



Pre-University Grade 12 Short Course Descriptions 2018-2019

ART

Visual Art

The Pre-U visual art course is devoted to an individualized program reflecting the unique strengths and needs of each student. There is a strong focus on the understanding and application of the creative process to produce original works of art. Each student will produce a body of studio work for exhibition. However, there is also a required drawing component that places a strong emphasis on developing and strengthening drawing skills in a variety of drawing media and styles. Working outside of class is encouraged. This course has a prerequisite of secondary V level art or equivalent. A portfolio submission may also be required for admission, which is at the discretion of the art department head.

COMPUTER STUDIES

Communications Technology

This course examines communication systems and design and production processes in the areas of electronic, live, recorded and graphic communications. With a focus on an original business concept, students will create, manage and distribute complex electronic, graphic, recorded or audio-visual projects independently and in project teams. Students will also explore the impact of communications technology and social media on society and the environment.

ENGLISH

This course is divided into three parts: common writing, college preparatory writing, and literature.

Common Writing

Students begin the year by taking an expository writing course. The contents of this initial offering are: academic honesty/plagiarism; brainstorming techniques; organization of ideas; sentence effectiveness; paragraph structure; four written modes (description, narration, exposition, argumentation/persuasion); the keyhole approach to essay writing; transitions; editing techniques and the thesis statement. At the end of the course students will produce an essay on the self that may be used for college applications.

College Preparatory Writing

During the second portion of the course, students will complete college preparatory writing. This is a practical non-fiction writing course aimed to prepare students for the rigours of university-style writing. Written work will include: the writing process; argumentation; editorials; and research methodology.

Studies in Literature

In the final portion of the course, students will complete a literature course wherein they will study the short story. This course will examine the narrative and cultural origins, definition and techniques of the short story in English. Through reading, discussion, analysis, and writing, students will gain appreciation for the art and craft of short fiction. Students will be asked to practice in-depth critical analysis of the short fiction we study and to prepare a class presentation.

Français

Objectif général : Ce cours met l'accent sur l'amélioration des compétences langagières à travers de nombreux débats ainsi que par le biais de l'étude des contextes sociohistoriques entourant les œuvres littéraires canadiennes-françaises et internationales. Les élèves sont amenés à interpréter différents textes, produire une variété de travaux écrits et effectuer des recherches sur un sujet choisi pour les présenter oralement. L'utilisation appropriée des conventions de la langue orale et écrite sera soulignée tout le long de ce cours.

Ainsi, l'analyse des textes produits dans une langue particulière est fondamentale pour l'étude de la langue et de la culture et, par conséquent, pour définir la manière dont nous percevons et comprenons le monde dans lequel nous vivons. L'un des objectifs fondamentaux du cours de français préuniversitaire est d'inciter les élèves à s'interroger sur le sens généré par la langue et les textes, sens qui, si l'on peut dire, est rarement simple et sans équivoque.

Objectifs généraux en expression orale

À la fin de ce cours, l'étudiant pourra :

- discuter et débattre de sujets basés sur les discussions en classe, la recherche individuelle et les intérêts personnels;
- répondre à un large éventail de textes parlés et relatés dans les médias;
- utilisez les règles de grammaire et les conventions linguistiques appropriées lors d'activités de communication orale.

Objectifs généraux en lecture

À la fin de ce cours, l'étudiant pourra :

- démontrer une compréhension des textes à partir d'une variété de genres étudiés dans ce

cours;

- interpréter un large éventail de textes et appliquer les connaissances acquises dans d'autres contextes;
- étendre leur compréhension de la culture des peuples de langue française à travers le monde par la lecture des œuvres littéraires et des textes d'information;
- identifier et comprendre les conventions linguistiques utilisées dans leurs matériels de lecture.

Objectifs généraux en écriture

À la fin de ce cours, l'étudiant pourra :

- exprimer ses idées et opinions dans une variété de formes écrites, ce qui démontre la capacité d'extraire et analyser les informations provenant de sources diverses;
- ajuster la langue utilisée dans leur écriture en fonction de l'objectif et le public;
- organiser leur écriture afin que les idées et l'information soient clairement présentées de manière cohérente;
- utiliser les règles de grammaire et les conventions linguistiques appropriées dans leurs travaux écrits.

MATHEMATICS

Calculus and Vectors

This is an introductory course in calculus and is intended for students interested in pursuing science and business programs in university. This course builds on students' experience with advanced functions in secondary V scientific math and introduces the basic concepts and skills of differential calculus.

Over the course of the year, students will learn the concepts and skills of differential calculus as applied to polynomial, exponential and trigonometric functions. They will explore geometric and algebraic representations of vectors, lines and planes in three-dimensional space. Students will use these concepts and skills for problem solving in a range of realistic applications.

The use of technology is an integral part of this course. The graphing calculator (TI-83 or better) is used on a daily basis to investigate and test hypotheses. Computer software and/or the Internet are used at times to provide a better visual representation of the concepts. Technology is never used as a replacement for algebraic methods, but rather as an enhancement of the understanding of differential calculus concepts.

