

Ministry of Education

The Ontario Curriculum Grades 11 and 12

Course Descriptions and Prerequisites



2000

Une publication équivalente est disponible en français sous le titre suivant : *Le curriculum de l'Ontario, 11^e et 12^e année – Répertoire des cours, 2000.*

This publication is also available on the Ministry of Education's website at <http://edu.gov.on.ca>.

Introduction

This document contains the course descriptions for all Grade 11 and 12 courses, along with course lists (including course codes) and prerequisite charts, in the following disciplines:

The arts	Guidance and career education
Business studies	Health and physical education
Canadian and world studies	Mathematics
Classical studies and international languages	Native languages
English	Native studies
English as a second language and English literacy development	Science
French as a second language	Social sciences and humanities
	Technological education

The purpose of this document is to assist Grade 9 students and their parents in selecting the Grade 10 courses (for the 2000–2001 school year) that will put them on the right path to their postsecondary destination. The course descriptions are standard, one-paragraph descriptions that summarize what students will learn in each course. The descriptions are gathered here in a separate section for each discipline, and each section is introduced by a course list and a prerequisite chart. (A prerequisite is a course deemed essential for the successful understanding and completion of a subsequent course.) The prerequisite charts diagram the relationships among courses.

The policy regarding prerequisites is stated as follows in *Ontario Secondary Schools, Grades 9 to 12: Program and Diploma Requirements, 1999* (section 5.3.3):

Courses in Grades 11 and 12 may have prerequisites as a requirement for enrolment. All prerequisite courses will be identified in ministry curriculum policy documents, and no courses apart from these may be identified as prerequisites. Schools must provide parents and students with clear and accurate information on prerequisites.

If a parent or an adult student requests that a prerequisite be waived, the principal will determine whether or not the prerequisite should be waived. A principal may also initiate consideration of whether a prerequisite should be waived. The principal will make his or her decision in consultation with the parent or adult student and appropriate school staff. In cases where the parent or adult student disagrees with the decision of the principal, the parent or adult student may ask the appropriate supervisory officer to review the matter.

The fourteen curriculum policy documents outlining the curriculum expectations for all Grade 11 and 12 courses, and including the course descriptions and information about prerequisites provided here, will be distributed to schools when they are finalized. The curriculum policy document for interdisciplinary studies will be released at a later date. (Please note that the ESL/ELD curriculum policy document released in March 1999 includes all the courses offered in that discipline in the four years of secondary school.)

THE ARTS

Courses in the Arts, Grades 11 and 12

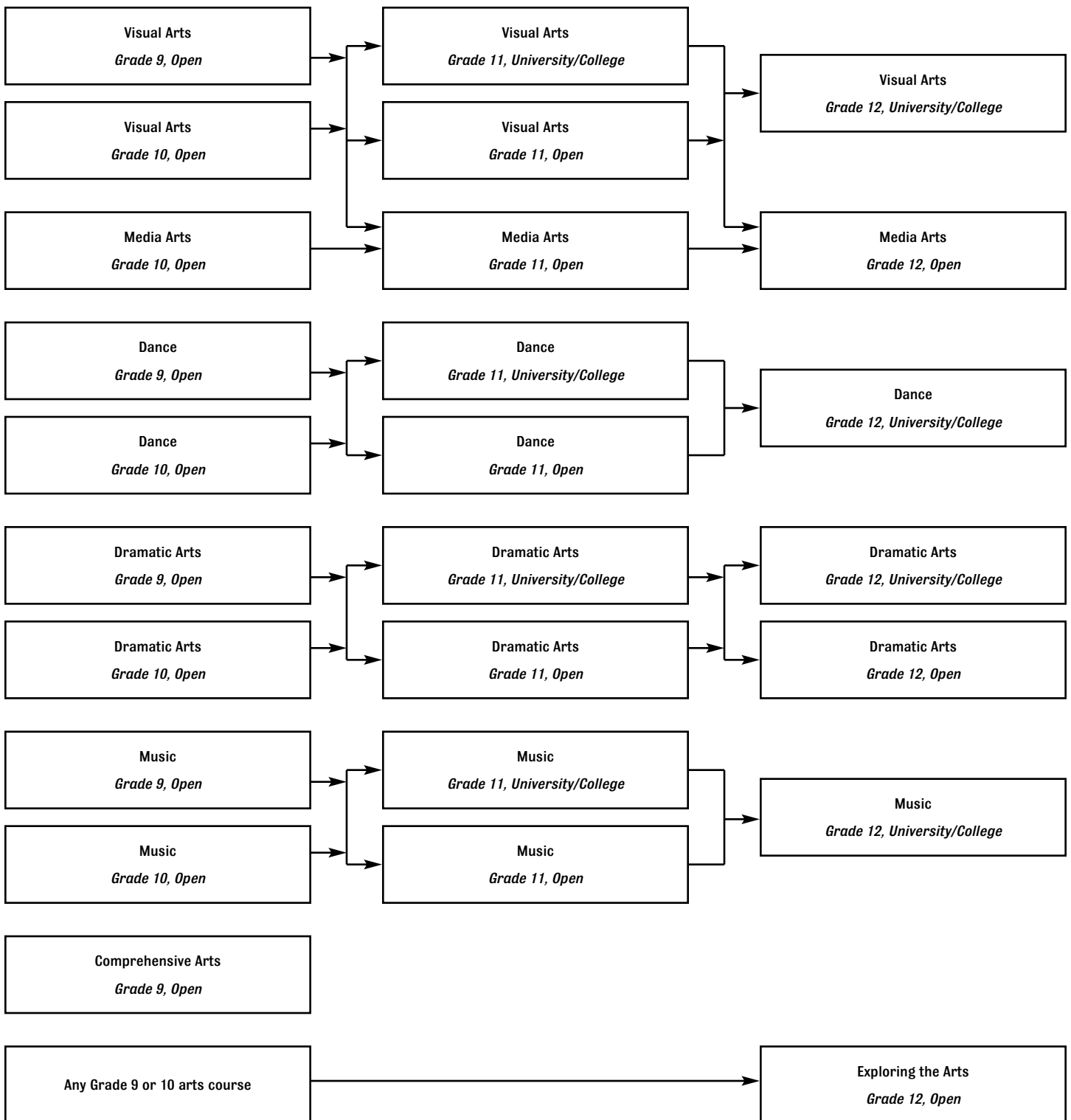
Grade	Course Name	Course Type	Course Code	Prerequisite
Dance				
11	Dance	University/College	ATC3M	Grade 9 or 10 Dance, Open
11	Dance	Open	ATC3O	Grade 9 or 10 Dance, Open
12	Dance	University/College	ATC4M	Grade 11 Dance, University/College or Open
Dramatic Arts				
11	Dramatic Arts	University/College	ADA3M	Grade 9 or 10 Dramatic Arts, Open
11	Dramatic Arts	Open	ADA3O	Grade 9 or 10 Dramatic Arts, Open
12	Dramatic Arts	University/College	ADA4M	Grade 11 Dramatic Arts, University/College or Open
12	Dramatic Arts	Open	ADA4O	Grade 11 Dramatic Arts, University/College or Open
Exploring the Arts				
12	Exploring the Arts	Open	AEA4O	Any Grade 9 or 10 course in the arts
Media Arts				
11	Media Arts	Open	ASM3O	Grade 9 or 10 Visual Arts, or Grade 10 Media Arts
12	Media Arts	Open	ASM4O	Grade 11 Visual Arts, University/College or Open, or Grade 11 Media Arts, Open

Grade	Course Name	Course Type	Course Code	Prerequisite
Music				
11	Music	University/College	AMU3M	Grade 9 or 10 Music, Open
11	Music	Open	AMU3O	Grade 9 or 10 Music, Open
12	Music	University/College	AMU4M	Grade 11 Music, University/College or Open
Visual Arts				
11	Visual Arts	University/College	AVI3M	Grade 9 or 10 Visual Arts, Open
11	Visual Arts	Open	AVI3O	Grade 9 or 10 Visual Arts, Open
12	Visual Arts	University/College	AVI4M	Grade 11 Visual Arts, University/College or Open

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for the Arts

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for the Arts

Dance

Dance, Grade 11, University/College Preparation

ATC3M

This course emphasizes the development of technical, composition, and presentation skills in one or more world dance forms. Students will acquire and refine dance skills; compose and present increasingly complex dance works; interpret and evaluate a variety of dance presentations; and study the historical development of various dance forms and the function of dance in specific cultures.

Dance, Grade 11, Open

ATC3O

This course will give students opportunities to express increasingly complex ideas through movement and to experiment with choreography. Students will develop technical skills; study the historical development of various dance forms and the function of dance in specific cultures; evaluate dance works; and investigate ways in which the study of dance can prepare them for various careers.

Dance, Grade 12, University/College Preparation

ATC4M

This course emphasizes the development of technical proficiency and the creation and presentation of complex compositions. Students will acquire increasingly difficult technical skills; assume leadership as dancers, choreographers, and production personnel; analyse and evaluate dance performances; and study historical and cultural aspects of dance, especially of dance in Canada.

Dramatic Arts

Dramatic Arts, Grade 11, University/College Preparation

ADA3M

This course requires students to put together and perform dramatic presentations that deal with a variety of issues from the past and present. Students will analyse, interpret, and perform works of drama from various cultures, including Western plays from around 1900. Students will also do research on different acting styles and conventions for their presentations, create original works, and analyse the functions of playwright, director, actor, technician, and audience.

Dramatic Arts, Grade 11, Open

ADA3O

This course requires students to put together and present dramatic works dealing with stories, personal experiences, and local issues. Students will do research on and study contemporary theatrical forms, such as docudrama and forum theatre. They will interpret and present works in a variety of dramatic forms; create and script original works; analyse and reflect on dramatic works; and develop their communication skills and other skills useful in a variety of careers.

Dramatic Arts, Grade 12, University/College Preparation**ADA4M**

This course requires students to experiment with forms and conventions in dramatic literature, and to create, script, and present original and adapted works. Students will do research on dramatic forms, conventions, themes, and theories of acting and directing from different historical periods, and apply their knowledge of these in interpreting dramatic literature, including Canadian works and works from various cultures in the late twentieth century. Students will also examine the significance of dramatic arts in various cultures.

Dramatic Arts, Grade 12, Open**ADA4O**

This course requires students to put together and present a variety of dramatic works. Students will present works by Canadian and other playwrights, and develop original material based on personal narratives, local community issues, or global concerns. They will have hands-on experiences with various aspects of dramatic arts productions, including performance, set design, lighting, costumes, stage and technical management, administration, and marketing. Students will also explore possible careers related to the dramatic arts.

Exploring the Arts**Exploring the Arts, Grade 12, Open****AEA4O**

This course emphasizes the acquisition and application of knowledge and skills related to the creation, interpretation, and production of works involving dance, drama, media arts, music, and/or visual arts. Students will study, evaluate, create, and promote art works and productions, and will use a variety of established and experimental techniques and various technologies in individual or group projects (e.g., the presentation of a theatrical scene or an art exhibit on a website.)

Media Arts**Media Arts, Grade 11, Open****ASM3O**

This course emphasizes the development of the knowledge and skills required for the production of media art works (e.g., robosculture, photocopy art, computer animation with synthesized sound). Students will develop an appreciation of the history of media arts through analysing specific works, and will create media art works using a variety of technologies (e.g., digital camera, photo-imaging software, computer-modelling software, synthesizer, videotape, multi-track sound recording).

Media Arts, Grade 12, Open**ASM40**

This course emphasizes the development of the knowledge and skills required for the production of interactive media art forms (e.g., interactive art installations, interactive videos, simulations, network art works). Students will analyse and evaluate media art works, and will create their own works using a variety of technical elements and processes (e.g., computer graphics, photo-imaging, digital video production techniques, electroacoustics). Students will maintain a portfolio of their media art works.

Music**Music, Grade 11, University/College Preparation****AMU3M**

This course emphasizes the appreciation, analysis, and performance of various kinds of music, including baroque and classical music, popular music, and Canadian and non-Western music. Students will perform technical exercises and appropriate repertoire, complete detailed creative activities, and analyse and evaluate live and recorded performances. They will continue to increase their understanding of the elements of music while developing their technical and imaginative abilities.

Music, Grade 11, Open**AMU3O**

This course develops students' artistic knowledge and skills through the performance of music and the preparation of music productions. Students will perform appropriate works, particularly works in contemporary popular styles. Independently and in groups, they will also plan, market, and produce music productions, making use of appropriate technology, and will evaluate the results.

Music, Grade 12, University/College Preparation**AMU4M**

This course emphasizes the appreciation, analysis, and performance of music from the romantic period and from the twentieth century, including jazz, popular music, art music, and Canadian and non-Western music. Students will concentrate on developing interpretive skills and the ability to work independently. They will also complete complex creative projects in which they make use of new technologies.

Visual Arts**Visual Arts, Grade 11, University/College Preparation****AVI3M**

This course provides students with opportunities to further develop their skills and knowledge in visual arts. Students will explore a range of subject matter through studio activities, and will consolidate their practical skills. Students will also analyse art works and study aspects of Western art history, as well as Canadian art forms and art forms from various parts of the world.

Visual Arts, Grade 11, Open**AVI30**

This course focuses on studio activities in one or more of the visual arts. Students will create art works that explore a wide range of subject matter, and will evaluate art works using specific criteria. They will also examine historical and cultural contexts of Western art (including Canadian art) and art from various world cultures to support their study of specific media.

Visual Arts, Grade 12, University/College Preparation**AVI4M**

This course focuses on the refinement of students' skills and knowledge in visual arts. Students will analyse art forms; use theories of art in analysing and producing art; and increase their understanding of stylistic changes in Western art, Canadian (including Native Canadian) art, and art forms from various parts of the world. Students will produce a body of work demonstrating a personal approach.

BUSINESS STUDIES

Courses in Business Studies, Grades 11 and 12

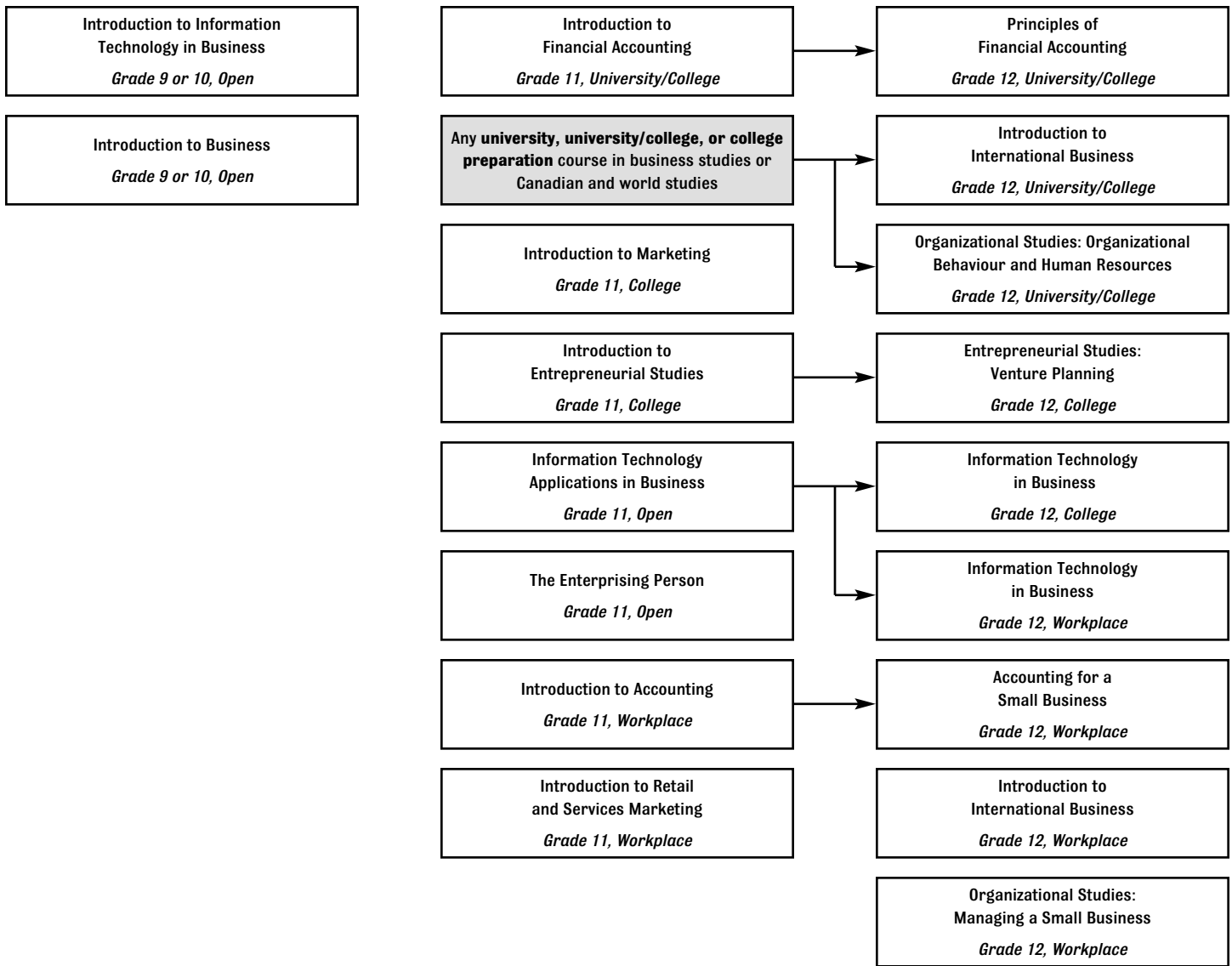
Grade	Course Name	Course Type	Course Code	Prerequisite
Accounting				
11	Introduction to Financial Accounting	University/College	BAF3M	None
11	Introduction to Accounting	Workplace	BAI3E	None
12	Principles of Financial Accounting	University/College	BAT4M	Grade 11 Introduction to Financial Accounting, University/College
12	Accounting for a Small Business	Workplace	BAN4E	Grade 11 Introduction to Accounting, Workplace
Entrepreneurial Studies				
11	Introduction to Entrepreneurial Studies	College	BDI3C	None
11	The Enterprising Person	Open	BDP3O	None
12	Entrepreneurial Studies: Venture Planning	College	BDV4C	Grade 11 Introduction to Entrepreneurial Studies, College
Information Technology				
11	Information Technology Applications in Business	Open	BTA3O	None
12	Information Technology in Business	College	BTX4C	Grade 11 Information Technology Applications in Business, Open

Grade	Course Name	Course Type	Course Code	Prerequisite
12	Information Technology in Business	Workplace	BTX4E	Grade 11 Information Technology Applications in Business, Open
International Business				
12	Introduction to International Business	University/College	BBB4M	Any university, university/college, or college preparation course in business studies or Canadian and world studies
12	Introduction to International Business	Workplace	BBB4E	None
Marketing				
11	Introduction to Marketing	College	BMI3C	None
11	Introduction to Retail and Services Marketing	Workplace	BMX3E	None
Organizational Studies				
12	Organizational Studies: Organizational Behaviour and Human Resources	University/College	BOH4M	Any university, university/college, or college preparation course in business studies or Canadian and world studies
12	Organizational Studies: Managing a Small Business	Workplace	BOG4E	None

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for Business Studies

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for Business Studies

Accounting

Introduction to Financial Accounting, Grade 11, University/College Preparation BAF3M

This course introduces students to the fundamental principles and procedures of accounting, with emphasis on accounting procedures used in service and merchandising businesses. Students will develop an understanding of the connections between financial analysis, control, and decision making in the management of a business, as well as the effects of technology and globalization on accounting procedures and the role of the accountant.

