

## Course Descriptions

### Arts

#### **Digital Photography, Grade 11, Open (AWQ30)**

This introductory photography course enables students to further develop their knowledge and skills in the visual arts. The initial emphasis will be on the digital photographic techniques and processes. Following this the focus will be on creative applications of the photographic medium. The elements and principles of design and their importance to visual communication will be an integral component of study as they are essential to the medium of photography. Students will apply the creative process to explore a wide range of themes through studio projects using the digital medium. Students will also use the critical analysis process when evaluating their own work and the work of others.

### Business Studies

#### **Information and Communication Technology in Business, Grade 10, Open (BTT20)**

This course introduces students to information and communication technology in a business environment and builds a foundation of digital literacy skills necessary for success in a technologically driven society. Students will develop word processing, spreadsheet, database, desktop publishing, presentation software, and website design skills. Throughout the course, there is an emphasis on digital literacy, effective electronic research and communication skills, and current issues related to the impact of information and communication technology.

Prerequisite: None

#### **Information and Communication Technology: The Digital Environment, Grade 11, Open (BTA30)**

This course prepares students for the digital environment. Using a hands-on approach, students will further develop information and communication technology skills through the use of common business software applications. The concept and operation of e-business will be explored, and students will design and create an e-business website. The skills developed in this course will prepare students for success in the workplace and/or postsecondary studies.

Prerequisite: None

#### **Information and Communication Technology: Multimedia Solutions, Grade 12, College (BTX4C)**

This course provides students with the opportunity to apply their information and communication technology skills while working in a team environment. Through a project-based approach, students will have opportunities to integrate common business software applications and apply multimedia techniques. Students will further develop their understanding of electronic business and e-commerce environments. The skills acquired in this course will prepare students for success in postsecondary studies and in their future careers.

Prerequisite: Information and Communication Technology: The Digital Environment, Grade 11, Open

### **International Business**

#### **International Business Fundamentals, Grade 12, University/College (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**

#### **Business Leadership: Management Fundamentals, Grade 12, University/College (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

### **Canadian and World Studies**

#### **World History: The West and the World, Grade 12, University (CHY4U)**

This course investigates the major trends in Western civilization and world history from the sixteenth century to the present. Students will learn about the interaction between the emerging West and other regions of the world and about the development of modern social, political, and economic systems. They will use critical-thinking and communication skills to investigate the historical roots of contemporary issues and present their conclusions.

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

### **Social Sciences**

#### **Parenting, Grade 11, Open (HPC30)**

This course focuses on the skills and knowledge needed to promote the positive and healthy nurturing of children, with particular emphasis on the critical importance of the early years to human development. Students will learn how to meet the developmental needs of young children, communicate and discipline effectively, and guide early behaviour. They will have practical experiences with infants, toddlers, and preschoolers, and will learn skills in researching and investigating questions relating to parenting.

Prerequisite: None

**Managing Personal Resources, Grade 12, Open (HIP4O)**

This course prepares students for living independently and working successfully with others. Students will learn to manage their personal resources (including talent, money, and time), to develop interpersonal skills, and to understand economic influences on workplace issues, in order to make wise and responsible personal and occupational choices. The course emphasizes the achievement of expectations through practical experiences and introduces students to skills used in researching and investigating resource management.

Prerequisite: None

**Families in Canada, Grade 12, University (HHS4U)**

This course applies current theories and research from the disciplines of anthropology, psychology, and sociology to the study of individual development, family behaviour, intimate and parent-child relationships, and the ways in which families interact within the diverse Canadian society. Students will learn the interpersonal skills required to contribute to the well-being of families, and the investigative skills required to conduct and evaluate research about individuals and families.

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

**Challenge and Change in Society, Grade 12, University/College (HSB4M)**

This course examines the theories and methodologies used in anthropology, psychology, and sociology to investigate and explain shifts in knowledge, attitudes, beliefs, and behaviour and their impact on society. Students will analyse cultural, social, and biological patterns in human societies, looking at the ways in which those patterns change over time. Students will also explore the ideas of classical and contemporary social theorists, and will apply those ideas to the analysis of contemporary trends.

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

**Food and Nutrition Sciences, Grade 12, University/College (HFA4M)**

This course examines various nutritional, psychological, social, cultural, and global factors that influence people's food choices and customs. Students will learn about current Canadian and worldwide issues related to food, frameworks for making appropriate dietary choices, and food-preparation techniques. This course also refines students' skills used in researching and investigating issues related to food and nutrition.

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

## English

### **English, Grade 11, University (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: Grade 10 English, Academic

### **English, Grade 11, College (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: Grade 10 English, Applied

### **English, Grade 11, Workplace (ENG3E)**

This course emphasizes the development of literacy, communication, and critical and creative thinking skills necessary for success in the workplace and in daily life. Students will study the content, form, and style of a variety of contemporary informational, graphic, and literary texts; and create oral, written, and media texts in a variety of forms for practical purposes. An important focus will be on using language clearly and accurately in a variety of formal and informal contexts. The course is intended to prepare students for the compulsory Grade 12 workplace preparation course.

Prerequisite: Grade 10 English, Applied

### **Ontario Secondary School Literacy Course, Grade 11, 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 (OSSLT). 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 portfolio containing a record of their reading experiences and samples of their writing.

