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 interactions within and between nations and other historical developments and events, including those that continue to affect people in various parts of the world. **Prerequisite:** Canadian History since World War I, Grade 10, Academic or Applied, or the locally developed compulsory course (LDCC) in Canadian history

ENGLISH, Grade 11, University Preparation (ENG3U)

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. The course is intended to prepare students for the compulsory Grade 12 university or college preparation course. **Prerequisite:** English, Grade 10, Academic

ENGLISH, Grade 11, College Preparation (ENG3C)

This course emphasizes the development of literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will study the content, form, and style of a variety of informational and graphic texts, as well as literary texts from Canada and other countries, and create oral, written, and media texts in a variety of forms for practical and academic purposes. An important focus will be on using language with precision and clarity. The course is intended to prepare students for the compulsory Grade 12 college preparation course. **Prerequisite:** English, Grade 10, Applied

ENGLISH AS A SECOND LANGUAGE, ESL Level 4, Open (ESLDO)

This course prepares students to use English with increasing fluency and accuracy in classroom and social situations and to participate in Canadian society as informed citizens. Students will develop the oral-presentation, reading, and writing skills required for success in all school subjects. They will extend listening and speaking skills through participation in discussions and seminars; study and interpret a variety of grade-level texts; write narratives,

articles, and summaries in English; and respond critically to a variety of print and media texts.

Prerequisite: ESL Level 3 or Equivalent

CORE FRENCH, Grade 11, University Preparation (FSF3U)

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.

Prerequisite: Core French, Grade 10, Academic

LEADERSHIP AND PEER SUPPORT, Grade 11, Open (GPP3O)

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. **Prerequisite:** None

WORLD RELIGIONS 11, Grade 11, University/College Preparation (HRT3M)

This course provides students with opportunities to explore various world religions and belief traditions. Students will develop knowledge of the terms and concepts relevant to this area of study, will examine the ways in which religions and belief traditions meet various human needs, and will learn about the relationship between belief and action. They will examine sacred writings and teachings, consider how concepts of time and place influence different religions and belief traditions, and develop research and inquiry skills related to the study of human expressions of belief. **Prerequisite:** None

INTRODUCTION TO ANTHROPOLOGY, PSYCHOLOGY, AND SOCIOLOGY, Grade 11, University/College Preparation (HSP3U)

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. **Prerequisite:** The Grade 10 *academic* course in English, or the Grade 10 *academic* history course (Canadian and world studies)

INTRODUCTION TO COMPUTER SCIENCE, Grade 11, University Preparation (ICS3U)

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. **Prerequisite:** None

INTERNATIONAL LANGUAGES, Italian, Level 1, Open (LWIAO)

This course introduces students to language elements they will need to begin to communicate with native speakers. Students will participate in practical activities in which they can apply their knowledge and skills, and will begin to explore careers that require knowledge of the Italian language. They will explore aspects of the culture of countries where Italian is spoken, including social customs, music, and food, by participating in cultural events and activities involving both print and technological resources. **Prerequisite:** None

FUNCTIONS, Grade 11, University Preparation (MCR3U)

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

FUNCTIONS AND APPLICATIONS, Grade 11, University/College Preparation (MCF3M)

This course introduces basic features of the function by extending students' experiences with quadratic relations. It focuses on quadratic, trigonometric, and exponential functions and their use in modelling real-world situations. Students will represent functions numerically, graphically, and algebraically; simplify expressions; solve equations; and solve problems relating to applications. Students will reason mathematically and communicate their thinking as they solve multi-step problems. **Prerequisite:** Principles of Mathematics, Grade 10, Academic, or Foundations of Mathematics, Grade 10, Applied

MATHEMATICS FOR WORK AND EVERYDAY LIFE, Grade 11, Workplace Preparation (MEL3E)

This course enables students to broaden their understanding of mathematics as it is applied in the workplace and daily life. Students will solve problems associated with earning money, paying taxes, and making purchases; apply calculations of simple and compound interest in saving, investing, and borrowing; and calculate the costs of transportation and travel in a variety of situations. Students will consolidate their mathematical skills as they solve problems and communicate their thinking. **Prerequisite:** Principles of Mathematics, Grade 9, Academic,

or Foundations of Mathematics, Grade 9, Applied, or a ministry-approved locally developed Grade 10 mathematics course.