Introduction to Accounting, Grade 11, Workplace Preparation BAI3E

This course introduces students to the use of accounting in business. Students will study various types of businesses and business ownership, and ways in which accounting procedures are applied in the different types of businesses with regard to recording transactions, preparing financial statements, and analysing the process of cash management. They will learn about risks related to credit sales and about the collection of debts, and will use accounting software.

Principles of Financial Accounting, Grade 12, University/College Preparation BAT4M

This course emphasizes study of accounting principles related to financial statements. Students will learn about ways in which information in these statements is used in making business decisions, and about the effects on financial statements of using different methods of inventory valuation and adjusting and reversing entries. Students will also study various means of financing a business and ways in which the strength of a corporation can be determined through the reading of its annual report.

Accounting for a Small Business, Grade 12, Workplace Preparation BAN4E

This course expands upon the fundamentals of accounting introduced in the Grade 11 course by examining each component of the accounting cycle, with emphasis on practical application. Students will learn how accounting is practised in the workplace by acquiring an understanding of payroll systems, inventory, specialized journals, subsidiary ledgers, sales taxes, and cash management, and will use accounting software programs.

Entrepreneurial Studies

Introduction to Entrepreneurial Studies, Grade 11, College Preparation BDI3C

This course focuses on ways in which entrepreneurs recognize opportunities, generate ideas, and organize resources to plan successful ventures that enable them to achieve their personal goals by satisfying the needs of others. Students will learn about values, traits, and skills most often associated with successful entrepreneurial activity.

The Enterprising Person, Grade 11, Open**BDP3O**

This course examines the importance of enterprising employees to organizations affected by rapid change in an increasingly competitive marketplace. Students will learn about the skills and attributes of enterprising employees, the distinguishing features of enterprising work environments, and the challenges and rewards of becoming an enterprising person. They will also have an opportunity to participate in the entrepreneurial process by planning a venture.

Entrepreneurial Studies: Venture Planning, Grade 12, College Preparation**BDV4C**

This course focuses on the application of entrepreneurial characteristics and skills. Students will learn how to develop a venture plan. In making the plan, they will consider available resources, analyse the potential market base, identify legal requirements and available financing, evaluate all aspects of the plan, and identify the management skills and technology that would be required in carrying out their plan.

Information Technology**Information Technology Applications in Business, Grade 11, Open****BTA3O**

This course provides students with the opportunity to develop the information technology skills and knowledge required in a business. Students will learn about the information technology work environment, use industry-standard software, conduct electronic research, investigate electronic business, and explore occupations and postsecondary programs that require information technology skills.

Information Technology in Business, Grade 12, College Preparation**BTX4C**

This course provides students with the opportunity to develop further the information technology knowledge and skills needed in the business world. Students will develop their understanding of electronic business environments, improve their skills in electronic research and in using business application software in the preparation of business documents, manage information, and apply project team management strategies.

Information Technology in Business, Grade 12, Workplace Preparation**BTX4E**

This course provides students with the opportunity to develop essential skills in information technology needed in the workplace. Students will learn about the impact of new technologies on business operations, the place of information technology in the globalization process, and the development of new ways of doing business (e.g., use of web pages, electronic commerce). Students will use advanced software features and functions, manage information, conduct electronic research for business tasks, and develop project team management skills.

International Business

Introduction to 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.

Introduction to International Business, Grade 12, Workplace Preparation **BBB4E**

This course provides an introduction to international business, including an investigation of the economic relationships that Canadian governments and Canadian businesses have developed with other nations and the effects on productivity, prices, and variety of goods. Students will learn about the requirements for competing in international markets, conducting business in other countries, and pursuing careers in the field of international business.

Marketing

Introduction to Marketing, Grade 11, College Preparation **BMI3C**

This course introduces the fundamental concepts of marketing, with an emphasis on in-depth analysis of the influence of changes in the economy and global marketplace, trends and issues, and the impact of technology. Students will analyse the buying patterns of various consumers and the effect of marketing strategies, and will engage in marketing research. Students will also develop and present a marketing plan for a specific product.

Introduction to Retail and Services Marketing, Grade 11, Workplace Preparation **BMX3E**

This course focuses on developing knowledge and applying skills in the context of retail and services marketing. Students will learn about the importance of customer service, analyse the methods used to maintain customer loyalty, examine ways in which product presentation influences buyers, and investigate the critical factors in inventory control, including the role of technology.

Organizational Studies

Organizational Studies: Organizational Behaviour and Human Resources, Grade 12, University/College Preparation **BOH4M**

This course focuses on ways in which organizations deal with issues affecting their competitiveness in a changing technological and global business environment. Students will analyse various leadership techniques, and study various issues such as ethics in business, social responsibility, management of group dynamics, uses of information technology, workplace stress and conflict, motivation of employees, and globalization. Students will also investigate the management of a diverse workforce within an organization and the importance of strategic planning.

**Organizational Studies: Managing a Small Business, Grade 12,
Workplace Preparation**

BOG4E

This course focuses on the core skills and concepts required to manage a small business. Students will deal with various aspects of operations management, such as inventory, marketing, financial issues, communication, and human resources. Students will also explore the challenges facing small businesses, including hiring and training, motivating employees, and complying with legal requirements.

CANADIAN AND WORLD STUDIES

Courses in Canadian and World Studies, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
Economics				
11	The Individual and the Economy	University/College	CIE3M	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	Making Economic Choices	Workplace	CIC3E	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
12	Analysing Current Economic Issues	University	CIA4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities
Geography				
11	The Americas: Geographic Patterns and Issues	University/College	CGD3M	Grade 9 Geography of Canada, Academic or Applied
11	Physical Geography: Patterns, Processes, and Interactions	University/College	CGF3M	Grade 9 Geography of Canada, Academic or Applied
11	Geographics: The Geographer's Toolkit	Workplace	CGT3E	Grade 9 Geography of Canada, Academic or Applied
11	Regional Geography: Travel and Tourism	Open	CGG3O	Grade 9 Geography of Canada, Academic or Applied

Grade	Course Name	Course Type	Course Code	Prerequisite
12	Canadian and World Issues: A Geographic Analysis	University	CGW4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities
12	World Geography: Human Patterns and Interactions	University	CGU4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities
12	Environment and Resource Management	University/College	CGR4M	Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities
12	Geomatics: Geotechnologies in Action	University/College	CGO4M	Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities
12	World Geography: Urban Patterns and Interactions	College	CGU4C	Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities
12	Environment and Resource Management	Workplace	CGR4E	Grade 9 Geography of Canada, Academic or Applied

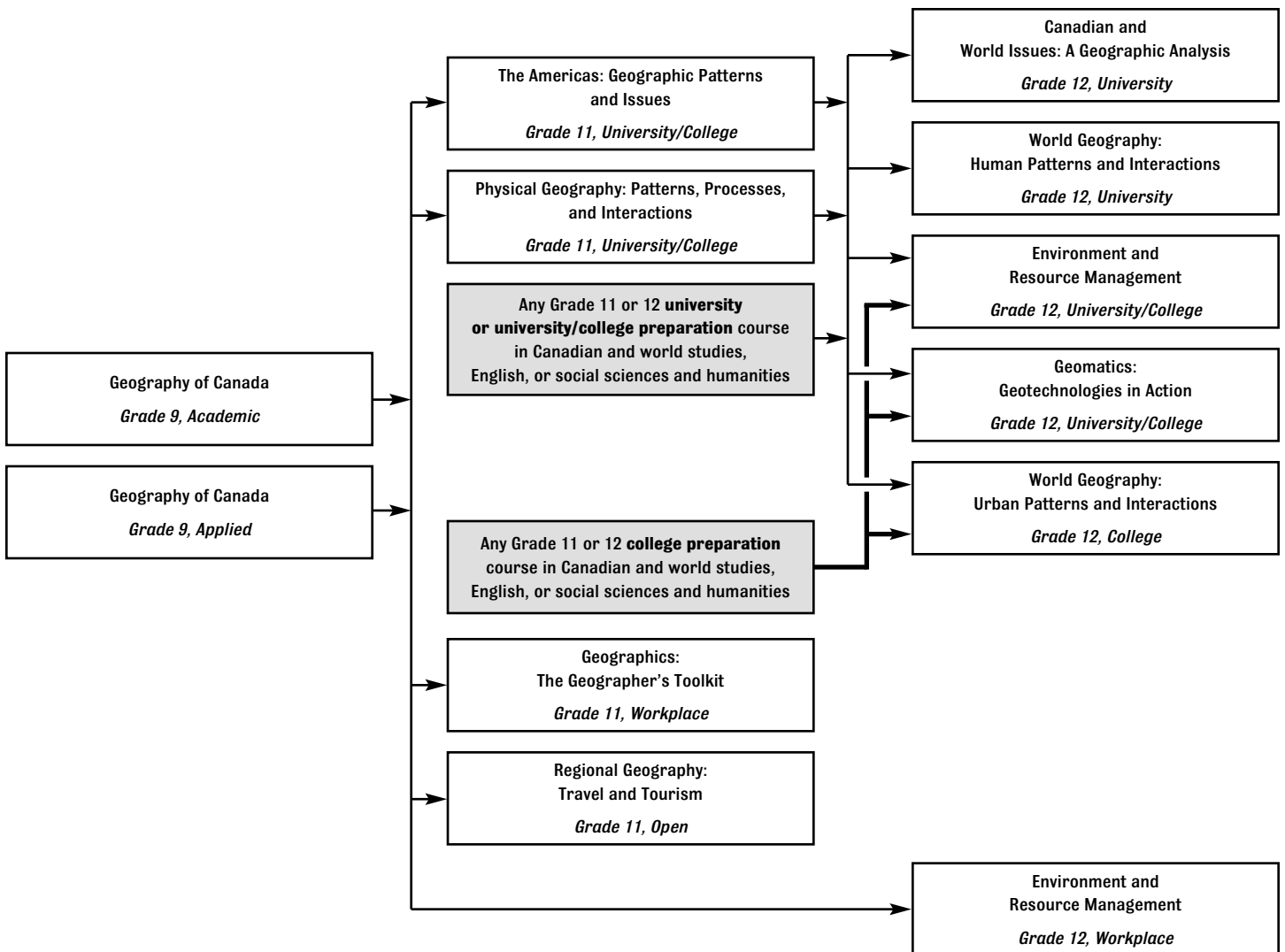
Grade	Course Name	Course Type	Course Code	Prerequisite
History				
11	American History	University	CHA3U	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	World History to the Sixteenth Century	University/College	CHW3M	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	Canadian History and Politics Since 1945	College	CHH3C	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	Canadian History and Politics Since 1945	Workplace	CHH3E	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	Twentieth-Century History: Global and Regional Perspectives	Open	CHT3O	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
12	Canada: History, Identity, and Culture	University	CHI4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities
12	World History: The West and the World	University	CHY4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities

Grade	Course Name	Course Type	Course Code	Prerequisite
12	World History: The West and the World	College	CHY4C	Any university, university/college, or college preparation course in Canadian and world studies, English, or social sciences and humanities
12	Adventures in World History	Workplace	CHM4E	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
Law				
11	Understanding Canadian Law	University/College	CLU3M	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	Understanding Canadian Law	Workplace	CLU3E	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
12	Canadian and International Law	University	CLN4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities
Politics				
11	Canadian Politics and Citizenship	Open	CPC3O	Grade 10 Canadian History in the Twentieth Century, Academic or Applied
12	Canadian and World Politics	University	CPW4U	Any university or university/college preparation course in Canadian and world studies, English, or social sciences and humanities

Note: Each of the courses listed above is worth one credit.

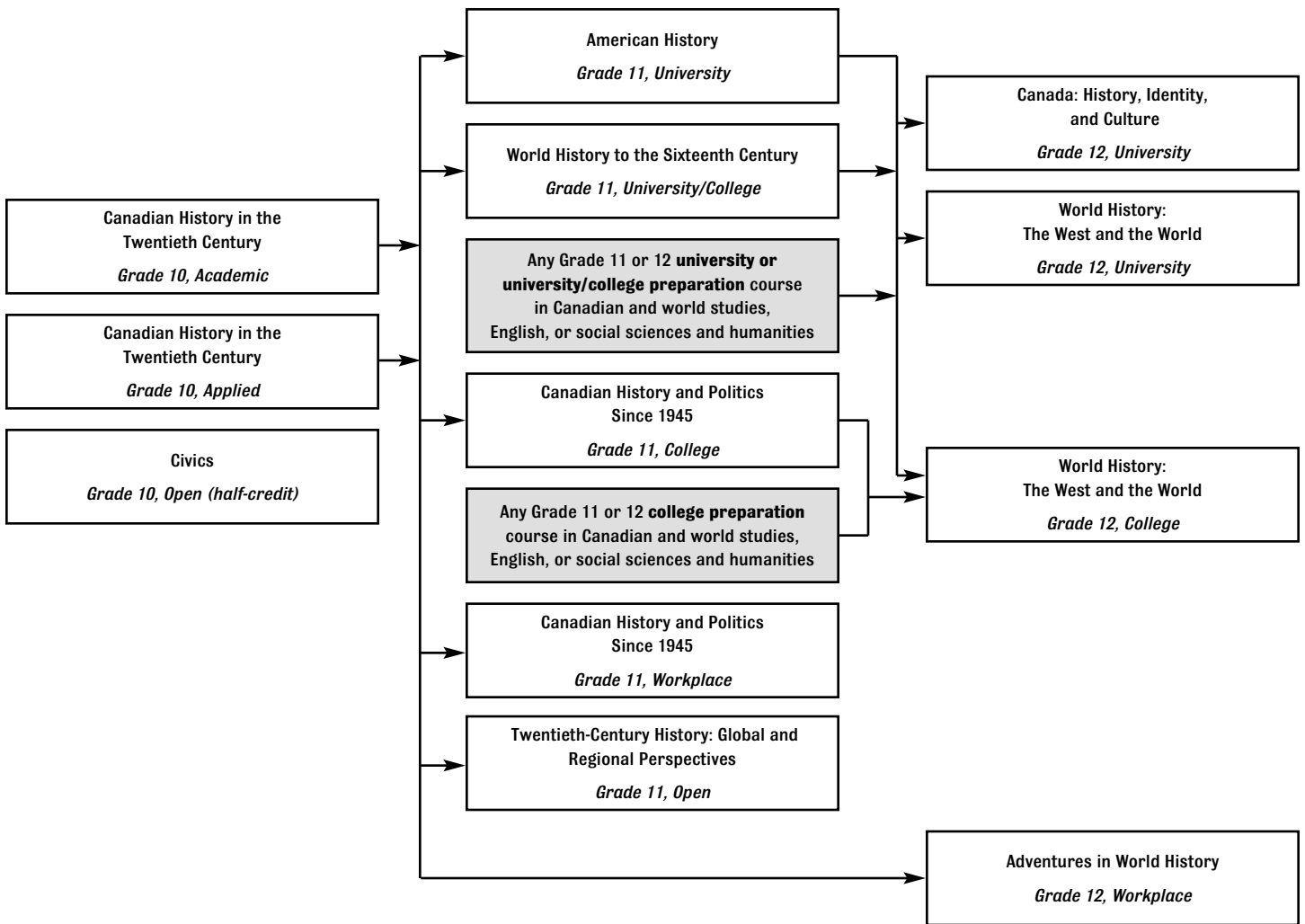
Prerequisite Chart for Canadian and World Studies – Geography

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



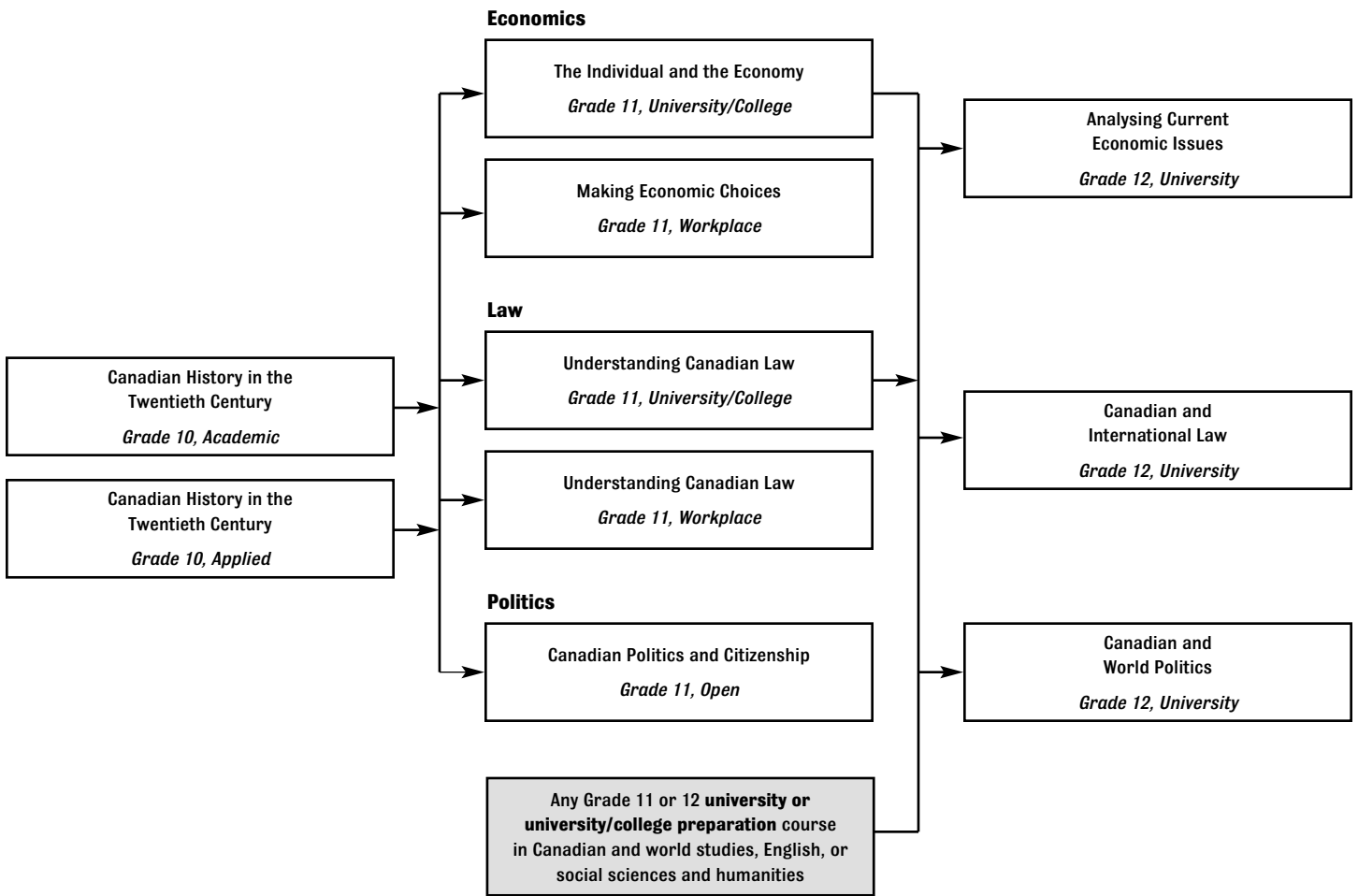
Prerequisite Chart for Canadian and World Studies – History

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Prerequisite Chart for Canadian and World Studies – Economics, Law, and Politics

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for Canadian and World Studies

Economics

The Individual and the Economy, Grade 11, University/College Preparation **CIE3M**

This course explores elements of the Canadian economic system that will help students make informed decisions about how to use resources to satisfy wants and needs. Students will use economic concepts and models, as well as methods of economic inquiry, to analyse the choices they will make during their lives as consumers, contributors, and citizens in a mixed economy.