AP Calculus AB

AP calculus AB is roughly equivalent to a first semester college calculus course devoted to topics in differential and integral calculus. The AP course covers topics in these areas, including concepts

and skills of limits, derivatives, definite integrals, and the fundamental theorem of calculus. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results and support conclusions.

**** Advanced placement AB Calculus or advanced placement BC calculus exam is an option for students at teacher's discretion.***

Mathematics of Data Management

Data Management is a college-level, non-calculus based course that will broaden a student's understanding of mathematics as it relates to managing information. Students planning to pursue university programs in business, the social sciences, or the humanities will find this course of particular interest.

This course is designed to present strategies for collecting, organizing, analyzing and drawing conclusions from data while modeling and solving real-world problems. The first section of the course deals with descriptive statistics where students are introduced to terminology in statistics, sampling techniques and tools used to describe data. The second section deals with inferential statistics whereby students will make use of the normal distribution to test a variety of parameters by conducting appropriate hypothesis tests in order to interpret, judge and reach viable conclusions on the statistical information in the world around them. Special emphasis is placed on tests of correlation and chi-square. In the last section, students will look at probability distributions using an assortment of simulations scenarios.

This course is dependent on the use of technology. Online explorations, simulations and animations will be used to motivate, instruct and illustrate concepts. Upon completion, students will be able to conduct an independent analysis of one-sample or two-sample data sets following statistical reasoning and read statistical reports with a critical mind and understanding.

SCIENCE

Biology

This is a university preparatory program, based on the SBI4U Ontario curriculum, encompassing in-depth studies of cell biology, biochemistry, metabolic processes, molecular genetics, homeostatic mechanisms and population dynamics. An emphasis is placed on building solid scientific investigation skills through laboratory work and the communication of research, procedure, data and analyses using a formal lab report format.

Chemistry

This course, meeting the Ontario SCH4U curriculum, is designed to prepare students for entry into a university science program. Students will enrich 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.

Physics

This course, following and expanding upon the curriculum of the Ontario SPH4U course, will build upon the grade 11 regular physics course, expanding on mechanics and electromagnetics, which have already been covered in that and earlier science courses. Additionally, some new topics, such as waves, modern physics, particle physics and energy generation systems will be covered. There will be an emphasis on conceptual understanding, problem-solving skills, experimental design and data-analysis techniques. A high level of mathematical rigour is expected.

SOCIAL SCIENCE

Political Science

This course examines Canadian and world politics from a variety of perspectives. Students will investigate the ways in which individuals, groups and states work to influence domestic and world events, the role of political ideologies in national and international politics, and the dynamics of international cooperation and conflict resolution. They will research, debate and share their opinions on issues in national and international politics including: the state of political leadership; voter apathy in democratic countries; the role of women in politics; the influence of government on the economy and standards of living; and the state of world security. Students will apply critical thinking and communication skills to develop and support informed opinions about current political conflicts, events and issues. They will be encouraged to analyze problems, propose creative solutions, communicate effectively through a variety of mediums and manage their own time.

Economics

Economics is both a practical and academic discipline. As a result, economic theories are affected by changes in world events as well as by advances in economic research. In this course, students will be introduced to those economic theories and concepts that are basic in acquiring a solid understanding of the discipline. Topics of study include fundamental economic concepts, their microeconomic underpinnings and how these relate to and affect our macro economy. Students

will also learn how to adapt models in the social sciences to understand human behavioural phenomena. Furthermore, they will understand technical information, examine major issues affecting Canadian and world economies, apply theoretical concepts to real-world situations, analyze economic problems and assess solutions to these economic issues. To achieve this goal, students will be expected to play an active role in the classroom, participate in group discussions, keep up with required readings and be critically informed of current economic events. Student progress will be evaluated through class tests, assigned work and class participation. Although most economic concepts investigated are complex by their very nature, every attempt will be made to ensure simplicity without compromising the integrity of the discipline.

**** Advanced placement economics exam is an option for interested students at the teacher's discretion and who are committed to some individual preparation.***

Philosophy

It was Plato who said that the unexamined life is not worth living. The aim of this course is not only to provide students with the groundwork for further study in philosophy, but also to provide an opportunity for personal intellectual exploration and growth. Students will be introduced to the principal philosophical problems and currents of thought that have dominated the western tradition from the ancient Greeks to the modern era.

The academic competencies emphasized in philosophy (critical thinking, writing with clarity and precision, close reading of texts, concise oral communication and listening skills) possess universal relevance and applicability. Although there are no specific prerequisites, students must possess strong reading and writing skills, as well as the capacity to work independently, in order to enrol in this course.

Canada and World Issues

The course will examine the challenges and opportunities facing Canadians in an increasingly interdependent world. Students will use historical, political and geographic analysis to examine the evolution of current social, economic and environmental structures. The challenges of creating an equitable and sustainable future will be analyzed through a wide range of topics including peacekeeping, geopolitical conflict, food security and resource scarcity.

Psychology

The AP psychology course is designed to introduce students to the systematic and scientific study of the behaviour and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles and phenomena associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their science and practice.

An example of the content areas covered in AP psychology include: biological basis of behaviour, research methods, sensory and perception, states of consciousness, learning, cognition, motivation and emotion, developmental psychology, personality, abnormal behaviour and social psychology.