HEALTHY LIVING AND PERSONAL AND FITNESS ACTIVITIES, Grade 11, Open (PAF30)

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. The course will focus on a wide variety of fitness activities in order to increase and sustain personal fitness levels. **Prerequisite:** None

HEALTHY ACTIVE LIVING: Weightlifting, Grade 11, Open (PAI30)

This course is for students who enjoy physical activities for increased fitness, weight management and positive self-image. Students will be provided with opportunities to demonstrate the skills necessary to take charge of and improve their own health. Activities may include: Hi/Low Impact, Crossfit, High Intensity Interval Training (H.I.T.T), kettlebell training, circuit and weight training which will be held mostly in the school weight room and fitness centre. The theory part of the course focuses on topics related to healthy lifestyles, science behind weight training, program design, the improvement of self-image, nutrition, determinants of health, consumer health and health promotion. **Prerequisite:** None

HEALTHY ACTIVE LIVING EDUCATION, Grade 11, Open (PPL30)

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. **Prerequisite:** None

BIOLOGY, Grade 11, University Preparation (SBI3U)

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. **Prerequisite:** Science, Grade 10, Academic

CHEMISTRY, Grade 11, University Preparation (SCH3U)

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. **Prerequisite:** Science, Grade 10, Academic

PHYSICS, Grade 11, University Preparation (SPH3U)

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. **Prerequisite:** Science, Grade 10, Academic

COMMUNICATIONS TECHNOLOGY, Grade 11, University/College Preparation (TGJ3M)

This course examines communications technology from a media perspective. Students will develop knowledge and skills as they design and produce media projects in the areas of live, recorded, and graphic communications. These areas may include TV, video, and movie production; radio and audio production; print and graphic communications; photography; digital imaging; broadcast journalism; and interactive new media. Students will also develop an awareness of related environments and societal issues, and will explore college and university programs and career opportunities in the various communications technology fields. **Prerequisite:** None

Grade 12

NEW!!! DRAMA, Grade 12, University/College Preparation (ADA4M)

This course requires students to experiment individually and collaboratively with forms and conventions of both drama and theatre from various cultures and time periods. Students will interpret dramatic literature and other texts and media sources while learning about various theories of directing and acting. Students will examine the significance of dramatic arts in various cultures, and will analyse how the knowledge and skills developed in drama are related to their personal skills, social awareness, and goals beyond secondary school. **Prerequisite:** Drama, Grade 11, University/College Prep (For questions about pre-requisite waivers, please contact the NCC Student Services Department.)

INSTRUMENTAL MUSIC: Grade 12, University/College Preparation (AMI4M)

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. **Prerequisite:** Music, Grade 11, University/College Preparation

MUSIC: KEYBOARDING, Grade 12, University/College Preparation (AMK4M)

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. This course will focus on keyboarding. **Prerequisite:** Music, Grade 11, University/College Preparation

NEW!!! MUSIC AND COMPUTERS, Grade 12, University/College Preparation (AMM4M)

This course provides an opportunity for students to use web-based sequencing and recording software to explore the concepts of film score, music composition, songwriting and recording. Independently, and collaboratively, students will use current technology as well as the creative and critical analysis processes to plan, produce, present, and market musical productions at a level consistent with previous experience. Students will respond to, reflect on, and analyze music from various genres and periods; they will develop skills transferable to other aspects of their life and their careers. This course is ideal for students interested in the foundations of songwriting, recording engineering, and music production. **Prerequisite:** AMM3M (For questions about pre-requisite waivers, please contact the NCC Student Services Department.)

VISUAL ARTS, Grade 12, University/College Preparation (AVI4M)

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.

Prerequisite: Visual Arts, Grade 11, University/College Preparation or Open

VISUAL ARTS: ILLUSTRATIONS, Grade 12, University/College Preparation (AWK4M)

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. This course will focus on illustrative art.

Prerequisite: Visual Arts, Grade 11, University/College Preparation

FINANCIAL ACCOUNTING PRINCIPLES, Grade 12, University/College Preparation (BAT4M)

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: Financial Accounting Fundamentals, Grade 11, University/College Preparation.

