

The Sycamore School

Grade 12 Course Offerings



CURRICULUM STREAM	GRADE 12 COURSE DESCRIPTIONS
<p>ENGLISH</p> <p><input checked="" type="checkbox"/></p> <p><i>Compulsory Credit Required for Graduation</i></p>	<p><input type="checkbox"/> English - Academic - University Preparation - ENG4U</p> <p>This course emphasizes the consolidation of the literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse a range of challenging literary texts from various periods, countries, and cultures; interpret and evaluate informational and graphic texts; and create oral, written, and media texts in a variety of forms. An important focus will be on using academic language coherently and confidently, selecting the reading strategies best suited to particular texts and particular purposes for reading, and developing greater control in writing. The course is intended to prepare students for university, college, or the workplace.</p> <p>Prerequisite: English, Grade 11, University Preparation</p> <p>OR</p> <p><input type="checkbox"/> English – College Preparation – ENG4C</p> <p>This course emphasizes the consolidation of literacy, communication, and critical and creative thinking skills necessary for success in academic and daily life. Students will analyse a variety of informational and graphic texts, as well as literary texts from various countries and cultures, and create oral, written, and media texts in a variety of forms for practical and academic purposes. An important focus will be on using language with precision and clarity and developing greater control in writing. The course is intended to prepare students for college or the workplace.</p> <p>Prerequisite: English, Grade 11, College Preparation</p>
GRADE 12 ELECTIVE COURSES	
<p>MATHEMATICS</p>	<p><input type="checkbox"/> Advanced Functions - University Preparation - MHF4U</p> <p>This course extends students' experience with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; develop techniques for combining functions; broaden their understanding of rates of change; and develop facility in applying these concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended both for students taking the Calculus and Vectors course as a prerequisite for a university program and for those wishing to consolidate their understanding of mathematics before proceeding to any one of a variety of university programs.</p> <p>Prerequisite: Functions, Grade 11, University Preparation, or Mathematics for College Technology, Grade 12, College Preparation</p> <p><input type="checkbox"/> Calculus and Vectors - University Preparation - MCV4U</p> <p>This course builds on students' previous experience with functions and their developing understanding of rates of change. Students will solve problems involving geometric and algebraic representations of vectors and representations of lines and planes in three-dimensional space; broaden their understanding of rates of change to include the derivatives of polynomial, sinusoidal, exponential, rational, and radical functions; and apply these concepts and skills to the modelling of real-world relationships. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended for students who choose to pursue careers in fields such as science, engineering, economics, and some areas of business, including those students who will be required to take a university-level calculus, linear algebra, or physics course.</p> <p>Note: The new Advanced Functions course (MHF4U) must be taken prior to or concurrently with Calculus and Vectors (MCV4U).</p>

MATHEMATICS

□ Mathematics of Data Management - University Preparation MDM4U

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

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

□ Foundations for College Mathematics - College Preparation - MAP4C

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

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

□ Mathematics for Work and Everyday Life - Workplace Preparation - MEL4E

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

Prerequisite: Mathematics for Work and Everyday Life, Grade 11, Workplace Preparation

□ The Writer's Craft - 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.

Prerequisite: English, Grade 11, University Preparation

□ Business and Technological Communication – Open - EBT4O

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.

Prerequisite: English, Grade 11, University Preparation, College Preparation, or Workplace Preparation

□ Ontario Secondary School Literacy Course - Open - OLC4O

This course is designed to help students acquire and demonstrate the cross-curricular literacy skills that are evaluated by the Ontario Secondary School Literacy Test (OSSLT). Students who complete the course successfully will meet the provincial literacy requirement for graduation. Students will read a variety of informational, narrative, and graphic texts and will produce a variety of forms of writing, including summaries, information paragraphs, opinion pieces, and news reports. Students will also maintain and manage a portfolio containing a record of their reading experiences and samples of their writing.

Eligibility requirement: Students who have been eligible to write the OSSLT at least twice and who have been unsuccessful at least once are eligible to take the course. (Students who have already met the literacy requirement for graduation may be eligible to take the course under special circumstances, at the discretion of the principal.)

ENGLISH

SCIENCES

Biology - University Preparation- SBI4U

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

Prerequisite: Biology, Grade 11, University Preparation

Chemistry - University Preparation- SCH4U

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

Prerequisite: Chemistry, Grade 11, University Preparation

Earth and Space Science - University Preparation - SES4U

This course develops students' understanding of Earth and its place in the universe. Students will investigate the properties of and forces in the universe and solar system and analyse techniques scientists use to generate knowledge about them. Students will closely examine the materials of Earth, its internal and surficial processes, and its geological history, and will learn how Earth's systems interact and how they have changed over time. Throughout the course, students will learn how these forces, processes, and materials affect their daily lives. The course draws on biology, chemistry, physics, and mathematics in its consideration of geological and astronomical processes that can be observed directly or inferred from other evidence.

