



D'ARCY MCGEE HIGH SCHOOL

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Course Selection Guide Cycle Two – Year Three

Step 1.

Review your course option sheet with your parent(s). Please check to verify that all information is correct. In the event that there is missing information, please pencil it in. **Please note that email will be our primary means of communication with parents for the upcoming school year; keeping this in mind, we ask that you please ensure that you have listed an email address.** In the event that you do not have an email address you will still receive all correspondences from the school.

Step 2.

Select the pathway that you wish to follow: General or Applied. Please note that both of these programs allow a student to enter CEGEP; one pathway is not superior to the other.

Step 3.

Indicate whether you are in the Regular or the French Immersion stream by selecting the appropriate box. Please note that if you are currently in the Regular stream, this is the stream that you should remain in. If you are currently in French Immersion, you may choose between Regular and Immersion for the upcoming year.

Step 4.

Choose your Math course keeping in mind the following: students who wish to go into either the Scientific & Technical Math or the Science Math are required to have successfully completed the grade 10 component of the same course. It is equally important to understand that the Cultural, Social & Technical Math does serve as a prerequisite for admission to CEGEP. Please refer to the attached descriptions.

Step 5.

Choose your preferred Arts electives by indicating your top two choices as per the instructions on the sheet. It is important to note that in order to obtain a secondary school diploma in Quebec, the student must receive credit for a secondary four Arts elective.

Step 6.

Choose your preferred Option course as per the directives on your course selection form. Please note that if you wish to take Physics and/or Chemistry in Grade 11 you must pass Science 436 this year. It is also important to note that if you wish to take Chemistry and/or Physics in Grade 11 you must have successfully completed either Scientific & technical Math or Science Math.

Step 7.

Return your completed form to Mr. Singfield's office as per the instructions on the form.

Alternative Program

This is a program for academically capable students who have not met with success in a regular high school learning environment. The Alternative Program will give students individualized instruction in core subjects in order to help them achieve the requirements for graduation. Students will be provided with academic and personal support, in order to assist them in achieving their goals. The program consists of a core group of students who will work on specific academic courses in a small group setting with one-to-one assistance from the teachers.

Cultural, Social, & Technical Mathematics

In the third year of Cycle Two, the situational problems sometimes involve making decisions using various mathematical tools, using various procedures to determine the option that best represents the preferences of a given population, or planning, estimating, evaluating and calculating different elements associated with organizing space or designing an object (e.g. costs, quantities, space, revenue). These tasks may be performed with or without the use of technology.

Some situational problems involve making predictions by modelling situations using real functions, while others entail solving problems or modelling situations (e.g. scheduling, optimal path, critical path) by using the concepts and processes associated with graphs. Still others involve using linear programming in order to choose the best solution(s). Those that focus on planning or measurements such as length, area, volume and residual space provide students with opportunities to use optimization. Furthermore, certain situational problems require students to consider the dependency relationship between certain events in determining the conditional probability needed to make decisions. The situational problems related to geometry sometimes involve the use of concrete materials or appropriate software. They require students to draw on their knowledge of geometry in designing and constructing plans and objects. They also involve finding different measurements by using definitions, properties, formulas or postulates with respect to triangles or congruent, similar, decomposable or equivalent plane figures or solids.

Arithmetic & Algebra	Statistics & Probability	Geometry & Graphs
System – System of first-degree inequalities in two variables	– Conditional probability	Equivalent figures Graph – Degree, distance, path, circuit – Graph: directed, weighted

Scientific and Technical Mathematics

The *Technical and Scientific* option is intended for students who wish to explore situations that sometimes involve both manual and intellectual work. The emphasis is on case studies as well as the development of students' ability to identify errors and anomalies in processes or solutions, with a view to defining the problem and taking appropriate corrective action. It also requires students to identify the mathematical concepts and processes associated

with the design, operation or use of certain technical instruments. This option encourages the exploration of different areas of study, but it is especially designed to equip students to work effectively in technical fields related to nutrition, biology, physics, business administration, the fine arts and graphic arts.