Making Economic Choices, Grade 11, Workplace Preparation **CIC3E**

This course explores the economic choices that students will need to make as consumers and contributors in a mixed economy. Students will acquire practical knowledge and skills that will help them manage their economic affairs and improve their economic well-being.

Analysing Current Economic Issues, Grade 12, University Preparation **CIA4U**

This course explores the choices that individuals and societies make about the use of resources in a competitive global economy. Students will use economic concepts and models, as well as methods of economic inquiry, to analyse current economic issues and make informed economic choices based on their analysis.

Geography

The Americas: Geographic Patterns and Issues, Grade 11, University/College Preparation **CGD3M**

This course explores the growing interdependence of the Americas, from northern Canada to southern South America, through the study of geographical systems, patterns, and issues. Students will use geographical methods and skills to investigate a wide range of topics, including natural systems, resource development, population patterns and trends, evolving trading blocs, and geopolitical partnerships.

Physical Geography: Patterns, Processes, and Interactions, Grade 11, University/College Preparation **CGF3M**

This course examines the main elements of the physical environment (climate, soils, landforms, oceans, vegetation), the processes that shape them, and the relationship between the environment and human beings. Students will apply a wide range of geographic tools and methods to explore the distribution and ongoing evolution of the elements of the physical environment on a variety of scales, from local to global.

Geographics: The Geographer's Toolkit, Grade 11, Workplace Preparation **CGT3E**

This course examines the use of geotechnologies, such as cartography, remote sensing, surveying, and geographic information systems (GIS), in the workplace, with an emphasis on applications relevant to business, government, and the local community. Students will acquire practical experience in the collection, manipulation, interpretation, and display of geographic information, with a view to developing skills in areas such as desktop mapping, graphic presentation, image interpretation, database management, and GIS analysis.

Regional Geography: Travel and Tourism, Grade 11, Open **CGG3O**

This course focuses on travel and tourism to examine the unique characteristics of selected world regions from a geographic perspective. Students will develop an understanding and appreciation of the ways in which the natural environments, economies, cultures, and other aspects of world regions interact.

Canadian and World Issues: A Geographic Analysis, Grade 12, University Preparation **CGW4U**

This course draws on geographic concepts, skills, methods, and technologies to analyse significant issues facing Canadians as citizens of an interdependent world. Students will examine the challenges of creating a sustainable and equitable future through the study of a range of topics, including economic interdependence; geopolitical conflict; regional disparities in the ability to meet basic human needs; and protection of the planet's life-support systems.

World Geography: Human Patterns and Interactions, Grade 12, University Preparation **CGU4U**

This course examines how cultures in different parts of the world interact with their environments and with each other. Students will use geographical concepts, methods, and tools to explore settlement patterns, human migration, cultural change, globalization, environmental issues, and other topics relevant to an understanding of how spatial and cultural factors affect human affairs.

Environment and Resource Management, Grade 12, University/College Preparation **CGR4M**

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

Geomatics: Geotechnologies in Action, Grade 12, University/College Preparation **CGO4M**

This course examines the approaches and techniques that geographers and other professionals use to acquire, manage, map, analyse, and communicate information about the Earth's surface. Students will receive a systematic introduction to the four pillars of geomatics – surveying, remote sensing, cartography, and geographic information systems (GIS) – and will learn how to apply their knowledge and skills to a variety of real-world situations relating to physical and human geography.

**World Geography: Urban Patterns and Interactions, Grade 12,
College Preparation**

CGU4C

This course examines cities around the world and the social, economic, and physical factors that shape them. Students will use geographic concepts, methods, and tools to examine such topics as urban structures and systems, spatial interactions, environmental impacts, rural-urban migration, cultural interactions, and urban problems.

Environment and Resource Management, Grade 12, Workplace Preparation

CGR4E

This course examines the impact of human activities on the natural environment and emphasizes responsible resource management, mainly in the context of the local environment. Students will learn about ecosystem structures and processes, the ecological impact of human activities, and sustainable resource management, and will develop practical solutions to environmental and resource management issues.

History

American History, Grade 11, University Preparation

CHA3U

This course examines the development of American social, political, and economic structures from colonial times to the present. Students will analyse the chronology of events and evaluate the roles played by specific individuals and groups throughout American history. Students will conduct research and analysis, and communicate, in a variety of ways, their knowledge and understanding of the country that is Canada's closest neighbour and most important cultural influence and economic partner.

**World History to the Sixteenth Century, Grade 11,
University/College Preparation**

CHW3M

This course investigates the history of humanity from earliest times to the sixteenth century. Students will analyse diverse societies from around the world, with particular regard to the political, cultural, and economic structures and historical forces that form the foundation of the modern world. They will examine the influence of selected individuals and groups, as well as of particular innovations, and will develop skills of historical inquiry, organization, analysis, and communication.

Canadian History and Politics Since 1945, Grade 11, College Preparation

CHH3C

This course examines aspects of Canadian history since 1945, focusing on issues that are of particular relevance to Canadians today. Students will analyse the history of Canadian social, political, and economic issues, including technological change, globalization, labour relations, equity, and multiculturalism. As well, students will be given the opportunity to develop their communication skills and their knowledge of pertinent topics so that they can discuss current Canadian issues effectively.

Canadian History and Politics Since 1945, Grade 11, Workplace Preparation **CHH3E**

This course examines Canadian issues in the period from the end of World War II to the present. Students will learn about a broad range of Canadian social, political, and economic topics, including technological change, globalization, labour relations, equity, and multiculturalism. In addition, students will learn about historical forces that might affect their civic responsibilities and their economic and social conditions.

Twentieth-Century History: Global and Regional Perspectives, Grade 11, Open **CHT3O**

This course focuses on events and issues in twentieth-century world history. Students will analyse issues relating to the two world wars, the Cold War, post-1945 regional conflicts, human rights, changes in everyday life, and the problems facing developing countries. The skills and knowledge developed in the course will help students understand and analyse the challenges facing peoples, both historically and at the present time, in various parts of the world.

Canada: History, Identity, and Culture, Grade 12, University Preparation **CHI4U**

This course examines the evolution of a Canadian national identity. Students will learn how modern Canada was shaped by the interaction among Aboriginal peoples, the French, the English, and subsequent immigrant groups. This course will enable students to evaluate major social, economic, and political changes in Canadian history. The understanding students gain through their examination of Canada's historical and cultural roots will allow them to formulate a definition of what it means to be Canadian.

World History: The West and the World, Grade 12, University Preparation **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. The skills and knowledge developed in this course will enable the student to understand and appreciate both the character of historical change and the historical roots of contemporary issues.

World History: The West and the World, Grade 12, College Preparation **CHY4C**

This course explores the history of the world since the sixteenth century, emphasizing the interaction between the emerging West and other regions of the world. Students will learn about a variety of economic, social, and political systems and the changes they have undergone over time. Students will acquire sound skills of historical inquiry and will develop an appreciation of the forces that have formed our modern world.

Adventures in World History, Grade 12, Workplace Preparation

CHM4E

This course examines a variety of human experiences in world history from earliest times to the present. Students will learn about a wide range of social, cultural, economic, and political topics, including technological development and cultural expression, social and political structures, and the values of community and individualism. As well, students will be given opportunities to develop their awareness of historical experience, to practise their skills of analysis and communication, and to cultivate a lifelong interest in the adventures of world history.

Law

Understanding Canadian Law, Grade 11, University/College Preparation

CLU3M

This course explores legal issues that directly affect students' lives. Students will acquire a practical knowledge of Canada's legal system and learn how to analyse legal issues. They will also be given opportunities to develop informed opinions on legal issues and to defend those opinions and communicate legal knowledge in a variety of ways and settings, including legal research projects, mock trials, and debates.

Understanding Canadian Law, Grade 11, Workplace Preparation

CLU3E

This course explores elements of Canadian law that are relevant to students as they prepare to enter the labour force. Students will learn to develop informed opinions on legal issues and to express and defend their opinions in a variety of ways. Practical experience and active learning strategies will be emphasized.

Canadian and International Law, Grade 12, University Preparation

CLN4U

This course explores elements of Canadian law and the role of law in social, political, and global contexts. Students will learn about the connections between the historical and philosophical sources of law and issues in contemporary society. They will also learn to analyse legal issues, conduct independent research, and communicate the results of their inquiries in a variety of ways.

Politics

Canadian Politics and Citizenship, Grade 11, Open

CPC3O

This course explores the role of politics in people's lives. Students will investigate the different ways in which individuals and groups can participate in the political process, examine the influence of citizen action on public policy, and assess the effectiveness of political systems and institutions in meeting people's needs and promoting the common good. In addition, students will learn to distinguish between the legitimate and illegitimate exercise of power by individuals, groups, and governments.

Canadian and World Politics, Grade 12, University Preparation**CPW4U**

This course examines national and international political issues from a variety of perspectives. Students will learn about the rights and responsibilities of individuals, groups, and states within the international community; analyse the different ways in which Canada tries to settle its conflicts with other nations; and evaluate the role of nationalist and internationalist ideologies in shaping relations among states.

CLASSICAL STUDIES AND INTERNATIONAL LANGUAGES

Courses in Classical Studies and International Languages, Grades 11 and 12

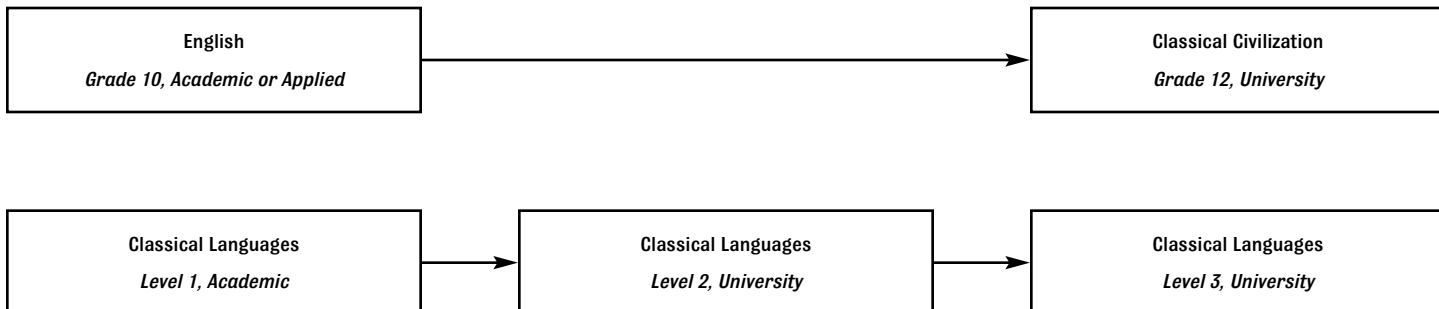
Level/ Grade	Course Name	Course Type	Course Code	Prerequisite
Classical Studies				
Level 2	Classical Languages	University	(Greek) LVGBU (Latin) LVLBU	Level 1 Classical Languages, Academic
Level 3	Classical Languages	University	(Greek) LVGCU (Latin) LVLCU	Level 2 Classical Languages, University
Grade 12	Classical Civilization	University	LVV4U	Grade 10 English, Academic or Applied
International Languages				
Level 3	International Languages	University	LBACU– LYXCU	Level 2 International Languages, Academic
Level 3	International Languages	Open	LBACO– LYXCO	Level 2 International Languages, Academic or Open
Level 4	International Languages	University	LBADU– LYXDU	Level 3 International Languages, University
Level 4	International Languages	Open	LBADO– LYXDO	Level 3 International Languages, University or Open

Note: Each of the courses listed above is worth one credit.

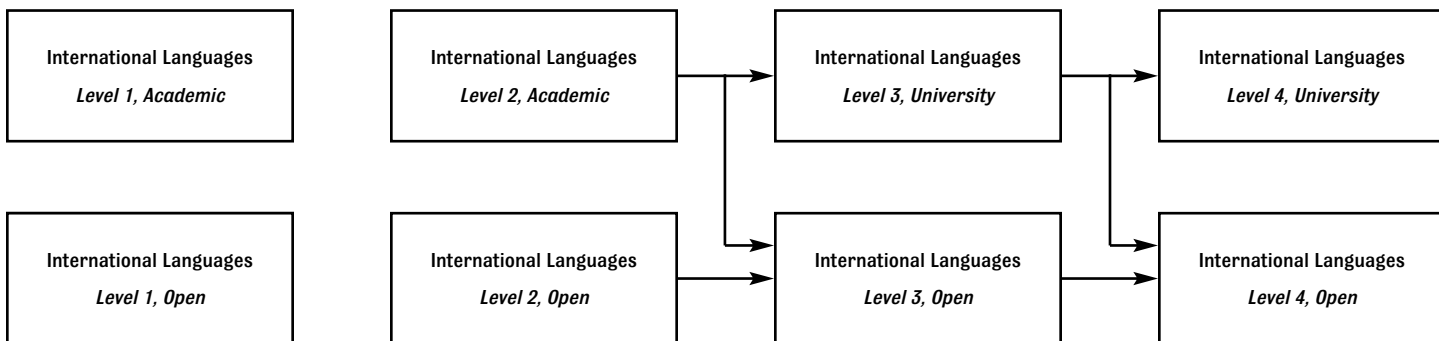
Prerequisite Charts for Classical Studies and International Languages

These charts map out all the courses in the discipline and show the link between courses and the possible prerequisites for them. They do not attempt to depict all possible movements from course to course.

Classical Studies



International Languages



Notes

Boards and schools may choose to offer their program in international languages beginning at Level 1 or Level 2.

Codes will be assigned to identify courses for students who have no knowledge of the international language and courses for students who have some knowledge of the language.

Prerequisites for Level 2 International Languages, Academic or Open, will be determined by school boards, depending on the structure of their international language program.

Course Descriptions for Classical Studies and International Languages

Classical Studies

Classical Languages, Level 2, University Preparation **LVGBU (Greek), LVLBU (Latin)**

This course provides students with opportunities to continue their exploration of the achievements of the ancient world through the study of Latin or ancient Greek. Students will read and translate more complex passages in the classical language and will learn the vocabulary and grammar essential for these activities. English is the language of instruction. Through a variety of methods, such as dramatizations, presentations, and hands-on activities, students will investigate aspects of the culture and beliefs of the ancient world, including science, religion, and customs.

Classical Languages, Level 3, University Preparation **LVGCU (Greek), LVLBU (Latin)**

This course provides students with opportunities to further develop their knowledge of the achievements of the ancient world through the study of Latin or ancient Greek. Students will read and translate a broad selection of classical prose and poetry and will learn the vocabulary and grammar essential for these activities. English is the language of instruction. Through a variety of enrichment activities, such as contests, seminars, and re-enactments, students will explore elements of the civilization of the ancient world, such as engineering, architecture, politics, and literature.

Classical Civilization, Grade 12, University Preparation **LVV4U**

This course allows students to explore the beliefs and achievements of the ancient world, which have shaped Western thought and civilization. Students will investigate such aspects of classical culture as its mythology, art, literature, and philosophy, as well as elements of ancient Greek and Latin, through a variety of activities such as dramatizations, audio-visual presentations, and discussions. By reading classical authors in English and examining archaeological evidence, students will enhance both their communication skills and their ability to think critically and creatively.

International Languages

International Languages, Level 3, University Preparation **LBACU-LYXCU**

This course offers students opportunities to further develop their knowledge of the international language and to enhance their communication skills. Students will use increasingly sophisticated language in a variety of activities that will enable them to speak and write with clarity and accuracy. Students will also enhance their thinking skills through the critical study of literature, and continue to explore aspects of the culture of countries where the language is spoken through a variety of print and technological resources.