INTERNATIONAL BUSINESS, Grade 12, University/College Preparation (BBB4M)

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. **Prerequisite:** None

BUSINESS LEADERSHIP: MANAGEMENT FUNDAMENTALS, Grade 12, University/College Preparation (BOH4M)

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. **Prerequisite:** None

ANALYSING CURRENT ECONOMIC ISSUES, Grade 12, University Preparation (CIA4U)

This course examines current Canadian and international economic issues, developments, policies, and practices from diverse perspectives. Students will explore the decisions that individuals and institutions, including governments, make in response to economic issues such as globalization, trade agreements, economic inequalities, regulation, and public spending. Students will apply the concepts of economic thinking and

the economic inquiry process, as well as economic models and theories, to investigate, and develop informed opinions about, economic trade-offs, growth, and sustainability and related economic issues. **Prerequisite:** Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities

NEW!!! THE ENVIRONMENT AND RESOURCE MANAGEMENT, Grade 12, University/College Preparation (CGR4M)

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.

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

WORLD ISSUES: A GEOGRAPHIC ANALYSIS, Grade 12, University Preparation (CGW4U)

In this course, students will address the challenge of creating a more sustainable and equitable world. They will explore issues involving a wide range of topics, including economic disparities, threats to the environment, globalization, human rights, and quality of life, and will analyse government policies, international agreements, and individual responsibilities relating to them. Students will apply the concepts of geographic thinking and the geographic inquiry process, including the use of spatial technologies, to investigate these complex issues and their impacts on natural and human communities around the world. **Prerequisite:** Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities.

WORLD GEOGRAPHY: URBAN PATTERNS AND POPULATION ISSUES, Grade 12, University/ College Preparation (CGU4M)

The world's population is growing, it is moving and intermixing, and it is increasingly found in cities. This course explores these changes and the challenges that come with them. It investigates the forces that are shaping the world's communities, the patterns of interaction between them, the quality of life within them, and their impact on the world around them. Students will apply the concepts of geographic thinking, the geographic inquiry process, and spatial skills and technologies as they investigate issues related to population change and urban life and propose ways of enhancing the sustainability of communities around the world. **Prerequisite:** Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities

WORLD HISTORY SINCE THE FIFTEENTH CENTURY, Grade 12, University Preparation (CHY4U)

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. **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 (CLN4U)

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

ENGLISH, Grade 12, University Preparation (ENG4U)

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 coherently and confidently, selecting the reading strategies best suited to particular texts and particular purposes for reading, and developing greater control in writing. The course is intended to prepare students for university, college, or the workplace. **Prerequisite:** English, Grade 11, University Preparation

ENGLISH, Grade 12, College Preparation (ENG4C)

This course emphasizes the consolidation of literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse a variety of informational and graphic texts, as well as literary texts from various countries and cultures, and create oral, written, and media texts in a variety of forms for practical and academic purposes. An important focus will be on using language with precision and clarity and developing greater control in writing. The course is intended to prepare students for college or the workplace. **Prerequisite:** English, Grade 11, College Preparation

ENGLISH AS A SECOND LANGUAGE, ESL Level 5, Open (ESLEO)

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. **Prerequisite:** ESL Level 4 or Equivalent

ENGLISH LITERATURE STUDIES: Grade 12, University/College Preparation (ETS4U)

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:** English, Grade 11, University Preparation

CORE FRENCH, Grade 12, University Preparation (FSF4U)

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. **Prerequisite:** Core French, Grade 11, University Preparation

FAMILIES IN CANADA, Grade 12, University Preparation (HHS4U)

This course enables students to draw on sociological, psychological, and anthropological theories and research to analyse the development of individuals, intimate relationships, and family and parent-child relationships. Students will focus on issues and challenges facing individuals and families in Canada's diverse society. They will develop analytical tools that enable them to assess various factors affecting families and to consider policies and practices intended to support families in Canada. They will develop the investigative skills required to conduct and communicate the results of research on individuals, intimate relationships, and parent-child relationships. **Prerequisite:** Any university or university/college preparation course in social sciences and humanities, English, or Canadian and world studies.