Prerequisite: Science, Grade 10, Academic

Physics – University Preparation – SPH4U

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

Prerequisite: Physics, Grade 11, University Preparation

Science, Grade 12 University/College Preparation SNC4M

This course enables students, including those pursuing postsecondary programs outside the sciences, to increase their understanding of science and contemporary social and environmental issues in health-related fields. Students will explore a variety of medical technologies, pathogens and disease, nutritional science, public health issues, and biotechnology. The course focuses on the theoretical aspects of the topics under study and helps refine students' scientific investigation skills.

Prerequisite: Science, Grade 10, Academic, or any Grade 11 university, university/college, or college preparation course in science

Computer Studies

Computer Science - University Preparation - ICS4U

This course enables students to further develop knowledge and skills in computer science. Students will use modular design principles to create complex and fully documented programs, according to industry standards. Student teams will manage a large software development project, from planning through to project review. Students will also analyse algorithms for effectiveness. They will investigate ethical issues in computing and further explore environmental issues, emerging technologies, areas of research in computer science, and careers in the field.

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

INTERDISCIPLINARY STUDIES

□ Interdisciplinary Studies – Univ/College Prep - IDC4U

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

Prerequisites: for IDC4U, any university or university/college preparation course

**** See Interdisciplinary Studies List**

□ Interdisciplinary Studies – Univ/College Prep IDP4U

Project-based, hands-on application with Capstone Project

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

Prerequisites: for IDP4U, the prerequisite for each of the courses in the package

**** See Interdisciplinary Studies List**

THE ARTS

□ Exploring and Creating in the Arts - Open – AEA40

This course offers students the opportunity to explore connections between dance, drama, media arts, music, and/or visual arts. Students will use the creative process individually and/or collaboratively to produce integrated art works that draw on various disciplines, and they will critically analyse art works and determine how interpreting these works affects their own development. Students will develop responsible practices that are transferable beyond the classroom. They will explore solutions to integrated arts challenges and discover that art is everywhere, influencing and reflecting society.

Prerequisite: Any Grade 9 or 10 arts course

BUSINESS STUDIES

□ Business Leadership: Management Fundamentals - University/College Preparation - BOH4M

This course focuses on the development of leadership skills used in managing a successful business. Students will analyse the role of a leader in business, with a focus on decision making, management of group dynamics, workplace stress and conflict, motivation of employees, and planning. Effective business communication skills, ethics, and social responsibility are also emphasized.

Prerequisite: None

COOPERATIVE EDUCATION

□ Cooperative Education Linked to a Related Course/Courses

** A cooperative education course linked to a related course or courses does not have its own course code. It is recorded on the Provincial Report Card and the Ontario Student Transcript (OST) using the name(s) and course code(s) of the related course(s), with the term "(Co-op)" inserted after the course name. On the OST, the notation "C" is entered in the "Note" column*

This course consists of a learning experience connected to a community and a cooperative education curriculum that incorporates relevant expectations from the student's related course (or courses). Students will develop skills, knowledge, and habits of mind that will support them in their learning, including their education and career/life planning, at school and beyond, today and in the future. Within the context of their experience connected to a community, students will apply, extend, and refine skills and knowledge acquired in their related course or courses and will apply skills, knowledge, and habits of mind that will protect and promote their health, safety, and well-being. They will create and implement a learning plan that meets their particular interests and needs, reflect on their learning, and make connections between their experience in the community and other aspects of their lives.

Prerequisite: None

CANADIAN & WORLD STUDIES

World History Since the Fifteenth Century – Univ Preparation - CHY4U

This course traces major developments and events in world history since approximately 1450. Students will explore social, economic, and political changes, the historical roots of contemporary issues, and the role of conflict and cooperation in global interrelationships. They will extend their ability to apply the concepts of historical thinking and the historical inquiry process, including the interpretation and analysis of evidence, as they investigate key issues and ideas and assess societal progress or decline in world history.

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

Canadian and International Law - University Preparation - CLN4U

This course explores a range of contemporary legal issues and how they are addressed in both Canadian and international law. Students will develop an understanding of the principles of Canadian and international law and of issues related to human rights and freedoms, conflict resolution, and criminal, environmental, and workplace law, both in Canada and internationally. Students will apply the concepts of legal thinking and the legal studies inquiry process, and will develop legal reasoning skills, when investigating these and other issues in both Canadian and international contexts.

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

World Issues: A Geographic Analysis - University Preparation - CGW4U

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

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

Canadian and International Politics - University Preparation - CPW4U

This course explores various perspectives on issues in Canadian and world politics. Students will explore political decision making and ways in which individuals, stakeholder groups, and various institutions, including governments, multinational corporations, and non-governmental organizations, respond to and work to address domestic and international issues. Students will apply the concepts of political thinking and the political inquiry process to investigate issues, events, and developments of national and international political importance, and to develop and communicate informed opinions about them.