International Languages, Level 3, Open**LBACO–LYXCO**

This course provides students with opportunities to further develop their communication skills in the international language and increase their confidence in applying them in a variety of practical situations, including contexts related to future employment. Students will engage in a variety of activities and use resources that will allow them to use the language in various real-life situations. They will also continue to explore aspects of the culture of countries where the language is spoken, and investigate careers that require facility in the language.

International Languages, Level 4, University Preparation**LBADU–LYXDU**

This course prepares students for university studies in the international language. Students will enhance their ability to use the language with clarity and precision, and will develop the language skills needed to engage in sustained conversations and discussions, understand and evaluate information, read diverse materials for both study and pleasure, and write clearly and effectively. Students will also have opportunities to add to their knowledge of the culture of countries where the language is spoken through the use of community resources and computer technology.

International Languages, Level 4, Open**LBADO–LYXDO**

This course provides students with opportunities to consolidate the language skills required for effective communication in business and personal contexts. Students will use a variety of print and technological resources that will promote their ability to apply the language in practical situations, and will engage in activities such as writing memos, reading articles, and applying conversational skills in business contexts. They will also add to their knowledge of the culture of countries where the language is spoken by using resources from the local and international community.

ENGLISH

Courses in English, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
Compulsory Courses				
11	English	University	ENG3U	Grade 10 English, Academic
11	English	College	ENG3C	Grade 10 English, Applied
11	English	Workplace	ENG3E	Grade 10 English, Applied
12	English	University	ENG4U	Grade 11 English, University
12	English	College	ENG4C	Grade 11 English, College
12	English	Workplace	ENG4E	Grade 11 English, Workplace
Optional Courses				
11	Canadian Literature	University/College	ETC3M	Grade 10 English, Academic or Applied
11	Literacy Skills: Reading and Writing	Open	ELS3O	None
11	Media Studies	Open	EMS3O	Grade 10 English, Academic or Applied
11	Presentation and Speaking Skills	Open	EPS3O	Grade 10 English, Academic or Applied
12	Studies in Literature	University	ETS4U	Grade 11 English, University
12	The Writer's Craft	University	EWC4U	Grade 11 English, University
12	Studies in Literature	College	ETS4C	Grade 11 English, College

Grade	Course Name	Course Type	Course Code	Prerequisite
12	The Writer's Craft	College	EWC4C	Grade 11 English, College
12	Communication in the World of Business and Technology	Open	EBT4O	Grade 11 English, University, College, or Workplace

Note: Each of the courses listed above is worth one credit.

Course Descriptions for English

Compulsory Courses

English, Grade 11, University Preparation

ENG3U

This course emphasizes the development of literacy, critical thinking, and communication skills. Students will analyse challenging texts, both contemporary and historical; conduct research and analyse the information gathered; write persuasive and literary essays; and analyse the relationship among media forms, audiences, and media industry practices. An important focus will be on understanding the development of the English language.

English, Grade 11, College Preparation

ENG3C

This course emphasizes the development of literacy, critical thinking, and communication skills. Students will study the content, form, and style of informational texts and literary works from Canada and other countries; write reports, correspondence, and persuasive essays; and analyse media forms, audiences, and media industry practices. An important focus will be on establishing appropriate voice and using business and technical language with precision and clarity.

English, Grade 11, Workplace Preparation

ENG3E

This course emphasizes the development of literacy, critical thinking, and communication skills. Students will study the content, form, and style of informational texts and literary works; write explanations, letters, and reports; and investigate the connections among media forms, audiences, and media industry practices. An important focus will be on using language clearly, accurately, and effectively in a variety of contexts.

English, Grade 12, University Preparation

ENG4U

This course emphasizes consolidation of literacy, critical thinking, and communication skills. Students will analyse a range of challenging texts from various time periods, countries, and cultures; write analytical and argumentative essays and a major paper for an independent literary research project; and apply key concepts to analyse media works. An important focus will be on understanding academic language and using it coherently and confidently in discussion and argument.

English, Grade 12, College Preparation

ENG4C

This course emphasizes consolidation of literacy, critical thinking, and communication skills. Students will analyse informational texts and literary works from various time periods, countries, and cultures; write research reports, summaries, and short analytical essays; complete an independent study project; and analyse the interactions among media forms, audiences, and media industry practices. An important focus will be on establishing appropriate style and using business and technical language effectively.

English, Grade 12, Workplace Preparation**ENG4E**

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

Optional Courses**Canadian Literature, Grade 11, University/College Preparation****ETC3M**

This course emphasizes the study and analysis of literary texts by Canadian authors for students with a special interest in Canadian literature. Students will study the themes, forms, and stylistic elements of a variety of contemporary and historical literary texts representative of the diverse cultures and regions of Canada, and will respond personally, critically, and creatively to them.

Literacy Skills: Reading and Writing, Grade 11, Open**ELS3O**

This course emphasizes the strengthening of essential reading and writing skills. Students will read short plays, short stories, novels, poems, and newspaper and magazine articles and opinion pieces, with particular attention to locating important information, identifying main ideas and supporting details, extending personal knowledge, responding imaginatively, and using specific strategies to expand vocabulary. An important focus will be on writing clear, accurate, and coherent narratives, summaries, reports, letters, and short essays, using correct grammar, punctuation, and spelling.

Media Studies, Grade 11, Open**EMS3O**

This course emphasizes knowledge and skills that will enable students to understand media communication in the twenty-first century and to use media effectively and responsibly. Through analysing the forms and messages of a variety of media works and audience responses to them, and through creating their own media works, students will develop critical thinking skills, aesthetic and ethical judgement, and skills in viewing, representing, listening, speaking, reading, and writing.

Presentation and Speaking Skills, Grade 11, Open**EPS3O**

This course emphasizes the knowledge and skills required to plan and make effective presentations and to speak effectively in both formal and informal contexts, using such forms as reports, speeches, debates, panel discussions, storytelling, recitations, interviews, and multimedia presentations. Students will research and analyse the content and characteristics of convincing speeches and the techniques of effective speakers; design and rehearse presentations for a variety of purposes and audiences; select and use visual and technological aids to enhance their message; and assess the effectiveness of their own and others' presentations.

Studies in Literature, Grade 12, University 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.

The Writer's Craft, Grade 12, University Preparation**EWC4U**

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

Studies in Literature, Grade 12, College Preparation**ETS4C**

This course is for students with a special interest in literature. The course may focus on themes, genres, time periods, or countries. Students will study a variety of forms and stylistic elements of literary texts and respond personally, critically, and creatively to them. They will also investigate critical interpretations, and complete an independent study project.

The Writer's Craft, Grade 12, College Preparation**EWC4C**

This course emphasizes knowledge and skills related to the craft of writing. Students will investigate models of effective writing; use a workshop approach to write a variety of works; and make considered decisions for improving the quality of their writing. They will also complete a creative or analytical independent study project, and investigate opportunities for publication and for writing careers.

Communication in the World of Business and Technology, Grade 12, Open**EBT40**

This course emphasizes practical writing and communication skills that are needed in the world of business and technology. Students will analyse the characteristics of effective models of business and technical communications; gather information to write reports, business letters, memos, manuals, instructions, and brochures; and integrate graphics and text, using technology appropriately for formatting and special effects. They will also make a number of oral and visual presentations.

ENGLISH AS A SECOND LANGUAGE AND ENGLISH LITERACY DEVELOPMENT

Courses in English as a Second Language and English Literacy Development, Grades 11 and 12

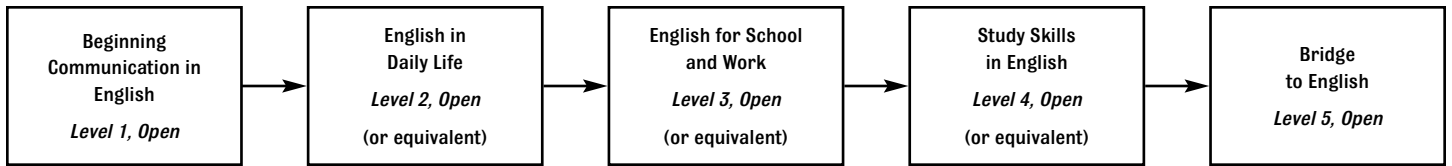
Level/ Grade	Course Name	Course Type	Course Code	Prerequisite
English As a Second Language				
Level 1	Beginning Communication in English	Open	ESLAO	None
Level 2	English in Daily Life	Open	ESLBO	ESL 1 or equivalent*
Level 3	English for School and Work	Open	ESLCO	ESL 2 or equivalent*
Level 4	Study Skills in English	Open	ESLDO	ESL 3 or equivalent*
Level 5	Bridge to English	Open	ESLEO	ESL 4 or equivalent*
English Literacy Development				
Level 1	Beginning Literacy	Open	ELDAO	None
Level 2	Basic Literacy Skills	Open	ELDBO	ELD 1 or equivalent*
Level 3	Literacy in Daily Life	Open	ELDCO	ELD 2 or equivalent*
Level 4	Literacy for School and Work	Open	ELDDO	ELD 3 or equivalent*

Note: Each of the courses listed above is worth one credit.

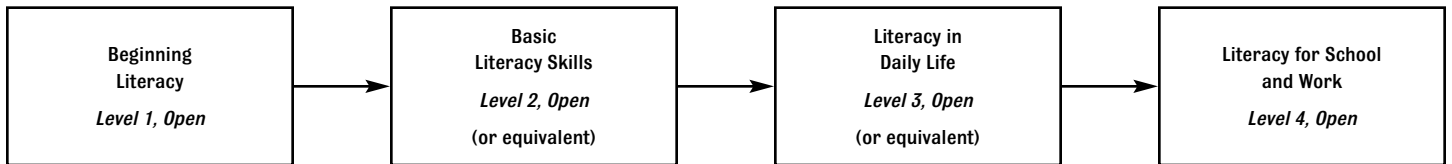
* “Equivalent” may be an equivalent course of study in other provinces in Canada or in other countries, or a proficiency level determined through initial assessment.

Prerequisite Charts for English As a Second Language and English Literacy Development

English As a Second Language



English Literacy Development



Course Descriptions for English As a Second Language and English Literacy Development

English As a Second Language

Beginning Communication in English, ESL Level 1, Open

ESLAO

This course builds on students' previous education and language knowledge to introduce the English language and help students adjust to their new cultural environment. Students will develop the ability to use oral and written English for daily needs, acquire basic conversation skills and vocabulary, and use simple sentence patterns. Students will also acquire basic orientation information related to their needs as newcomers to Canada.

English in Daily Life, ESL Level 2, Open

ESLBO

This course expands students' essential English communication skills and cultural knowledge and introduces the language of classroom studies. Students will develop oral classroom skills and reading strategies, expand their vocabulary, and use more complex sentence patterns. Students will also learn how to use some school and community resources.

English for School and Work, ESL Level 3, Open

ESLCO

This course is designed to improve students' accuracy in using English in classroom situations, for personal and career planning, and to understand the changing world around them. Students will study and interpret a range of texts and produce a variety of forms of writing. Activities will also help students to develop their oral presentation skills and acquire study skills (including note-taking and summarizing skills) that will enhance their ability to learn in all subjects.

Study Skills in English, ESL Level 4, Open

ESLDO

This course prepares students to use English with increasing accuracy in most classroom and social situations and to participate in society as informed citizens. Students will develop the reading, writing, and oral presentation skills required for success in all subjects. Students will study and interpret a variety of grade-level texts, develop oral communication skills through participation in informal debates and seminars, and extend their range of research skills.

Bridge to English, ESL Level 5, Open

ESLEO

This course prepares students for secondary school English and other courses at the college and university preparation levels. Students will be encouraged to develop independence in reading literary works and academic texts, in writing essays and narratives, and in applying learning strategies and research skills effectively. Students will also learn to respond critically to print and media works.

English Literacy Development

Beginning Literacy, ELD Level 1, Open

ELDAO

This course builds on students' previous education and language knowledge to introduce basic literacy skills and to help students adjust to their new cultural environment. Students will learn to read and write for everyday purposes, personal development, and enjoyment. Students will also learn school routines and personal management skills.

Basic Literacy Skills, ELD Level 2, Open

ELDBO

This course helps students to develop basic literacy skills and to understand the changing world around them. Students will read for information and enjoyment, expand their vocabulary, produce some simple forms of writing, and develop and use fundamental study skills. Students will also learn to participate effectively in group tasks and to use school and community resources.

Literacy in Daily Life, ELD Level 3, Open

ELDCO

This course helps students to expand their reading and writing skills and their ability to use language to analyse the changing world around them. Students will learn effective study skills and personal management and career-planning strategies. Students will improve their language proficiency through a variety of practical reading and writing tasks, short guided research projects, classroom discussions, and oral presentations.

Literacy for School and Work, ELD Level 4, Open

ELDDO

This course prepares students to participate in the educational program that will allow them to continue their education, seek employment, and participate in Canadian society as informed citizens. Students will acquire a wide variety of literacy skills and learning strategies through guided reading and writing tasks, the use of a range of media resources in guided research projects, and opportunities to communicate in a variety of formal and informal situations.

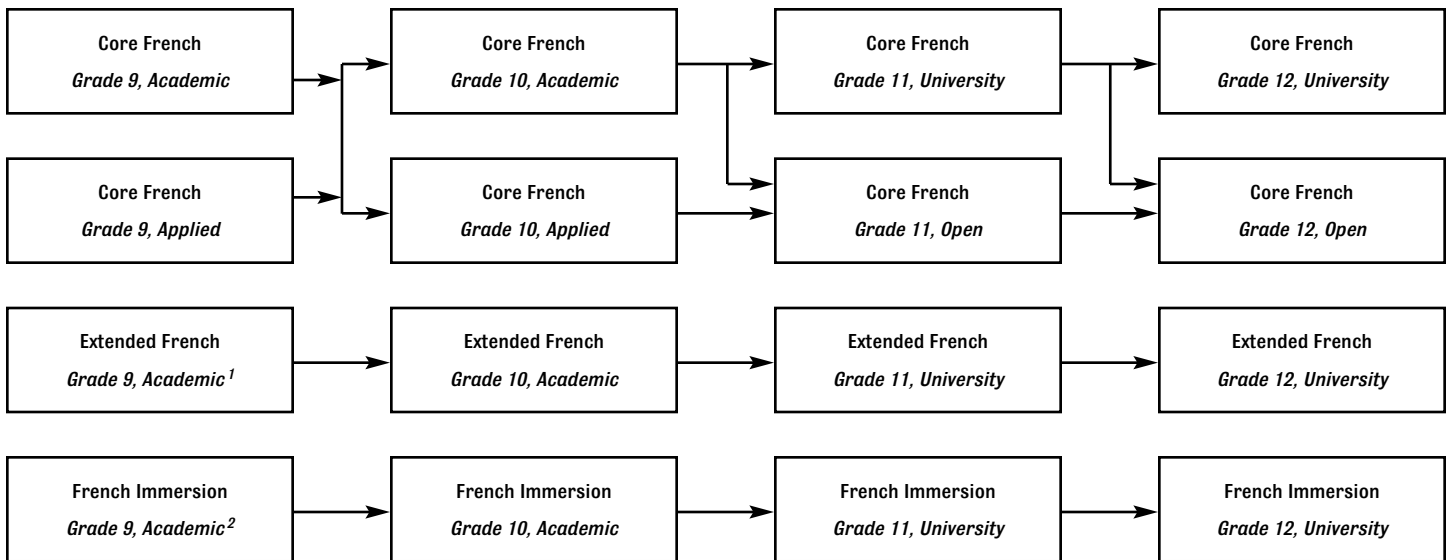
FRENCH AS A SECOND LANGUAGE

Courses in French As a Second Language, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
French				
11	Core French	University	FSF3U	Grade 10 Core French, Academic
11	Core French	Open	FSF3O	Grade 10 Core French, Applied or Academic
12	Core French	University	FSF4U	Grade 11 Core French, University
12	Core French	Open	FSF4O	Grade 11 Core French, Open or University
11	Extended French	University	FEF3U	Grade 10 Extended French
12	Extended French	University	FEF4U	Grade 11 Extended French
11	French Immersion	University	FIF3U	Grade 10 French Immersion
12	French Immersion	University	FIF4U	Grade 11 French Immersion

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for French As a Second Language (FSL)



Notes

1. The prerequisite for Grade 9 Extended French is the elementary Extended French program or the elementary Immersion French program, or equivalent.
2. The prerequisite for Grade 9 Immersion French is the elementary Immersion French program, or equivalent.

Students who have successfully completed elementary Extended French or French Immersion programs and do not wish to pursue further studies in these programs should be considered for advanced placement in the Core French program, if they demonstrate the necessary knowledge and skills.

Course Descriptions for French As a Second Language

Core French, Grade 11, University Preparation

FSF3U

This course draws on a variety of themes to promote extensive development of reading and writing skills and to reinforce oral communication skills. Students will gain a greater understanding of French-speaking cultures in Canada and around the world through their reading of a variety of materials, including a short novel or a play. Students will produce various written assignments, including a formal essay. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

Core French, Grade 11, Open

FSF3O

This course draws on a broad theme, such as leisure activities, to develop oral communication, reading, and writing skills. Students will give presentations, read a selection of short stories and articles, and produce a variety of written assignments. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

Core French, Grade 12, University Preparation

FSF4U

This course draws on a variety of themes to promote extensive development of French-language skills. Students will consolidate their oral skills as they discuss literature, culture, and current issues. They will read a variety of texts and will write a formal essay. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

Core French, Grade 12, Open

FSF4O

This course focuses on the development of French-language skills that students can use in the business world or the workplace. Students will give presentations, read a selection of materials appropriate to the topics under study, and produce a variety of written assignments. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

Extended French, Grade 11, University Preparation

FEF3U

This course focuses on developing French-language skills through the study of Canadian francophone authors. Students will analyse works in a variety of genres and will produce various types of written assignments, including a formal essay. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

Extended French, Grade 12, University Preparation**FEF4U**

This course emphasizes the refinement of French-language skills through the study of Canadian and international francophone literature. Students will interpret literary works, produce written assignments in a variety of genres, and conduct research on a major topic for a written and oral presentation. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

French Immersion, Grade 11, University Preparation**FIF3U**

This course develops knowledge and language skills through the study of francophone literature and culture from around the world. Students will study novels, plays, poems, short stories, films, and non-fiction works and produce written assignments in a variety of forms, including critiques and précis. They will also write a formal research essay. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

French Immersion, Grade 12, University Preparation**FIF4U**

This course provides for extensive study of French literature and culture from the Middle Ages to the present. Students will study novels, plays, poems, films, and non-fiction works produced in various historical periods, and will write a formal research paper. The use of correct grammar and appropriate language conventions in both spoken and written French will be emphasized throughout the course.

