

GRADE 9 COURSE DESCRIPTIONS

(BEMIO) Building the Entrepreneurial Mindset, Grade 9, Open

In this course, students will learn what makes an entrepreneur thrive and the skills required to succeed in today's business environment. Students will begin to develop their own entrepreneurial mindset, and learn why it's important to take initiative, adapt to change, find creative solutions, and understand the financial considerations of entrepreneurship. This hands-on course will use business software and applications to help students plan and develop their entrepreneurial ideas and learn how to present them to a target audience. Throughout the course, students will enhance their communications skills as well as develop and refine their project management skills, including goal setting, time management, and networking.

Prerequisite: None

(CGC1W) Exploring Canadian Geography, Grade 9, De-streamed

This course builds on learning in Grades 7 and 8 in geography. Students will explore relationships within and between Canada's natural and human systems and how they interconnect with other parts of the world. Students will also examine environmental and economic issues, and their impact related to topics such as natural resources and industries, careers, land use and responsible development, and sustainability. In addition, students will understand the connections that diverse communities and individuals have with the physical environment and each other throughout Canada, including First Nations, Métis, and Inuit perspectives. Students will apply geographic thinking, use the geographic inquiry process, and use geospatial technologies throughout their investigations.

Prerequisite: None

(ENL1W) English, Grade 9, De-streamed (*non-semestered*)

This course enables students to continue to develop and consolidate the foundational knowledge and skills that they need for reading, writing, and oral and visual communication. Throughout the course, students will continue to enhance their media literacy and critical literacy skills, and to develop and apply transferable skills, including digital literacy. Students will also make connections to their lived experiences and to society and increase their understanding of the importance of language and literacy across the curriculum.

Prerequisite: None

(FSFID) Core French, Grade 9, Academic

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

(GLS1O) Learning Strategies 1: Skills for Success in Secondary School, Grade 9, Open (*non-semestered*)

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.

Prerequisite: None

(HRE13) Grade 9 Religious Education, Old Testament Introduction, Locally Developed

(Half Credit, three-term course)

This course is primarily an overview of the Old Testament, which sets the stage for the beginning of the revelation of Jesus Christ in the New Testament. This course will examine God's promise to redeem mankind from the curse of sin and the fall of mankind, which began in Adam. The course examines the Old Testament as a foundation for understanding man's separation from God and the coming of the Messiah as revealed in the New Testament. This course will examine the first five books of the Old Testament [Pentateuch], ten of the historical books, two poetical books, one major prophetic book, and an overview of the minor prophetic books. The course also gives students the opportunity to incorporate experiential opportunities for prayer and reflection while they learn how to apply religious education both to contemporary contexts and to their own spiritual development.

Prerequisite: None

(MTH1W) Principles of Mathematics, Grade 9, De-streamed

This course enables students to consolidate, and continue to develop, an understanding of mathematical concepts related to number sense and operations, algebra, measurement, geometry, data, probability, and financial literacy. Students will use mathematical processes, mathematical modelling, and coding to make sense of the mathematics they are learning and to apply their understanding to culturally responsive and relevant real-world situations. Students will continue to enhance their mathematical reasoning skills, including proportional reasoning, spatial reasoning, and algebraic reasoning, as they solve problems and communicate their thinking.

Prerequisite: None

(PPLIO) Healthy Active Living Education, Grade 9, Open

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

(SNC1W) Science, Grade 9, De-streamed (*non-semestered*)

This course enables students to develop their understanding of concepts related to biology, chemistry, physics, and Earth and space science, and to relate science to technology, society, and the environment. Throughout the course, students will develop and refine their STEM skills as they use scientific research, scientific experimentation, and engineering design processes to investigate concepts and apply their knowledge in situations that are relevant to their lives and communities. Students will continue to develop transferable skills as they become scientifically literate global citizens.