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

HEALTH & PHYSICAL EDUCATION

Healthy Active Living & Personal Fitness Activities - Open – PAF40

This course enables students to further develop the knowledge and skills they need to make healthy choices now and lead healthy, active lives in the future. Through participation in a wide range of physical activities and exposure to a broader range of activity settings, students enhance their movement competence, personal fitness, and confidence. Students also acquire an understanding of the factors and skills that contribute to healthy development and learn how their own well-being is affected by, and affects, the world around them. Students build their sense of self, learn to interact positively with others, and develop their ability to think critically and creatively.

Prerequisite: None

FIRST NATIONS, MÉTIS & INUIT STUDIES

Contemporary Indigenous Issues and Perspectives in a Global Context - University/College Preparation - NDW4M

This course examines global issues from the perspectives of Indigenous peoples. Students will explore the depth and diversity of Indigenous cultures, traditions, and knowledge. Students will consider how diverse Indigenous communities persevere despite current global environmental and economic trends, and will investigate topics such as identity, social justice, human rights, spirituality, resilience, and advocacy for change.

Prerequisite: Any Grade 11 university, university/college, or college preparation course in First Nations, Métis, and Inuit studies, Canadian and world studies, or social sciences and humanities

FIRST NATIONS, MÉTIS & INUIT STUDIES

☐ First Nations, Métis, and Inuit Governance in Canada - University/College Preparation- NDG4M

This course explores aspects of First Nations, Métis, and Inuit governance in Canada as well as laws, policies, and judicial decisions that have affected and continue to affect the lives of Indigenous peoples in this country. Students will investigate historical and contemporary relations between First Nations, Métis, and Inuit communities and colonial, federal, and provincial/territorial governments and will develop their understanding of Indigenous rights in Canada. Students will examine how traditional values and cultural practices inform models of Indigenous governance and leadership as they explore strategies being used to revitalize and strengthen First Nations, Métis, and Inuit sovereignty, self-governance, and self-determination in Canada.

Prerequisite: Any Grade 11 university, university/college, or college preparation course in First Nations, Métis, and Inuit studies, Canadian and world studies, or social sciences and humanities

GUIDANCE & CAREER EDUCATION

☐ Advanced Learning Strategies: GLS4O/GLE4O Skills for Success After Secondary School - Open

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

Prerequisite: For GLS4O – None For GLE4O and GLE3O – Recommendation of principal

☐ Navigating the Workplace – Open - GLN4O

This course provides students with opportunities to develop the workplace essential skills and work habits required for success in all types of workplaces. Students will explore occupations and careers of interest through participation in real workplace experiences. They will make plans for continued learning and work, work with others to design learning experiences, and investigate the resources and support required to make a smooth transition to their postsecondary destination.

Prerequisite: None

SOCIAL SCIENCES & HUMANITIES

☐ World Cultures - University/College Preparation HSC4M

This course examines the nature of culture; how cultural identities are acquired, maintained, and transformed; and theories used to analyse cultures. Students will explore world cultures, with an emphasis on the analysis of religious and spiritual beliefs, art forms, and philosophy. They will study the contributions and influence of a range of cultural groups and will critically analyse issues facing ethnocultural groups within Canada and around the world. Students will develop and apply research skills and will design and implement a social action initiative relating to cultural diversity.

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

☐ Human Development Throughout the Lifespan - University/College Preparation HHG4M

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

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

☐ Personal Life Management – Open - HIP4O

This course focuses on preparing students for living independently and working successfully with others. Students will learn to manage their personal resources to meet their basic needs for food, clothing, and housing. They will also learn about their personal, legal, and financial responsibilities and develop and apply interpersonal skills in order to make wise and responsible personal and occupational choices. Students will apply research and inquiry skills while investigating topics related to personal life management. The course emphasizes the achievement of expectations through practical experiences.

Prerequisite: None

Challenge and Change in Society - University Preparation - HSB4U

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

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

Philosophy: Questions and Theories - University Preparation - HZT4U

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

Prerequisite: Any university or university/college preparation course in social sciences and humanities, English, or Canadian and world studies * The course will consist of two mandatory strands – A: Research and Inquiry Skills, and B: Philosophical Foundations – and at least three strands covering specialized branches of philosophy, to be selected from strands C through H in the manner specified below. The knowledge and skills reflected in the mandatory strands are to be developed and applied in the context of the specialized branch strands. As shown in the accompanying figure, the course will cover: • at least two of strands C–E (Core Topics) – Metaphysics, Ethics, Epistemology; and • at least one of strands F–H (Supplementary Topics) – Philosophy of Science, Social and Political Philosophy, Aesthetics Teachers choose the strands that will be included in the course on the basis of their own strengths and the interests of their students.