GUIDANCE AND CAREER EDUCATION

Courses in Guidance and Career Education, Grades 11 and 12

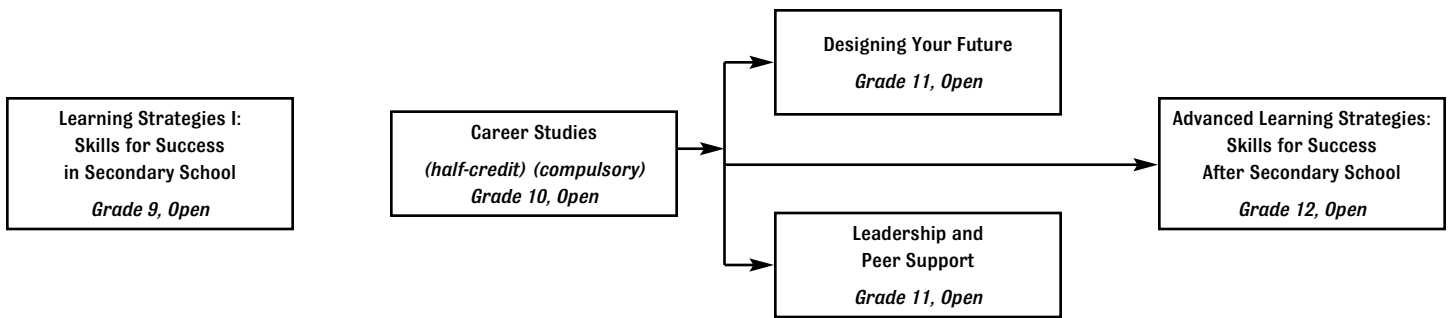
Grade	Course Name	Course Type	Course Code	Prerequisite
11	Designing Your Future	Open	GWL30	Grade 10 Career Studies, Open
11	Leadership and Peer Support	Open	GPP30	Grade 10 Career Studies, Open
12	Advanced Learning Strategies: Skills for Success After Secondary School*	Open	GLS40	Grade 10 Career Studies, Open
			GLE40	Recommendation of Principal
			GLE30	Recommendation of Principal

Note: Each of the courses listed above is worth one credit.

* The Grade 12 Advanced Learning Strategies course may be modified for students in Grade 12 (GLE 40) who have an IEP, as well as for students in Grade 11 (GLE 30) who have an IEP.

Prerequisite Chart for Guidance and Career Education

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for Guidance and Career Education

Designing Your Future, Grade 11, Open

GWL30

This course prepares students to make successful transitions to postsecondary work and education or training. Students will explore the realities and opportunities of modern workplaces, while refining their employability skills and learning how to manage their careers. Students will target appropriate postsecondary education or training options and begin to implement an action plan for postsecondary success.

Leadership and Peer Support, Grade 11, Open

GPP30

This course prepares and motivates students to provide leadership and assistance to others in their schools and communities. Students will develop skills in communication, interpersonal relations, coaching, leadership, teamwork, and conflict management, and apply them in roles such as tutoring, mentoring, and student council involvement. Students also learn the value and complexity of social diversity, while acquiring an appreciation of the importance of contributing to their communities and helping others throughout their lives.

Advanced Learning Strategies: Skills for Success After Secondary School, Grade 12, Open

GLS40, GLE40, GLE30

This course improves students' learning skills, preparing them to make successful transitions to work and postsecondary education and become independent, lifelong learners. Students will learn how to assess their learning abilities and use critical reading, time management, and other techniques for promoting effective learning. In addition, they will investigate learning requirements for employment and postsecondary education or training and develop plans for learning after secondary school.

HEALTH AND PHYSICAL EDUCATION

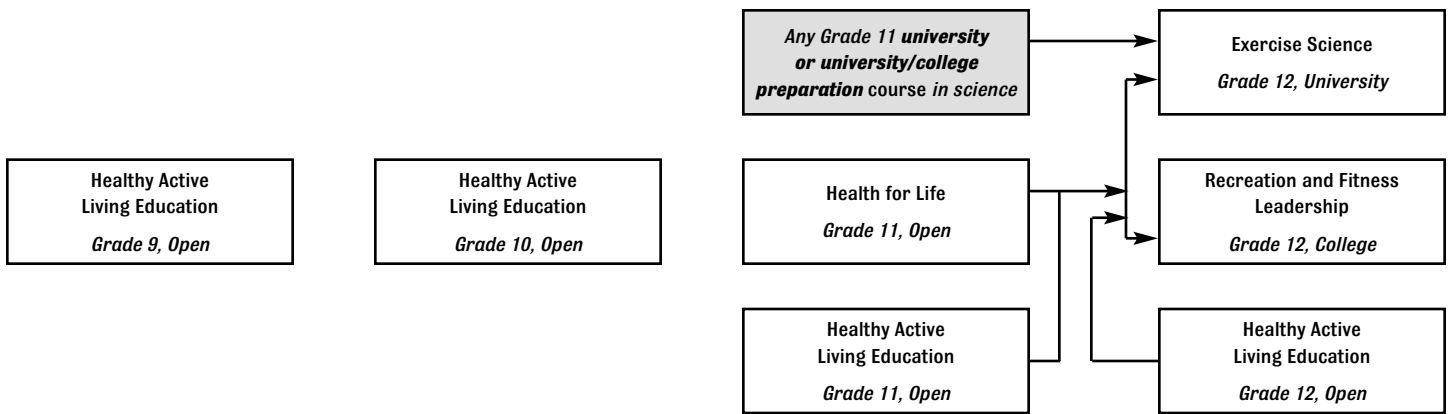
Courses in Health and Physical Education, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
11	Healthy Active Living Education	Open	PPL3O	None
11	Health for Life	Open	PPZ3O	None
12	Healthy Active Living Education	Open	PPL4O	None
12	Exercise Science	University	PSE4U	Any Grade 11 university or university/college preparation course in science, or any Grade 11 or 12 open course in health and physical education
12	Recreation and Fitness Leadership	College	PLF4C	Any Grade 11 or 12 open course in health and physical education

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for Health and Physical Education

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for Health and Physical Education

Healthy Active Living Education, Grade 11, Open

PPL30

This course focuses on the development of a healthy lifestyle and participation in a variety of enjoyable physical activities that have the potential to engage students' interest throughout their lives. Students will be encouraged to develop personal competence in a variety of movement skills, and will be given opportunities to practise goal-setting, decision-making, coping, social, and interpersonal skills. Students will also study the components of healthy relationships, reproductive health, mental health, and personal safety.

Health for Life, Grade 11, Open

PPZ30

This course helps students develop a personalized approach to healthy living. Students will examine the factors that affect their own health and the health of individuals as members of the community. They will learn about the components of the VITALITY approach to healthy living – an initiative that promotes healthy eating, an active lifestyle, and a positive self-image. Throughout this course, students will develop the skills necessary to take charge of and improve their own health, as well as to encourage others to lead healthy lives.

Healthy Active Living Education, Grade 12, Open

PPL40

This course focuses on the development of a personalized approach to healthy active living through participation in a variety of sports and recreational activities that have the potential to engage students' interest throughout their lives. Students will develop and implement personal physical fitness plans. In addition, they will be given opportunities to refine their decision-making, conflict-resolution, and interpersonal skills, with a view to enhancing their mental health and their relationships with others.

Exercise Science, Grade 12, University Preparation

PSE4U

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 sports, and the factors that influence an individual's participation in physical activity. The course prepares students for university programs in physical education, kinesiology, recreation, and sports administration.

Recreation and Fitness Leadership, Grade 12, College Preparation

PLF4C

This course focuses on the development of leadership and coordination skills related to recreational activities. Students will acquire the knowledge and skills required to plan, organize, and implement recreational events. They will also learn how to promote the value of physical fitness, personal well-being, and personal safety to others through mentoring. The course will prepare students for college programs in recreational, leisure, and fitness leadership.

MATHEMATICS

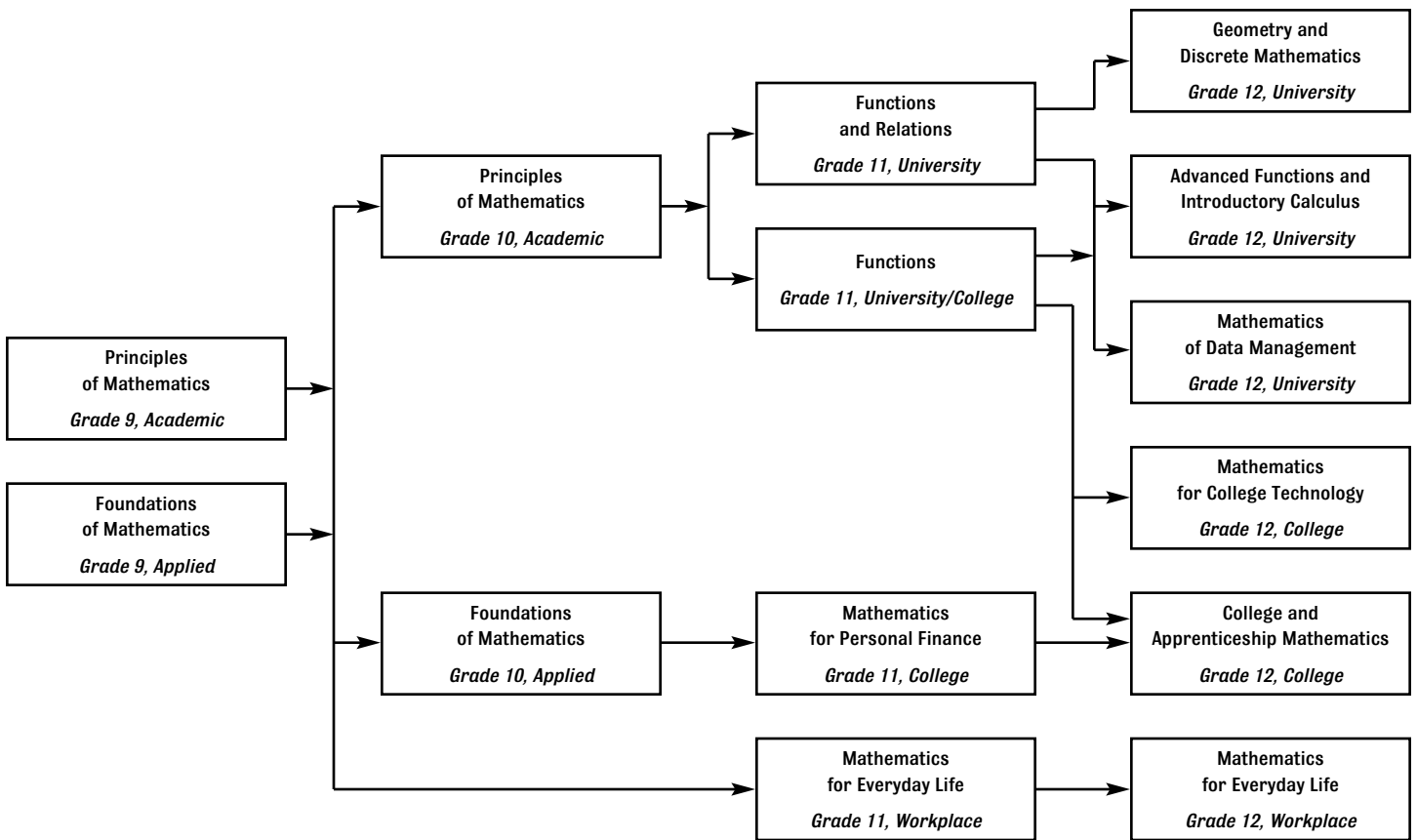
Courses in Mathematics, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
11	Functions and Relations	University	MCR3U	Grade 10 Principles of Mathematics, Academic
11	Functions	University/College	MCF3M	Grade 10 Principles of Mathematics, Academic
11	Mathematics of Personal Finance	College	MBF3C	Grade 10 Foundations of Mathematics, Applied
11	Mathematics for Everyday Life	Workplace	MEL3E	Grade 9 Mathematics, Academic or Applied
12	Advanced Functions and Introductory Calculus	University	MCB4U	Grade 11 Functions and Relations, University, or Grade 11 Functions, University/College
12	Geometry and Discrete Mathematics	University	MGA4U	Grade 11 Functions and Relations, University
12	Mathematics of Data Management	University	MDM4U	Grade 11 Functions and Relations, University, or Grade 11 Functions, University/College
12	College and Apprenticeship Mathematics	College	MAP4C	Grade 11 Mathematics of Personal Finance, College, or Grade 11 Functions, University/College
12	Mathematics for College Technology	College	MCT4C	Grade 11 Functions, University/College
12	Mathematics for Everyday Life	Workplace	MEL4E	Grade 11 Mathematics for Everyday Life, Workplace

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for Mathematics

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for Mathematics

Functions and Relations, Grade 11, University Preparation

MCR3U

This course introduces some financial applications of mathematics, extends students' experiences with functions, and introduces second-degree relations. Students will solve problems in personal finance involving applications of sequences and series; investigate properties and applications of trigonometric functions; develop facility in operating with polynomial, rational, and exponential expressions; develop an understanding of inverses and transformations of functions; and develop facility in using function notation and in communicating mathematical reasoning. Students will also investigate loci and the properties and applications of conics.

Functions, Grade 11, University/College Preparation

MCF3M

This course introduces some financial applications of mathematics and extends students' experiences with functions. Students will solve problems in personal finance involving applications of sequences and series; investigate properties and applications of trigonometric functions; develop facility in operating with polynomial, rational, and exponential expressions; develop an understanding of inverses and transformations of functions; and develop facility in using function notation and in communicating mathematical reasoning.

Mathematics of Personal Finance, Grade 11, College Preparation

MBF3C

This course enables students to broaden their understanding of exponential growth and of important areas of personal finance. Students will investigate properties of exponential functions and develop skills in manipulating exponential expressions; solve problems and investigate financial applications involving compound interest and annuities; and apply mathematics in making informed decisions about transportation, accommodation, and career choices.

Mathematics for Everyday Life, Grade 11, Workplace Preparation

MEL3E

This course enables students to broaden their understanding of mathematics as it is applied in important areas of day-to-day living. 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.

Advanced Functions and Introductory Calculus, Grade 12, University Preparation

MCB4U

This course builds on students' experience with functions and introduces the basic concepts and skills of calculus. Students will investigate and apply the properties of polynomial, exponential, and logarithmic functions; broaden their understanding of the mathematics associated with rates of change; and develop facility with the concepts and skills of differential calculus as applied to polynomial, rational, exponential, and logarithmic functions. Students will apply these skills to problem solving in a range of applications.

Geometry and Discrete Mathematics, Grade 12, University Preparation **MGA4U**

This course enables students to broaden mathematical knowledge and skills related to abstract mathematical topics and to the solving of complex problems. Students will solve problems involving geometric and Cartesian vectors, and intersections of lines and planes in three-space. They will also develop an understanding of proof, using deductive, algebraic, vector, and indirect methods. Students will solve problems involving counting techniques and prove results using mathematical induction.

Mathematics of Data Management, Grade 12, University Preparation **MDM4U**

This course broadens students' understanding of mathematics as it relates to managing information. Students will apply methods for organizing large amounts of information; apply counting techniques, probability, and statistics in modelling and solving problems; and carry out a culminating project that integrates the expectations of the course and encourages perseverance and independence. Students planning to pursue university programs in business, the social sciences, or the humanities will find this course of particular interest.

College and Apprenticeship Mathematics, Grade 12, College Preparation **MAP4C**

This course equips students with the mathematical knowledge and skills they will need in many college programs. Students will use statistical methods to analyse problems; solve problems involving the application of principles of geometry and measurement to the design and construction of physical models; solve problems involving trigonometry in triangles; and consolidate their skills in analysing and interpreting mathematical models.

Mathematics for College Technology, Grade 12, College Preparation **MCT4C**

This course equips students with the mathematical knowledge and skills needed for entry into college technology programs. Students will investigate and apply properties of polynomial, exponential, and logarithmic functions; solve problems involving inverse proportionality; and explore the properties of reciprocal functions. They will also analyse models of a variety of functions, solve problems involving piecewise-defined functions, solve linear-quadratic systems, and consolidate key manipulation and communication skills.

Mathematics for Everyday Life, Grade 12, Workplace Preparation **MEL4E**

This course enables students to broaden their understanding of mathematics as it is applied in important areas of day-to-day living. Students will use statistics in investigating questions of interest and apply principles of probability in familiar situations. They will also investigate accommodation costs and create household budgets; solve problems involving estimation and measurement; and apply concepts of geometry in the creation of designs.

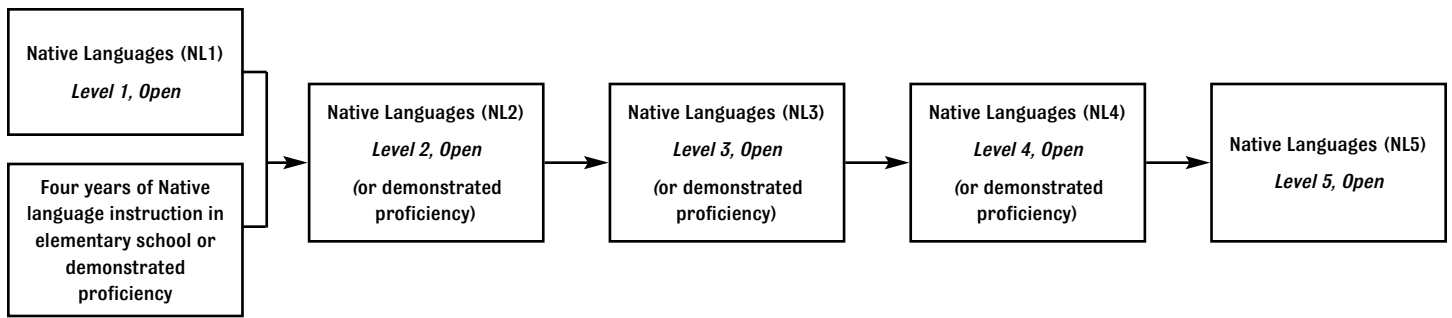
NATIVE LANGUAGES

Courses in Native Languages, Grades 11 and 12

Level	Course Name	Course Type	Course Code	Prerequisite
4	Native Languages	Open	LNADO– LNODO	Native Languages, Level 3, or demonstrated proficiency
5	Native Languages	Open	LNAEO– LNOEO	Native Languages, Level 4, or demonstrated proficiency

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for Native Languages



Course Descriptions for Native Languages

Native Languages, Level 4, Open

LNADO–LNODO

This course will provide students with opportunities to further develop their knowledge of a Native language and of Native philosophy, spirituality, and values, and to enhance their sense of identity and self-worth. Students will increase their vocabulary and their facility in using idioms, and will use the Native language to analyse literature, discuss various issues that affect the local community, and exchange information electronically.