Prerequisite: None

(TEJIO) Exploring Computer Technologies, Grade 9, Open

This hands-on course enables students to further explore the engineering design process and develop other technological knowledge and skills introduced in earlier grades. Students will design and safely create prototypes, products, and/or services, working with tools and technologies from various industries. As students develop their projects to address real-life problems, they will apply technological concepts such as precision measurement, as well as health and safety standards. Students will begin to explore job skills programs and education and training pathways, including skilled trades, that can lead to a variety of careers. *This exploratory course introduces students to concepts and skills in computer technology, which encompasses computer systems, networking, interfacing, and programming, as well as electronics and robotics. Students will develop an awareness of related environmental and societal issues, and will begin to explore secondary and postsecondary pathways leading to careers in the field.*

Prerequisite: None

GRADE 10 COURSE DESCRIPTIONS

(AMU2O) Music, Grade 10, Open

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

(AVI2O) Visual Arts, Grade 10, Open

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

(BEP2O) Launching and Leading a Business, Grade 10, Open

This course introduces students to the world of business and what is required to be successful, ethical, and responsible in today's economy. Students will develop the knowledge and skills needed to be an entrepreneur who knows how to respond to local and global market opportunities. Throughout the course, students will explore and understand the responsibility of managing different functions of a business. This includes accounting, marketing, information and communication technology, financial management, human resources, and production.

Prerequisite: None

(CHC2D) Canadian History Since World War I, Grade 10, Academic

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

(CHV2O) Civics and Citizenship, Grade 10, Open

(Half Credit)

This course explores rights and responsibilities associated with being an active citizen in a democratic society. Students will explore issues of civic importance 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. This course also includes learning on digital literacy and critical-thinking skills, the mechanisms of government, Indigenous governance systems and structures, the historical foundations of the rights and freedoms we enjoy in Canada, ways in which government policy affects individuals' lives and the economy, and ways for students to serve their communities.

Prerequisite: None

(ENG2D) English, Grade 10, Academic

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, De-Streamed

(FSF2D) Core French, Grade 10, Academic

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

(GLC2O) Career Studies, Grade 10, Open

(Half Credit)

This course gives students the opportunity to develop the skills, knowledge, and habits that will support them in their education and career/life planning. Students will learn about global work trends, and seek opportunities within the school and community to expand and strengthen their transferable skills and their ability to adapt to the changing world of work. On the basis of exploration, reflective practice, and decision-making processes, students will make connections between their skills, interests, and values and their postsecondary options, whether in apprenticeship training, college, community living, university, or the workplace. They will set goals and create a plan for their first postsecondary year. As part of their preparation for the future, they will learn about personal financial management – including the variety of saving and borrowing tools available to them and how to use them to their advantage – and develop a budget for their first year after secondary school.

Prerequisite: None

(HRE23) Grade 10 Religious Education, New Testament Introduction, Locally Developed

(Half Credit, three-term course)

This course is primarily an overview of the New Testament. The New Testament is a continuation of the revelation of Jesus Christ from the Old Testament. The New Testament completes God's message to man as it focuses on the coming of Christ. The twenty-seven books of the New Testament answer some of the most significant questions of life: What is the purpose of life? Is there any real hope? What is God like? Who is Jesus Christ? Can I be free from guilt and sin? Am I loved? The course is also intended to provide a panoramic view of the New Testament. The course also gives students the opportunity to incorporate experiential opportunities for prayer and reflection while they learn how to apply religious education both to contemporary contexts and to their own spiritual development.

Prerequisite: None

(LWGBD) International Languages, German, Level One, Academic

This course provides opportunities for students to begin to develop and apply skills in listening, speaking, reading, and writing in the language of study. 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 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.

Prerequisite: None *(Offered alternating years from LWGCU)*

(MPM2D) Principles of Mathematics, Grade 10, Academic

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: Mathematics, Grade 9, De-Streamed

(SNC2D) Science, Grade 10, Academic

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, De-Streamed

GRADE 11 COURSE DESCRIPTIONS

(AMU3M) Music, Grade 11, University/College Preparation

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

(AVI3M) Visual Arts, Grade 11, University/College Preparation

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

(CLU3M) Understanding Canadian Law, Grade 11, University/College Preparation

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

(ENG3U) English, Grade 11, University Preparation

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

(FSF3U) Core French, Grade 11, University Preparation

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

(HFC3M) Food and Culture, Grade 11, University/College Preparation

This course focuses on the flavours, aromas, cooking techniques, foods, and cultural traditions of world cuisines. Students will explore the origins of and developments in diverse food traditions. They will demonstrate the ability to cook with ingredients and equipment from a variety of cultures, compare food-related etiquette in many countries and cultures, and explain how Canadian food choices and traditions have been influenced by other cultures. Students will develop practical skills and apply social science research methods while investigating foods and food practices from around the world.