Prerequisite: 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. (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.)

### **English, Grade 12, University (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: Grade 11 English, University Preparation

### **English, Grade 12, College (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: Grade 11 English, College Preparation English,

### **Grade 12, Workplace (ENG4E)**

This course emphasizes the consolidation of literacy, communication, and critical and creative thinking skills necessary for success in the workplace and in daily life. Students will analyse informational, graphic, and literary texts and create oral, written, and media texts in a variety of forms for workplace-related and practical purposes. An important focus will be on using language accurately and organizing ideas and information coherently. The course is intended to prepare students for the workplace and active citizenship.

Prerequisite: Grade 11 English, Workplace Preparation

### **English as a Second Language Courses**

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

**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

**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

**Guidance and Career Education**

**Designing Your Future, Grade 11, Open (GWL30)**

This course prepares students to make successful transitions to postsecondary destinations as they investigate specific postsecondary options based on their skills, interests, and personal characteristics. Students will explore the realities and opportunities of the workplace and examine factors that affect success, while refining their job-search and employability skills. Students will develop their portfolios with a focus on their targeted destination and develop an action plan for future success.

Prerequisite: None

**Mathematics**

**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 Mathematics, Academic, or Grade 9 Mathematics Transfer, Applied to Academic

**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 Mathematics, Academic or Applied

**Functions, Grade 11, University (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

**Foundations for College Mathematics, Grade 11, College (MBF3C)**

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

Prerequisite: Foundations of Mathematics, Grade 10, Applied

**Mathematics for Work and Everyday Life, Grade 11, Workplace (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 Grade 10 Mathematics LDCC (locally developed compulsory credit) course

### **Advanced Functions, Grade 12, University (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

### **Calculus and Vectors, Grade 12, University (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.

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

### **Mathematics of Data Management, Grade 12, University (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

**Foundations for College Mathematics, Grade 12, College (MAP4C)**

This course enables students to broaden their understanding of real-world applications of mathematics. Students will analyse data using statistical methods; solve problems involving applications of geometry and trigonometry; solve financial problems connected with annuities, budgets, and renting or owning accommodation; simplify expressions; and solve equations. Students will reason mathematically and communicate their thinking as they solve multi-step problems. This course prepares students for college programs in areas such as business, health sciences, and human services, and for certain skilled trades.

Prerequisite: Foundations for College Mathematics, Grade 11, College Preparation, or Functions and Applications, Grade 11, University/College Preparation

**Mathematics for Work and Everyday Life, Grade 12, Workplace (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

**Science**

**Science, Grade 12, Workplace (SNC4E)**

This course provides students with fundamental science knowledge and workplace skills needed to prepare them for success beyond secondary school. Students will explore hazards in the workplace, chemicals in consumer products, disease and its prevention, electricity at home and at work, and nutritional science. Emphasis is placed on current topics in science and relevant, practical activities that develop students' literacy and mathematical literacy skills and enhance their scientific literacy.

Prerequisite: Grade 10 Science, Applied, or a Grade 10 locally developed compulsory credit (LDCC) course in science

**Biology**

**Biology, Grade 11, University (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: Grade 10 Science, Academic

**Biology, Grade 11, College (SBI3C)**

This course focuses on the processes that occur in biological systems. Students will learn concepts and theories as they conduct investigations in the areas of cellular biology, microbiology, genetics, the anatomy of mammals, and the structure of plants and their role in the natural environment. Emphasis will be placed on the practical application of concepts, and on the skills needed for further study in various branches of the life sciences and related fields.

Prerequisite: Grade 10 Science, Academic or Applied

**Biology, Grade 12, University (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: Grade 11 Biology, University Preparation

**Chemistry**

**Chemistry, Grade 11, University (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: Grade 10 Science, Academic

**Chemistry, Grade 12, University (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: Grade 11 Chemistry, University Preparation

### **Chemistry, Grade 12, College (SCH4C)**

This course enables students to develop an understanding of chemistry through the study of matter and qualitative analysis, organic chemistry, electrochemistry, chemical calculations, and chemistry as it relates to the quality of the environment. Students will use a variety of laboratory techniques, develop skills in data collection and scientific analysis, and communicate scientific information using appropriate terminology. Emphasis will be placed on the role of chemistry in daily life and the effects of technological applications and processes on society and the environment.

Prerequisite: Grade 10 Science, Academic or Applied

### **Physics**

#### **Physics, Grade 11, University (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: Grade 10 Science, Academic

#### **Physics, Grade 12, University (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: Grade 11 Physics, University Preparation

#### **Physics, Grade 12, College (SPH4C)**

This course develops students' understanding of the basic concepts of physics. Students will explore these concepts with respect to motion; mechanical, electrical, electromagnetic, energy transformation, hydraulic, and pneumatic systems; and the operation of commonly used tools and machines. They will develop their scientific investigation skills as they test laws of physics and solve both assigned problems and those emerging from their investigations. Students will also consider the impact of technological applications of physics on society and the environment.

Prerequisite: Grade 10 Science, Academic or Applied

### **Co-operative Education**

This is a planned learning experience, for which credits are earned, that integrates classroom theory and learning experiences at a workplace to enable students to apply and refine the knowledge and skills acquired in a related curriculum course or a locally developed course