Native Languages, Level 5, Open

LNAEO–LNOEO

This course provides students with opportunities to increase their knowledge of a Native language and culture. Students will increase their vocabulary; use complex language structures and formal language; and use the Native language to analyse literature, discuss issues (e.g., economic development, personal development), and study Native customs, traditions, and world views. They will examine differences in dialects while communicating with others electronically.

NATIVE STUDIES

Courses in Native Studies, Grades 11 and 12

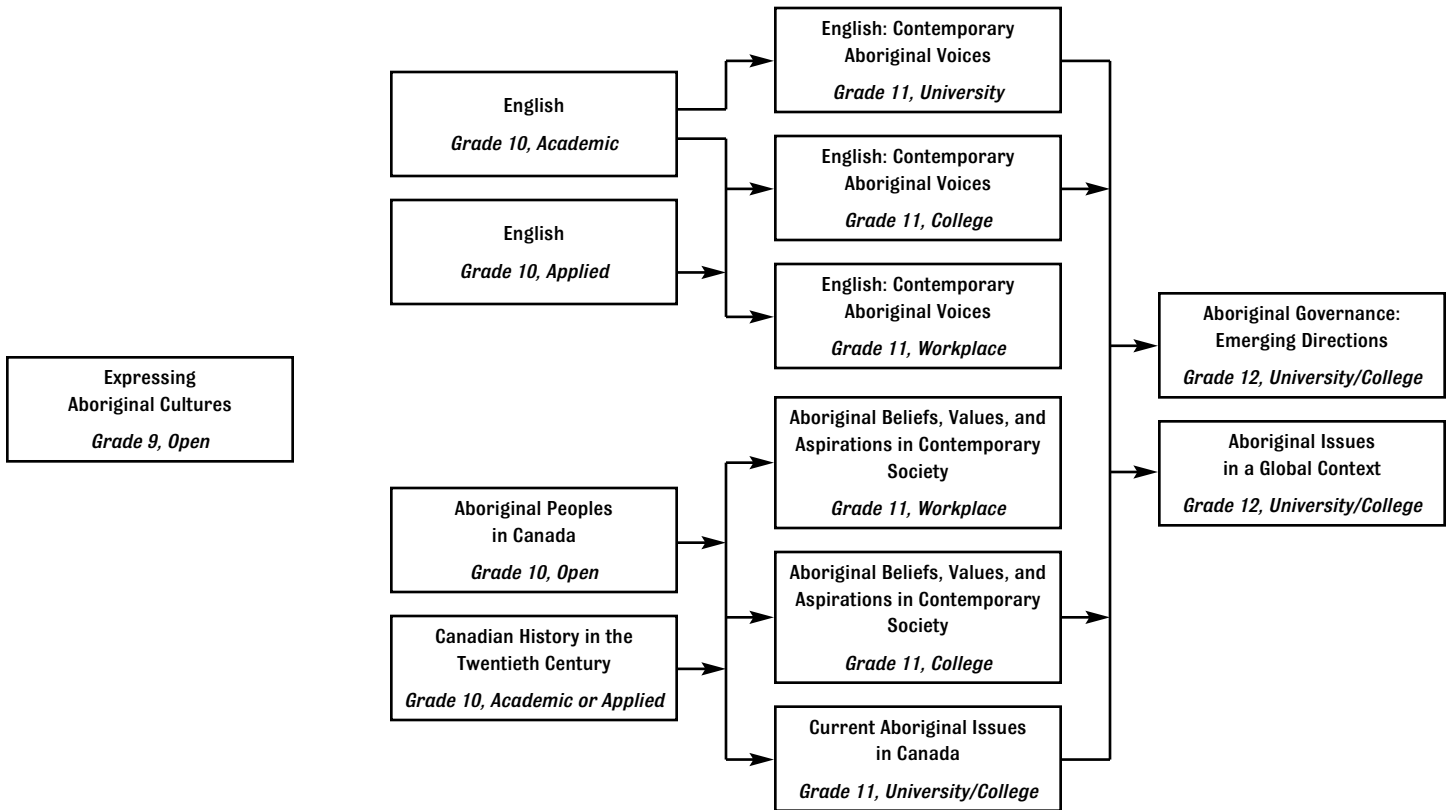
Grade	Course Name	Course Type	Course Code	Prerequisite
11	English: Contemporary Aboriginal Voices	University	NBE3U	Grade 10 English, Academic
11	Current Aboriginal Issues in Canada	University/College	NDA3M	Grade 10 Aboriginal Peoples in Canada, Open, or Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	Aboriginal Beliefs, Values, and Aspirations in Contemporary Society	College	NBV3C	Grade 10 Aboriginal Peoples in Canada, Open, or Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	English: Contemporary Aboriginal Voices	College	NBE3C	Grade 10 English, Academic or Applied
11	Aboriginal Beliefs, Values, and Aspirations in Contemporary Society	Workplace	NBV3E	Grade 10 Aboriginal Peoples in Canada, Open, or Grade 10 Canadian History in the Twentieth Century, Academic or Applied
11	English: Contemporary Aboriginal Voices	Workplace	NBE3E	Grade 10 English, Academic or Applied

Grade	Course Name	Course Type	Course Code	Prerequisite
12	Aboriginal Governance: Emerging Directions	University/College	NDG4M	Any Grade 11 university, university/college, or college preparation course in Native studies
12	Aboriginal Issues in a Global Context	University/College	NDW4M	Any Grade 11 university, university/college, or college preparation course in Native studies

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for Native Studies

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Note: Students who take the Grade 11 course English: Contemporary Aboriginal Voices (university, college, or workplace preparation) may use the credit earned for this course to meet the Grade 11 English compulsory credit requirement.

Course Descriptions for Native Studies

English: Contemporary Aboriginal Voices, Grade 11, University Preparation **NBE3U**

This course emphasizes the development of literacy, critical thinking, and communication skills through the study of works in English by Aboriginal writers. Through the analysis of texts, students will develop an appreciation of the wealth and complexity of Aboriginal writing. Students will conduct research and analyse the information gathered; write persuasive and literary essays; and analyse the relationship between media forms and audiences. An important focus will be the further development of students' understanding of English-language usage and conventions.

Current Aboriginal Issues in Canada, Grade 11, University/College Preparation **NDA3M**

This course focuses on existing and emerging issues of importance to Aboriginal peoples in Canada. Students will investigate issues related to identity, relationships among Aboriginal peoples and between Aboriginal peoples and other Canadians, sovereignty principles as presented by Aboriginal peoples, and the contemporary challenges posed by these issues. Students will also examine such topics as language preservation, the responsibilities of Aboriginal women and men, and the need for dialogue between Aboriginal and non-Aboriginal peoples.

Aboriginal Beliefs, Values, and Aspirations in Contemporary Society, Grade 11, College Preparation **NBV3C**

This course focuses on the beliefs, values, and aspirations of Aboriginal peoples in Canada. Students will examine world views of Aboriginal peoples and political, economic, cultural, and social challenges facing individuals and communities. Students will also learn how traditional and contemporary beliefs and values influence the aspirations and actions of Aboriginal peoples.

English: Contemporary Aboriginal Voices, Grade 11, College Preparation **NBE3C**

This course emphasizes the development of literacy, critical thinking, and communication skills through the study of works in English by Aboriginal writers. Students will study the content, form, and style of informational texts and literary works, and will develop an appreciation of the wealth and complexity of Aboriginal writing. They will write reports, correspondence, and persuasive essays and analyse the relationship between media forms and audiences. An important focus will be on establishing appropriate voice and using business and technical language with precision and clarity.

Aboriginal Beliefs, Values, and Aspirations in Contemporary Society, Grade 11, Workplace Preparation **NBV3E**

This course focuses on the beliefs, values, and aspirations of Aboriginal peoples in Canada. Students will examine issues of identity facing Indian, Métis, and Inuit peoples, and their relationships to land and nature, as well as to one another within their communities and working environments. Students will also learn how traditional and contemporary beliefs and values influence the present-day aspirations and actions of Aboriginal peoples.

English: Contemporary Aboriginal Voices, Grade 11, Workplace Preparation **NBE3E**

This course emphasizes the development of literacy, critical thinking, and communication skills through the study of works in English by Aboriginal writers. Students will study the content, form, and style of informational texts and literary works, and will develop an appreciation of the wealth and complexity of Aboriginal writing. Students will write explanations, letters, and reports; and investigate the connections between media forms and audiences. An important focus will be on using language clearly, accurately, and effectively in a variety of contexts.

Aboriginal Governance: Emerging Directions, Grade 12, University/College Preparation **NDG4M**

This course investigates how Aboriginal governments exercise authority and demonstrate responsibilities associated with governance in Canada. Students will explore Aboriginal world views regarding identity, relationships among Aboriginal peoples and between Aboriginal peoples and other Canadians, and Aboriginal definitions of sovereignty. Students will also compare traditional and contemporary forms of Aboriginal governance and will examine Aboriginal and Canadian relations, focusing on empowerment and the inherent right to self-government.

Aboriginal Issues in a Global Context, Grade 12, University/College Preparation **NDW4M**

This course provides students with an overview of the issues and challenges that confront Aboriginal peoples worldwide. Students will develop an understanding of the concerns and aspirations of the world's Aboriginal population, plan and conduct research on global issues that have an impact on Aboriginal peoples, and use information technology to consult materials related to the views of Aboriginal peoples throughout the world.

SCIENCE

Courses in Science, Grades 11 and 12

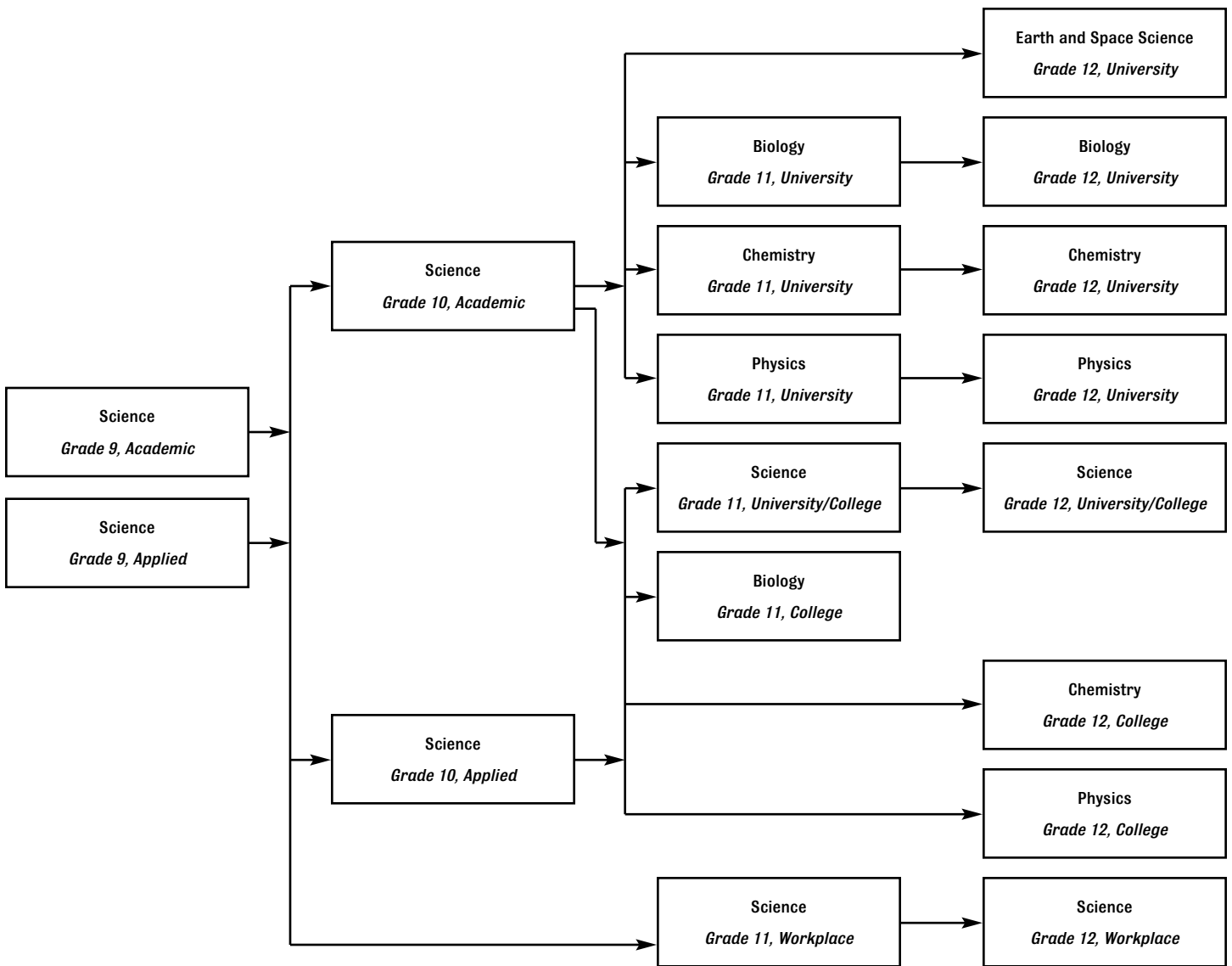
Grade	Course Name	Course Type	Course Code	Prerequisite
Biology				
11	Biology	University	SBI3U	Grade 10 Science, Academic
11	Biology	College	SBI3C	Grade 10 Science, Academic or Applied
12	Biology	University	SBI4U	Grade 11 Biology, University
Chemistry				
11	Chemistry	University	SCH3U	Grade 10 Science, Academic
12	Chemistry	University	SCH4U	Grade 11 Chemistry, University
12	Chemistry	College	SCH4C	Grade 10 Science, Academic or Applied
Earth and Space Science				
12	Earth and Space Science	University	SES4U	Grade 10 Science, Academic
Physics				
11	Physics	University	SPH3U	Grade 10 Science, Academic
12	Physics	University	SPH4U	Grade 11 Physics, University
12	Physics	College	SPH4C	Grade 10 Science, Academic or Applied
Science				
11	Science	University/College	SNC3M	Grade 10 Science, Academic or Applied
11	Science	Workplace	SNC3E	Grade 9 Science, Academic or Applied

Grade	Course Name	Course Type	Course Code	Prerequisite
12	Science	University/College	SNC4M	Grade 11 Science, University/College
12	Science	Workplace	SNC4E	Grade 11 Science, Workplace

Note: Each of the courses listed above is worth one credit.

Prerequisite Chart for Science

This chart maps out all the courses in the discipline and shows the link between courses and the possible prerequisites for them. It does not attempt to depict all possible movements from course to course.



Course Descriptions for Science

Biology

Biology, Grade 11, University Preparation

SBI3U

This course furthers students' understanding of the processes involved in biological systems. Students will study cellular functions, genetic continuity, internal systems and regulation, the diversity of living things, and the anatomy, growth, and functions of plants. The course focuses on the theoretical aspects of the topics under study, and helps students refine skills related to scientific investigation.

Biology, Grade 11, College Preparation

SBI3C

This course focuses on the processes involved in biological systems. Students will learn concepts and theories as they conduct investigations in the areas of cellular biology, microbiology, animal anatomy and physiology, plant structure and physiology, and environmental science. Emphasis will be placed on the practical application of concepts and skills needed for further study in the various branches of life sciences and related fields.

Biology, Grade 12, University Preparation

SBI4U

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

Chemistry

Chemistry, Grade 11, University Preparation

SCH3U

This course focuses on the concepts and theories that form the basis of modern chemistry. Students will study the behaviours of solids, liquids, gases, and solutions; investigate changes and relationships in chemical systems; and explore how chemistry is used in developing new products and processes that affect our lives and our environment. Emphasis will also be placed on the importance of chemistry in other branches of science.

Chemistry, Grade 12, University Preparation

SCH4U

This course enables students to deepen their understanding of chemistry through the study of organic chemistry, energy changes and rates of reaction, chemical equilibrium, atomic and molecular structure, and electrochemistry. Students will further develop problem-solving and laboratory skills as they investigate chemical processes, at the same time refining their ability to communicate scientific information. Emphasis will be placed on the importance of chemistry in daily life, and on evaluating the impact of chemical technology on the environment.

Chemistry, Grade 12, College Preparation**SCH4C**

This course introduces students to the concepts that form the basis of modern chemistry. Students will study qualitative analysis, quantitative relationships in chemical reactions, organic chemistry and electrochemistry, and chemistry as it relates to the quality of the environment. Students will employ a variety of laboratory techniques, develop skills of 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 in the development of new technologies and products.

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

This course focuses on the basic concepts and theories of Earth and space science, and their relevance to everyday life. Students will first study the origin and evolution of the universe, and then explore the materials and the internal and surficial processes of the Earth as they study the planet's history. The course draws on biology, chemistry, mathematics, and physics in its consideration of geological processes that can be observed directly or inferred from geological evidence.

Physics**Physics, Grade 11, University Preparation****SPH3U**

This course develops students' understanding of the basic concepts of physics. Students will study the laws of dynamics and explore different kinds of forces, the quantification and forms of energy (mechanical, sound, light, thermal, and electrical), and the way energy is transformed and transmitted. They will develop scientific-inquiry skills as they verify accepted laws and solve both assigned problems and those emerging from their investigations. Students will also analyse the interrelationships between physics and technology, and consider the impact of technological applications of physics on society and the environment.