NUTRITION AND HEALTH, Grade 12, University Preparation (HFA4U)

This course examines the relationships between food, energy balance, and nutritional status; the nutritional needs of individuals at different stages of life; and the role of nutrition in health

and disease. Students will evaluate nutrition-related trends and will determine how food choices can promote food security and environmental responsibility. Students will learn about healthy eating, expand their repertoire of food-preparation techniques, and develop their social science research skills by investigating issues related to nutrition and health.

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

COMPUTER SCIENCE, Grade 12, University Preparation (ICS4U)

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

CALCULUS AND VECTORS, Grade 12, University Preparation (MCV4U)

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. **Note:** MHF4U must be taken prior to or concurrently with Calculus and Vectors (MCV4U).

ADVANCED FUNCTIONS, Grade 12, University Preparation (MHF4U)

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. **Prerequisite:** Functions, Grade 11, University Preparation, or Mathematics for College Technology, Grade 12, College Preparation

MATHEMATICS OF DATA MANAGEMENT, Grade 12, University Preparation (MDM4U)

This course broadens students' understanding of mathematics as it relates to managing data. Students will apply methods for organizing and analysing large amounts of information; solve problems involving probability and statistics; and carry out a culminating investigation that integrates statistical concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. Students planning to enter university programs in business, the social sciences, and the humanities will find this course of particular interest. **Prerequisite:** Functions, Grade 11, University Preparation, or Functions and Applications, Grade 11, University/College Preparation

MATHEMATICS FOR WORK AND EVERYDAY LIFE, Grade 12, Workplace Preparation (MEL4E)

This course enables students to broaden their understanding of mathematics as it is applied in the workplace and daily life. Students will investigate questions involving the use of statistics; apply the concept of probability to solve problems involving familiar situations; investigate accommodation costs, create household budgets, and prepare a personal income tax return; use proportional reasoning; estimate and measure; and apply geometric concepts to create designs. Students will consolidate their mathematical skills as they solve problems and communicate their thinking. **Prerequisite:** Mathematics for Work and Everyday Life, Grade 11, Workplace Preparation

ONTARIO SECONDARY SCHOOL LITERACY COURSE, Grade 12, Open (OLC4O)

This course is designed to help students acquire and demonstrate the cross-curricular literacy skills that are evaluated by the Ontario Secondary School Literacy Test. Students who complete the course successfully will meet the provincial literacy requirement for graduation. Students will read a variety of informational, narrative, and graphic texts and will produce a variety of forms of writing, including summaries, information paragraphs, opinion pieces, and news reports. Students will also maintain and manage a literacy portfolio containing a record of their reading experiences and samples of their writing. **Eligibility requirement:** Students who have been eligible to write the OSSLT at least twice and who have been unsuccessful at least once are eligible to take the course. **(Please note: Students who have already met the literacy requirement for graduation may be eligible to take the course under special circumstances, at the discretion of the principal.)**

INTRODUCTORY KINESIOLOGY, Grade 12, University Preparation (PSK4U)

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 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

HEALTHY LIVING AND PERSONAL AND FITNESS ACTIVITIES, Grade 12, Open (PAF4O)

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. This course will focus on a wide variety of fitness activities in order to increase and sustain personal fitness levels.

Prerequisite: None

RECREATION AND HEALTHY ACTIVE LIVING LEADERSHIP, Grade 12, University/College Preparation (PLF4M)

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. **Prerequisite:** Any health and physical education course

BIOLOGY, Grade 12, University Preparation (SBI4U)

This course provides students with the opportunity for in-depth study of the concepts and processes that occur in 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 the achievement of detailed knowledge and the refinement of skills needed for further study in various branches of the life sciences and related fields. **Prerequisite:** Biology, Grade 11, University Preparation.

CHEMISTRY, Grade 12, University Preparation (SCH4U)

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.

PHYSICS, Grade 12, University Preparation (SPH4U)

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.

COMMUNICATIONS TECHNOLOGY, Grade 12, University/College Preparation (TGJ4M)

This course enables students to further develop media knowledge and skills while designing and producing projects in the areas of live, recorded, and graphic communications. Students may work in the areas of TV, video, and movie production; radio and audio production; print and graphic communications; photography; digital imaging; broadcast journalism; and interactive new media. Students will also expand their awareness of environmental and societal issues related to communications technology, and will investigate career opportunities and challenges in a rapidly changing technological environment. **Prerequisite:** Communications Technology, Grade 11, University/College Preparation