Prerequisite: None

(HRE33) Grade 11 Religious Education, Basic Christian Doctrine, Locally Developed

(Half Credit, three-term course)

This course will focus on key doctrines foundational to Biblical Christianity. The course will include topics such as the doctrine of God and creation, the doctrine of man in relation to God, the doctrine of the Person and work of Christ, the doctrine of the application of the work of redemption, the doctrine of the Church and the means of grace, and the doctrine of last things. Students are also required to memorize passages of Scripture in each term. The course also gives students the opportunity to incorporate experiential opportunities for prayer and reflection while they learn how to apply religious education both to contemporary contexts and to their own spiritual development.

Prerequisite: None

(HRT3M) World Religions and Belief Traditions: Perspectives, Issues, and Challenges, Grade 11, University/College Preparation

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

(HSP3C) Introduction to Anthropology, Psychology, and Sociology, Grade 11, College Preparation

This course introduces students to theories, questions, and issues related to anthropology, psychology, and sociology. Students learn about approaches and research methods used by social scientists. Students will be given opportunities to apply theories from a variety of perspectives, to conduct social science research, and to become familiar with current issues within the three disciplines.

Prerequisite: None

(ICS3U) Introduction to Computer Science, Grade 11, University Preparation

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

(MCR3U) Functions, Grade 11, University Preparation

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

(SBI3U) Biology, Grade 11, University Preparation

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

(SCH3U) Chemistry, Grade 11, University Preparation

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

(SPH3U) Physics, Grade 11, University Preparation

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

GRADE 12 COURSE DESCRIPTIONS

(AMU4M) Repertoire, Grade 12, University/College Preparation

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

(AVI4M) Visual Arts, Grade 12, University/College Preparation

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

(AWJ4M) Stage Design, Grade 12, University/College Preparation

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. *Through set, prop, costume, makeup, lighting, and projection, students will interpret scripts and develop a unified visual world for a final portfolio and school production. Students will investigate historical and contemporary stage practices, use the critical analysis process to examine how design reflects culture and values, and explore drawing, scale, model-making, material experimentation, and emerging technologies.*

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

(BOH4M) Business Leadership, Grade 12, University/College Preparation

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

(ENG4U) English, Grade 12, University Preparation

This course emphasizes consolidation of 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

(FSF4U) Core French, Grade 12, University Preparation

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

(HHG4M) Human Development throughout the Lifespan, Grade 12, University/College Preparation

This course offers a multidisciplinary approach to the study of human development throughout the lifespan. Students will learn about a range of theoretical perspectives on human development. They will examine threats to healthy development as well as protective factors that promote resilience. Students will learn about physical, cognitive, and social-emotional development from the prenatal period through old age and will develop their research and inquiry skills by investigating issues related to human development.

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

(HRE43) Grade 12 Religious Education, Bible Interpretation, Apologetics, and Worldviews, Locally Developed

(Half Credit, three-term course)

This course focuses on three areas of Christian thought. First, students will examine the methodology of Bible study. Topics of Bible interpretation include contextual analysis of text, theological analysis of text, word studies, figurative language, types of Biblical literature, and Bible study tools available. Second, students will focus on explanation of the Christian faith and apologetics. Third, students will examine the major worldviews of the twenty-first century. The course also gives students the opportunity to incorporate experiential opportunities for prayer and reflection while they learn how to apply religious education both to contemporary contexts and to their own spiritual development.

Prerequisite: None

(ICS4U) Computer Science, Grade 12, University Preparation

(Full Credit, three-term course)

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

(MHF4U) Advanced Functions, Grade 12, University Preparation

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

(MCV4U) Calculus and Vectors, Grade 12, University Preparation

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.

Prerequisite: Advanced Functions, Grade 12, University Preparation, must be taken prior to or concurrently with Calculus and Vectors.

(MDM4U) Mathematics of Data Management, Grade 12, University Preparation

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

(PLF4M) Recreation and Healthy Active Living Leadership, Grade 12, University/College Preparation

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

(PSK4U) Introductory Kinesiology, Grade 12, University Preparation

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

(SBI4U) Biology, Grade 12, University Preparation

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

(SCH4U) Chemistry, Grade 12, University Preparation

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

(SPH4U) Physics, Grade 12, University Preparation

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

PLEASE NOTE: To meet the changing needs of our students, other courses may be offered in some academic years. An updated list will be provided when student option sheets are made available.

Additional courses are also available through the Ontario Independent Learning Centre (ILC) at an additional cost. Online course options and recommendations can be discussed with the Collegiate Administration.