Physics, Grade 12, University Preparation**SPH4U**

This course enables students to deepen their understanding of the concepts and theories of physics. Students will explore further the laws of dynamics and energy transformations, and will investigate electrical, gravitational, and magnetic fields; electromagnetic radiation; and the interface between energy and matter. They will further develop inquiry skills, learning, for example, how the interpretation of experimental data can provide indirect evidence to support the development of a scientific model. Students will also consider the impact on society and the environment of technological applications of physics.

Physics, Grade 12, College Preparation**SPH4C**

This course develops students' understanding of the basic concepts of physics. Students will explore these concepts as they relate to mechanical, electrical, fluid (hydraulic and pneumatic), and communications systems, as well as to the operation of commonly used tools and equipment. They will develop scientific-inquiry skills as they verify accepted laws of physics and solve both assigned problems and those emerging from their investigations. Students will also consider the impact of technological applications of physics on society and the environment.

Science**Science, Grade 11, University/College Preparation****SNC3M**

This course enables students, including those who do not intend to pursue science-related programs at the postsecondary level, to increase their understanding of science and its technological applications. Students will explore a range of topics, including the safe use of everyday chemicals; the science of nutrition and body function; waste management; the application of scientific principles in space; and technologies in everyday life. Emphasis will be placed on the role of science and technology in daily life and in relation to social and environmental issues.

Science, Grade 11, Workplace Preparation**SNC3E**

This course provides students with the science-related knowledge and skills they need to help them make informed decisions in the workplace and in their personal lives. Students will explore a range of topics, including materials and safety; electrical circuits; micro-organisms; the human immune system and defences against disease; and the impact of technology on the environment. Emphasis is placed on relating these topics directly to students' experiences both in the world of work and in daily life.

Science, Grade 12, University/College Preparation**SNC4M**

This course enables students, including those who do not intend to pursue science-related programs at the postsecondary level, to further develop their understanding of science and its technological applications. Students will explore a range of topics, including organic products in everyday life; pathogens and disease; energy alternatives and their impact globally; communication systems; and contemporary scientific discoveries and dilemmas. Emphasis will be placed on relating these topics to global issues as well as to daily life, and on developing skills in the areas of experimentation, research, critical thinking, and analysis.

Science, Grade 12, Workplace Preparation**SNC4E**

This course provides students with the science-related knowledge and skills they need to help them make informed decisions in the workplace and in their personal lives. Students will explore a range of topics, including chemistry at home and at work; communications technology; medical technology; horticulture, forestry, and gardening; and alternative life-sustaining environments. Emphasis is placed on relating these topics directly to students' experiences both in the world of work and in daily life.

SOCIAL SCIENCES AND HUMANITIES

Courses in Social Sciences and Humanities, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
Family Studies				
11	Living and Working With Children	College	HPW3C	None
11	Managing Personal and Family Resources	College	HIR3C	None
11	Managing Personal Resources	Workplace	HIP3E	None
11	Fashion and Creative Expression	Open	HNA3O	None
11	Living Spaces and Shelter	Open	HLS3O	None
11	Parenting	Open	HPC3O	None
12	Food and Nutrition Sciences	University/College	HFA4M	Any university, university/college, or college preparation course in social sciences and humanities, English, or Canadian and world studies
12	Individuals and Families in a Diverse Society	University/College	HHS4M	Any university, university/college, or college preparation course in social sciences and humanities, English, or Canadian and world studies
12	Issues in Human Growth and Development	University/College	HHG4M	Any university, university/college, or college preparation course in social sciences and humanities, English, or Canadian and world studies

Grade	Course Name	Course Type	Course Code	Prerequisite
12	Parenting and Human Development	Workplace	HPD4E	None
12	The Fashion Industry	Open	HNB4O	None
General Social Science				
11	Introduction to Anthropology, Psychology, and Sociology	University/College	HSP3M	None
12	Challenge and Change in Society	University/College	HSB4M	Any university, university/college, or college preparation course in social sciences and humanities, English, or Canadian and world studies
Philosophy				
11	Philosophy: The Big Questions	Open	HZB3O	None
12	Philosophy: Questions and Theories	University	HZT4U	Any university or university/college preparation course in social sciences and humanities, English, or Canadian and world studies
World Religions				
11	World Religions: Beliefs, Issues, and Religious Traditions	University/College	HRT3M	None
11	World Religions: Beliefs and Daily Life	Open	HRW3O	None

Note: Each of the courses listed above is worth one credit.

Course Descriptions for Social Sciences and Humanities

Family Studies

Living and Working With Children, Grade 11, College Preparation

HPW3C

This course focuses on the well-being of children in families and community settings. Students will study child behaviour and child development in the context of relationships with parents and others in the community, and will learn through research and by observing and interacting with children. This course prepares students for further study of children, familiarizes them with occupational opportunities related to working with children, and introduces them to skills used in researching and investigating children's behaviour in response to others.

Managing Personal and Family Resources, Grade 11, College Preparation

HIR3C

This course explores how to use human, material, and community resources effectively, and how to make informed choices with respect to clothing purchases, finance, food and nutrition, housing, and transportation. Students will learn about the dynamics of human interaction; how to make responsible choices in their transition to postsecondary education and careers; and strategies to enable them to manage time, talent, and money effectively. This course also introduces students to skills used in researching and investigating resource management.

Managing Personal Resources, Grade 11, Workplace Preparation

H1P3E

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.

Fashion and Creative Expression, Grade 11, Open

HNA3O

This course explores what clothing communicates about the wearer and how it becomes a creative and entrepreneurial outlet through the design and production processes. Students will learn, through practical experiences, about the nature of fashion design; the characteristics of fibres and fabrics; the construction, production, and marketing of clothing; and how to plan and care for a wardrobe that is appropriate for an individual's appearance, activities, employment, and lifestyle. Students will develop research skills as they explore the evolution of fashion and its relationship to society, culture, and individual psychology.

Living Spaces and Shelter, Grade 11, Open

HLS3O

This course analyses how different types of living spaces and forms of shelter meet people's physical, social, emotional, and cultural needs and reflect society's values, established patterns of living, and economic and technological developments. Students will learn how to make practical decisions about where to live and how to create functional and pleasing environments, and will explore occupational opportunities related to housing and design. They will also learn skills used in researching and investigating living accommodations and housing.

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.

Food and Nutrition Sciences, Grade 12, University/College Preparation**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.

**Individuals and Families in a Diverse Society, Grade 12,
University/College Preparation****HHS4M**

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.

**Issues in Human Growth and Development, Grade 12,
University/ College Preparation****HHG4M**

This course offers a multidisciplinary approach to the study of human development throughout the life cycle, with particular emphasis on enhancing growth and development. Students will examine how early brain and child development are linked to lifelong learning, health, and well-being, and will develop child-care and human-relationship skills through practical experience in a community setting. This course also refines students' skills used in researching and investigating issues related to human growth and development.

Parenting and Human Development, Grade 12, Workplace Preparation**HPD4E**

This course prepares students for occupations involving older children, and for the responsibility of parenting, with emphasis on school-age and adolescent children. Students will learn, through practical experience in the community, how early child development affects later development, success in school, and personal and social well-being throughout life, and how children and parents change over time. This course also develops students' skills in researching and investigating various aspects of parenting and human development.

The Fashion Industry, Grade 12, Open**HNB40**

This course provides a historical perspective on fashion and design, exploring the origins, influence, and importance of fashion as an expression of national, cultural, religious, and personal identity. Students will learn about the many facets of the Canadian fashion industry, including both large-scale and small entrepreneurial enterprises, and its worldwide links, as well as gaining practical experience in garment design, production, and care. This course also refines students' skills used in researching and investigating various aspects of the fashion industry.

General Social Science**Introduction to Anthropology, Psychology, and Sociology, Grade 11, University/College Preparation****HSP3M**

This course introduces the theories, questions, and issues that are the major concerns of anthropology, psychology, and sociology. Students will develop an understanding of the way social scientists approach the topics they study and the research methods they employ. Students will be given opportunities to explore theories from a variety of perspectives and to become familiar with current thinking on a range of issues that have captured the interest of classical and contemporary social scientists in the three disciplines.

Challenge and Change in Society, Grade 12, University/College Preparation**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.

Philosophy**Philosophy: The Big Questions, Grade 11, Open****HZB3O**

This course addresses three (or more) of the following questions: What is a person? What is a meaningful life? What are good and evil? What is a just society? What is human knowledge? How do we know what is beautiful in art, music, and literature? Students will learn critical-thinking skills in evaluating philosophical arguments related to these questions, as well as skills used in researching and investigating various topics in philosophy.

Philosophy: Questions and Theories, Grade 12, University Preparation**HZT4U**

This course addresses three (or more) of the main areas of philosophy: metaphysics, logic, epistemology, ethics, social and political philosophy, and aesthetics. Students will learn critical-thinking skills, the main ideas expressed by philosophers from a variety of the world's traditions, how to develop and explain their own philosophical ideas, and how to apply those ideas to contemporary social issues and personal experiences. The course will also help students refine skills used in researching and investigating topics in philosophy.

World Religions

World Religions: Beliefs, Issues, and Religious Traditions, Grade 11, University/College Preparation

HRT3M

This course enables students to discover what others believe and how they live, and to appreciate their own unique heritage. Students will learn about the teachings and traditions of a variety of religions, the connections between religion and the development of civilizations, the place and function of religion in human experience, and the influence of a broad range of religions on contemporary society. This course also introduces students to skills used in researching and investigating world religions.

World Religions: Beliefs and Daily Life, Grade 11, Open

HRW3O

This course introduces students to the range and diversity of world religions, and examines how systems of belief affect individual lives and social relationships. Students will learn about a variety of religious beliefs, teachings, traditions, and practices. The course also helps students to develop skills used in researching and investigating topics related to world religions.

TECHNOLOGICAL EDUCATION

Courses in Technological Education, Grades 11 and 12

Grade	Course Name	Course Type	Course Code	Prerequisite
PART A: BROAD-BASED TECHNOLOGY				
Communications Technology				
11	Communications Technology	University/College	TGJ3M	None
11	Communications Technology	Workplace	TGJ3E	None
12	Communications Technology	University/College	TGJ4M	Grade 11 Communications Technology, University/College
12	Communications Technology	Workplace	TGJ4E	Grade 11 Communications Technology, Workplace
Construction Technology				
11	Construction Technology	College	TCJ3C	None
11	Construction Technology	Workplace	TCJ3E	None
12	Construction Technology	College	TCJ4C	Grade 11 Construction Technology, College
12	Construction Technology	Workplace	TCJ4E	Grade 11 Construction Technology, Workplace
Health and Personal Services				
11	Health Care	College	TPA3C	None
11	Hairstyling and Aesthetics	Workplace	TPE3E	None
12	Child Development and Gerontology	College	TPO4C	None
12	Medical Technologies	College	TPT4C	Grade 11 Health Care, College

Grade	Course Name	Course Type	Course Code	Prerequisite
12	Hairstyling and Aesthetics	Workplace	TPE4E	Grade 11 Hairstyling and Aesthetics, Workplace
Hospitality and Tourism				
11	Hospitality	College	TFT3C	None
11	Hospitality and Tourism	Workplace	TFH3E	None
12	Tourism	College	TFT4C	None
12	Hospitality and Tourism	Workplace	TFH4E	Grade 11 Hospitality and Tourism, Workplace
Manufacturing Technology				
11	Manufacturing Engineering Technology	College	TMJ3C	None
11	Manufacturing Technology	Workplace	TMJ3E	None
12	Manufacturing Engineering Technology	College	TMJ4C	Grade 11 Manufacturing Engineering Technology, College
12	Manufacturing Technology	Workplace	TMJ4E	Grade 11 Manufacturing Technology, Workplace
Technological Design				
11	Technological Design	University/College	TDJ3M	None
11	Technological Design	Workplace	TDJ3E	None
12	Technological Design	University/College	TDJ4M	Grade 11 Technological Design, University/College
12	Technological Design	Workplace	TDJ4E	Grade 11 Technological Design, Workplace

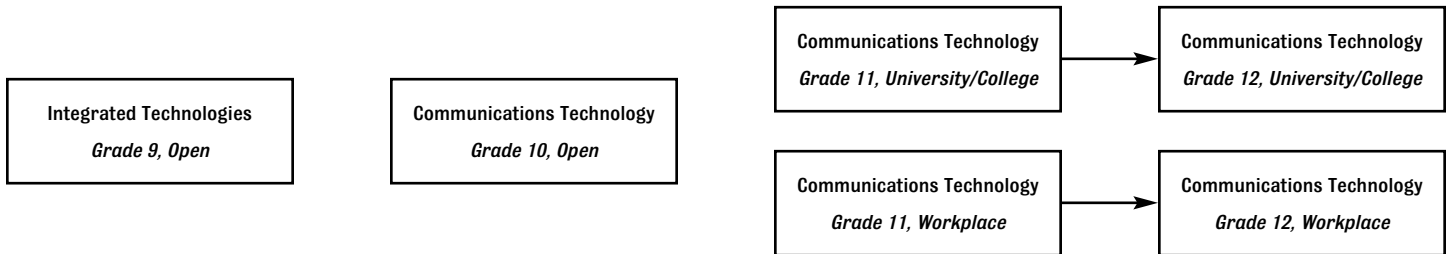
Grade	Course Name	Course Type	Course Code	Prerequisite
Transportation Technology				
11	Transportation Technology	College	TTJ3C	None
11	Transportation Technology	Workplace	TTJ3E	None
12	Transportation Technology	College	TTJ4C	Grade 11 Transportation Technology, College
12	Transportation Technology	Workplace	TTJ4E	Grade 11 Transportation Technology, Workplace
PART B: COMPUTER STUDIES				
Computer and Information Science				
11	Computer and Information Science	University/College	ICS3M	None
12	Computer and Information Science	University/College	ICS4M	Grade 11 Computer and Information Science, University/College
Computer Engineering				
11	Computer Engineering	University/College	ICE3M	None
11	Computer Engineering	Workplace	ICE3E	None
12	Computer Engineering	University/College	ICE4M	Grade 11 Computer Engineering, University/College, or Grade 11 Computer and Information Science, University/College
12	Computer Engineering	Workplace	ICE4E	Grade 11 Computer Engineering. Workplace

Note: Each of the courses listed above is worth one credit. Courses that lead to apprenticeship, however, may be planned for more than 110 hours of scheduled instructional time, to allow for the practice and refinement of skills needed to achieve performance levels required for certification or entry into apprenticeship programs. For each 55-hour increment, students earn an additional half-credit. The number of additional credits and the nature of the assignments to be completed must be established before the start of the course.

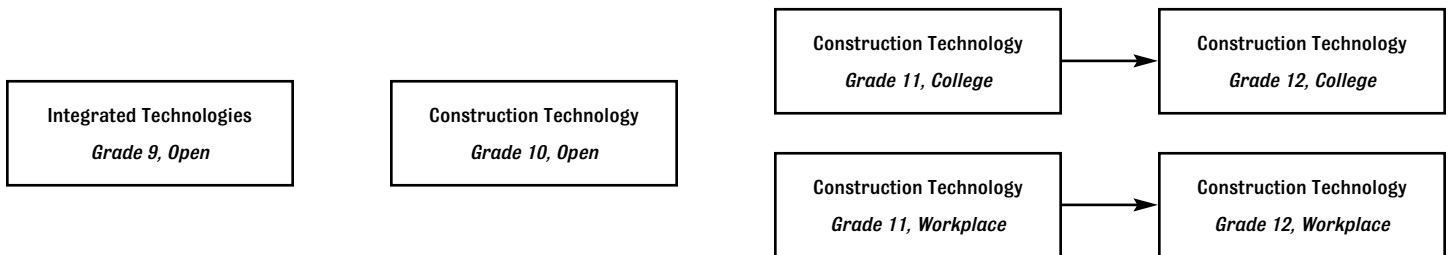
Prerequisite Charts for Technological Education, Part A: Broad-based Technology

These charts map out all the courses in the discipline and show the link between courses and the possible prerequisites for them. They do not attempt to depict all possible movements from course to course.

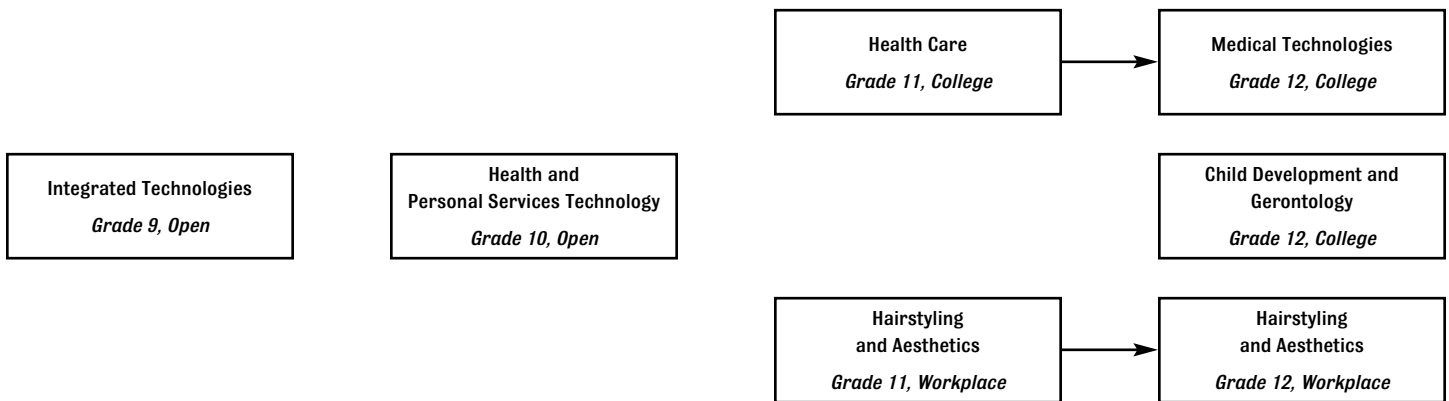
Communications Technology



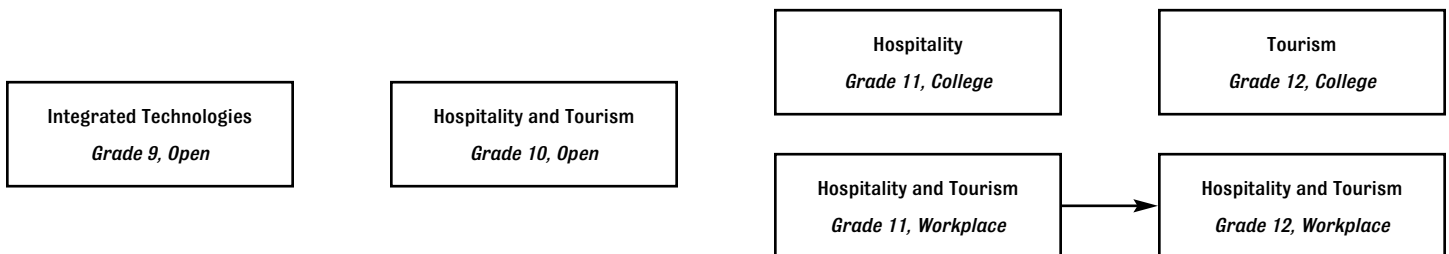
Construction Technology



Health and Personal Services



Hospitality and Tourism



Prerequisite Charts for Technological Education, Part A: Broad-based Technology (cont.)

Manufacturing Technology

Integrated Technologies
Grade 9, Open

Manufacturing Technology
Grade 10, Open

Manufacturing Engineering
Technology
Grade 11, College

Manufacturing Engineering
Technology
Grade 12, College

Manufacturing Technology
Grade 11, Workplace

Manufacturing Technology
Grade 12, Workplace

Technological Design

Integrated Technologies
Grade 9, Open

Technological Design
Grade 10, Open

Technological Design
Grade 11, University/College

Technological Design
Grade 12, University/College

Technological Design
Grade 11, Workplace

Technological Design
Grade 12, Workplace

Transportation Technology

Integrated Technologies
Grade 9, Open

Transportation Technology
Grade 10, Open

Transportation Technology
Grade 11, College

Transportation Technology
Grade 12, College

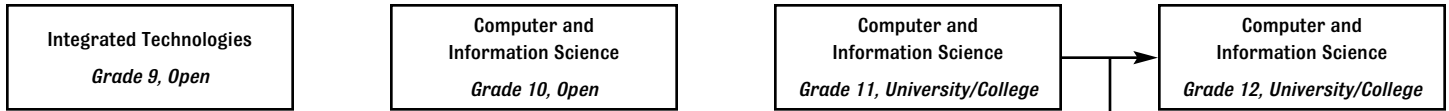
Transportation Technology
Grade 11, Workplace

Transportation Technology
Grade 12, Workplace

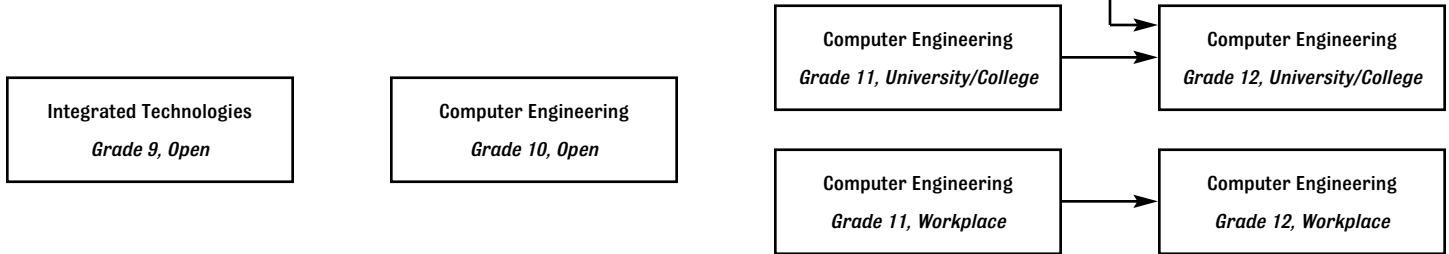
Prerequisite Charts for Technological Education, Part B: Computer Studies

These charts map out all the courses in the discipline and show the link between courses and the possible prerequisites for them. They do not attempt to depict all possible movements from course to course.

Computer and Information Science



Computer Engineering



Course Descriptions for Technological Education, Part A: Broad-based Technology

Communications Technology

Communications Technology, Grade 11, University/College Preparation TGJ3M

This course examines communications systems and design and production processes in one or more of the areas of electronic, live, and graphic communications. Students will develop knowledge and skills relating to the assembly, maintenance, and repair of the basic and more complex components of a range of communications systems. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment.

Communications Technology, Grade 11, Workplace Preparation TGJ3E

This course examines communications systems and design and production processes in one or more of the areas of electronic, live, and graphic communications. Students will learn how basic communication systems function and will develop the knowledge and skills needed to assemble, repair, maintain, and test various systems. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment.

Communications Technology, Grade 12, University/College Preparation TGJ4M

This course examines communications systems and design and production processes in one or more of the areas of electronic, live, and graphic communications. Students will independently create, manage, and distribute complex graphic, electronic, or audiovisual projects. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, and the impact of communications technology on society and the environment.

Communications Technology, Grade 12, Workplace Preparation TGJ4E

This course examines communications systems and design and production processes in one or more of the areas of electronic, live, and graphic communications. Students will develop the specialized knowledge and skills needed to diagnose and solve problems in a range of advanced communications systems, and to maintain and repair such systems. Students will also study industry standards and regulations and health and safety issues, and will explore careers, the importance of lifelong learning, business management and entrepreneurial opportunities, and the impact of communications technology on society and the environment.

Construction Technology

Construction Technology, Grade 11, College Preparation

TCJ3C

This course focuses on residential, commercial, industrial, and/or recreational construction. Students will learn about the tools, materials, equipment, and methods used in the light construction industry; structural analysis and design; presentation and working drawings; and mechanical systems. They will also estimate materials and labour costs, and study industry standards and building codes, health and safety issues, energy conservation, careers, and the impact of construction technology on society and the environment.

Construction Technology, Grade 11, Workplace Preparation

TCJ3E

This course focuses on residential, commercial, industrial, and/or recreational construction, emphasizing practical workplace applications, the development of generic employment skills, and preparation for apprenticeship and training programs. Students will learn about and gain practical experience with various types of materials, processes, labour, tools, and equipment used in the construction industry; technical drawings; and mechanical systems. They will also study industry standards and building codes, consider health and safety issues, and explore careers, the importance of lifelong learning, and the impact of construction technology on society and the environment.

Construction Technology, Grade 12, College Preparation

TCJ4C

This course focuses on residential, commercial, industrial, and/or recreational construction. Students will learn about the tools, materials, equipment, and methods used in the light and heavy construction industries; structural analysis and design; presentation and working drawings; and mechanical systems. They will also estimate materials and labour costs, study industry standards and building codes, consider health and safety issues, and explore energy conservation, careers, and the impact of construction technology on society and the environment.

Construction Technology, Grade 12, Workplace Preparation

TCJ4E

This course focuses on residential and heavy construction, emphasizing advanced practical workplace applications and the development of generic employment skills and independent learning skills. Students will examine the materials, processes, labour, tools, and equipment used in the construction industry; technical drawings; mechanical systems; and landscaping. They will also study industry standards and building codes, consider health and safety issues, and explore careers, lifelong learning opportunities, and the impact of construction technology on society and the environment.

Health and Personal Services

Health Care, Grade 11, College Preparation

TPA3C

This course focuses on human anatomy, body systems, and basic medical terminology. Students will learn about the relationship between lifestyle and personal health, and traditional and alternative methods of disease prevention and treatment. They will also investigate health care procedures and equipment in nursing, medicine, and dentistry; examine health and safety issues in health care and the environmental and societal impacts of biotechnology; and explore various career opportunities in the health care field.

Hairstyling and Aesthetics, Grade 11, Workplace Preparation

TPE3E

This course provides students with opportunities to learn techniques in hairstyling and aesthetics that meet industry standards, using appropriate materials and equipment. Students will identify trends in the hairstyling and aesthetics industry; describe scientific and physical processes used in beauty services; learn to respect environmental, health, and safety laws; and explore career opportunities. The course may focus on either hairstyling or aesthetics, or may include a combination of both areas.

Child Development and Gerontology, Grade 12, College Preparation

TPO4C

This course helps students understand and analyse the stages of development and needs of children and seniors. Students will master the basic skills required to meet these needs; acquire an awareness of legislation governing child and geriatric care; evaluate social and recreational activities for children and the elderly; and assess available facilities. Students will also examine career paths in child or geriatric care, the impact of technological developments on products and services, and health and safety laws.

Medical Technologies, Grade 12, College Preparation

TPT4C

This course focuses on human physiology, pathology, and immunology. Students will learn about accepted medical care practices, current technological advances in health care, and how to perform various procedures and use tools and equipment in the field of health care. Students will also design solutions to common medical and health care problems, investigate career opportunities, and examine laws and safety standards in the health care industry and the impact of this industry on the environment.

Hairstyling and Aesthetics, Grade 12, Workplace Preparation

TPE4E

This course builds on the Grade 11 course to provide a solid foundation for students wishing to pursue a career in cosmetology. Students will continue to develop practical skills and knowledge pertaining to the beauty industry. They will also gain an awareness of the entrepreneurial skills required to own and operate a salon. The course may focus on either hairstyling or aesthetics, or may include a combination of both areas.

Hospitality and Tourism

Hospitality, Grade 11, College Preparation

TFT3C

This course helps students understand the features, trends, and guidelines of the hospitality industry, as well as learn the basic requirements of serving customers. Students will acquire skills related to advanced methods of preparing and presenting food, evaluating facilities, controlling inventory, and marketing special events. They will also learn about economic and environmental impacts, health and safety standards, and career opportunities related to the hospitality industry.

Hospitality and Tourism, Grade 11, Workplace Preparation

TFH3E

This course focuses on food preparation and management, and hospitality and tourism activities, equipment, and facilities. Students will learn how to prepare, present, and serve food; plan, manage, and promote activities; and use the necessary equipment. Throughout the course, they will learn the fundamentals of providing high-quality service and customer satisfaction. Students will also study the occupational health and safety standards and laws regulating the hospitality and tourism industry, explore the industry's social and environmental impacts, and identify possible career paths.

Tourism, Grade 12, College Preparation

TFT4C

This course provides students with opportunities to analyse the characteristics and standards of the tourism industry, determine the factors that promote its success, and investigate principles and procedures that contribute to high-quality customer service. Students will also assess facilities and activities that attract tourists, and study communication and customer service techniques. In addition to exploring career opportunities, students will analyse the relationship between tourism and the economy and propose ways to enhance the performance of the industry.

Hospitality and Tourism, Grade 12, Workplace Preparation

TFH4E

This course focuses on advanced food preparation and presentation skills; event and activity planning; the equipment and facilities used in the hospitality and tourism industry; and tourist attractions. Students will study the nutritional value of foods, plan menus and recipes, develop management techniques, design and implement an event, and learn effective communication skills. They will also explore careers, the impact of the hospitality and tourism industry on society and the environment, and health and safety standards in the workplace.

Manufacturing Technology

Manufacturing Engineering Technology, Grade 11, College Preparation

TMJ3C

This course focuses on design principles; electronic, pneumatic, and hydraulic control systems; and traditional and advanced manufacturing processes. Students will solve problems and make the critical decisions necessary to develop efficient production systems. They will also study the broad range of career opportunities available in the manufacturing sector and their educational requirements, and will research the scope of the manufacturing industry and the impact of its products on individuals, society, and the environment.

Manufacturing Technology, Grade 11, Workplace Preparation**TMJ3E**

This course helps clarify for young people the broad range of career opportunities available within the manufacturing sector. Students will acquire design and fabrication skills using a variety of materials, tools, equipment, and processes, and will construct products that adhere to design specifications and meet quality control standards. In addition to developing employability and technical skills, students will develop an understanding of the impact of the manufacturing sector on consumers, society, and the environment.

Manufacturing Engineering Technology, Grade 12, College Preparation**TMJ4C**

This course focuses on advanced manufacturing and engineering and provides students with an opportunity to develop specialized knowledge and skills used in sophisticated production processes. Students will solve problems, make the decisions necessary to develop a product for manufacture, and examine production methods, quality control systems, and environmental and societal impacts.

Manufacturing Technology, Grade 12, Workplace Preparation**TMJ4E**

This course focuses on drafting and design, machining, welding, computer numerical control (CNC), computer-assisted machining (CAM), motor control, hydraulic control, pneumatic control, and computer control. Students will use sophisticated design and manufacturing systems to design and fabricate tooling, to program CNC equipment, and to design and build solutions to technological challenges in manufacturing.

Technological Design**Technological Design, Grade 11, University/College Preparation****TDJ3M**

This course provides students with opportunities to apply the principles of technological design to challenges in communications, manufacturing, electronics, transportation, architecture, industrial and consumer products, health and safety equipment, and environmental services. Students will identify user needs, estimate labour and material costs, analyse material characteristics, and illustrate design solutions, using traditional and computer-based methods. They will also acquire the basic design skills required for postsecondary studies in engineering, manufacturing, architecture, and construction.

Technological Design, Grade 11, Workplace Preparation**TDJ3E**

This course provides students with opportunities to apply the principles of basic design to technological challenges in industry, engineering, architecture, manufacturing, and graphics. Students will develop problem-solving and design skills through the use of technical drawings and illustrations, model building, testing, and marketing. They will also become aware of consumer, business, and environmental issues in the creation and marketing of products or services, and the educational requirements of design-related careers.

Technological Design, Grade 12, University/College Preparation **TDJ4M**

This course provides students with opportunities to solve problems in design through the use of technical drawings, model building, testing, and marketing. Students will research, design, and test solutions for residential or commercial architecture, industrial engineering, and manufacturing. They will also examine the educational requirements of a technical-design-related career in engineering, architecture, or industrial design.

Technological Design, Grade 12, Workplace Preparation **TDJ4E**

This course helps students develop a systematic process to design products or services based on an understanding and analysis of consumer needs, material characteristics, fabrication methods, and design principles. Students will develop design briefs, conduct marketing surveys, create freehand and computer-generated illustrations, make models, generate technical reports, design packaging, and become aware of design trends. They will also examine careers and small business opportunities in design, architecture, manufacturing, or marketing.

Transportation Technology

Transportation Technology, Grade 11, College Preparation **TTJ3C**

This course examines the infrastructure required for the operation of land, air, and/or marine vehicles. Students will design, construct, and modify vehicles, and apply safe work practices and procedures using current technology. They will also develop effective communication and teamwork skills when developing solutions to managing vehicle support systems; investigate the educational requirements for career opportunities in the transportation sector; and analyse the impact of transportation technology on society and the environment.

Transportation Technology, Grade 11, Workplace Preparation **TTJ3E**

This course examines the various types of land, air, and/or marine vehicles and vehicle systems found within the transportation sector. Students will acquire identification, troubleshooting, repairing, and testing skills that meet industry standards and government regulations. In addition to developing employability and technical skills, they will explore the broad range of career opportunities within this sector, and will examine the impact of the transportation sector on people, society, and the environment.

Transportation Technology, Grade 12, College Preparation **TTJ4C**

This course examines the alternative modes of mass transit to enable students to develop the specialized knowledge and skills required to work with sophisticated land, air, and/or marine vehicles and transportation systems. Students will solve problems related to vehicles and transportation systems; examine transportation-related issues such as energy conversion, power transfer, control systems, and environmental and societal impact; and investigate the educational requirements of career opportunities in the transportation sector.

Transportation Technology, Grade 12, Workplace Preparation**TTJ4E**

This course examines the commonalities of land, air, and/or marine vehicles and transportation systems. Students will develop safe workplace habits and business management skills and will use diagnostic, hand, and power tools effectively to service and repair vehicles to meet industry standards and safety inspections. They will also research the entry requirements for apprenticeship training programs and develop the employability and technical skills required for entry into the workplace.

**Course Descriptions for Technological Education, Part B:
Computer Studies***Computer and Information Science***Computer and Information Science, Grade 11, University/College Preparation****ICS3M**

This course helps students examine computer science concepts. Students will outline stages in software development, define standard control and data structures, identify on- and off-line resources, explain the functions of basic computer components, and develop programming and problem-solving skills by using operating systems and implementing defined practices. As well as identifying careers in computer science, students will develop an understanding of the ethical use of computers and the impact of emergent technologies on society.

Computer and Information Science, Grade 12, University/College Preparation**ICS4M**

This course helps students use programming and software engineering principles to design and develop algorithms and programs. Students will use software development and diagnostic tools, implement data structures and algorithms, and use file management techniques in project settings. They will also develop an understanding of the ethics of computer use and the impact of information technology on the community, and will explore postsecondary education and career paths in computer science.

*Computer Engineering***Computer Engineering, Grade 11, University/College Preparation****ICE3M**

This course helps students understand how computer hardware and software are used to solve computer-related problems from an engineering perspective. Students will explore ways of connecting computers, interfaces, and peripherals using their knowledge of logic gates, computer components, peripherals, programming, networks, and operating systems. Students will also construct systems that use computer programs to interact with hardware, install and configure key computer hardware and software components, develop an understanding of the ethical use of computers, and explore careers in computer engineering.

Computer Engineering, Grade 11, Workplace Preparation**ICE3E**

This course helps students develop a practical understanding of hardware and software operations, computer networks, and operating systems. Students will learn to use utility and application software and to install, maintain, and troubleshoot computer systems and networks following proper maintenance and repair procedures. In addition to developing an understanding of the ethical use of computers, students will identify engineering career opportunities and the skill sets required for the workplace, including good customer service practices.

Computer Engineering, Grade 12, University/College Preparation**ICE4M**

This course helps students understand and apply computer engineering concepts. Students will analyse and design computer components such as logic circuits and interfaces; develop and construct systems and write the associated computer programs to drive real-world devices such as traffic lights, models, and robots; and explore networking hardware, protocols, and configurations. As well as developing project management skills, students will examine the ethics of computer use and explore related educational requirements and careers.

Computer Engineering, Grade 12, Workplace Preparation**ICE4E**

This course helps students understand network topologies (how computers are connected in networks) and associated hardware, and gain practical knowledge of hardware and software operations and trends. Students will install and maintain computer systems and networks, and diagnose and solve problems in them; develop maintenance and repair protocols; and customize utility and application software to meet user needs. As well as developing skills to communicate with customers, students will examine computer ethics and identify skill requirements for computer support positions.