Arithmetic & Algebra	Statistics & Probability	Geometry & Graphs
<p>Relation, function and inverse – Real function: second-degree polynomial (general form), rational, sinusoidal (as well as the functions introduced the previous year) – Parameter – Operations on functions System – System of first-degree inequalities in two variables – System of equations and inequalities involving various functional models variables</p> <p>Relation, function and inverse – Real function: second-degree polynomial (standard form), exponential, greatest integer, periodic, step, piecewise – Parameter System – System of first-degree equations in two variables</p>		<p>Equivalent figures Analytic geometry – Geometric locus, relative position: plane loci involving lines or circles only, and conics – Standard unit circle – Vector (resultant and projection) Measurement – Metric relations in circles and trigonometric</p>

Science Mathematics

In the third year of Cycle Two, most of the situational problems involve natural phenomena. They give students an opportunity to create mathematical models stemming from scientific experiments, for instance. In the process, students are able to determine and characterize the constituent elements of the problem and to understand its causes, effects and repercussions. These situational problems promote the transfer of knowledge from one branch of mathematics to another and from mathematics to other subject areas.

Some situations require students to perform operations involving functions and to solve systems of equations or inequalities. Furthermore, when students must rectify the steps in a solution, they must give reasons for the changes they make. Lastly, situational problems that involve geometry call into play the concepts and processes associated with conics and vectors in order to represent and analyze different phenomena.

Arithmetic & Algebra	Statistics & Probability	Geometry & Graphs
<p>Arithmetic and algebraic expressions</p> <ul style="list-style-type: none"> – Real numbers: absolute value, radicals, exponents and logarithms <p>Relation, function and inverse</p> <ul style="list-style-type: none"> – Real function: absolute value, square root, rational, exponential, logarithmic, sinusoidal, tangent, piecewise – Operations on functions <p>System</p> <ul style="list-style-type: none"> – System of first-degree inequalities in two variables – System of second-degree equations (in relation to conics) 		<p>Analytic geometry</p> <ul style="list-style-type: none"> – Standard unit circle and trigonometric identities – Vector – Conics: <ul style="list-style-type: none"> • parabola • circle, ellipse and hyperbola centred at the origin

Frequently Asked Questions Regarding the Mathematics Options:

1. **Which math option do I need to graduate?**
Students require one of the three secondary 4 math options to graduate.
2. **Can I get into CEGEP with any of the three math options?**
Yes. You must keep in mind however, that some programs require either the Scientific & Technical Math or the Science Math as a prerequisite (ie. Pure & Applied Sciences, Nursing, Commerce, Computer Science). You are advised to make an appointment with Ms. Maloney in Guidance to discuss post-secondary options.
3. **Can I switch from one math to another when I make my course selection for grade 11?**
Students are expected to remain in the same math option course during grades 10 and 11.
4. **Is one math option more difficult than another?**
While all three options provide challenges, overall, the concepts studied in Technical & Scientific Math and Science Math are more complex than those studied in Cultural, Social, & Technical Math.

Secondary V Arts Electives

Art

Students will experience, learn about, and express themselves through a whole gamut of art techniques, materials, movements, and philosophies. Students will be expected to step outside their artistic comfort zone and try new things. Research on both an artist and a movement will be expected during the year. Our facilities continue to expand to try and meet the needs of our students; pottery and silk screening have been recent additions to D'Arcy Fine Arts.

Dance

The dance program at Cycle Two Secondary is a continuation of the Secondary Cycle One program and is grounded in the subject specific and artistic learning previously acquired by students. In Cycle Two this learning is consolidated. The development and the interaction occurs among all three competencies: performs dance, creates dance and appreciates dance, contribute to balancing the student's artistic movement.

“In order to achieve a real artistic practice of dance, students are required to further their perception of themselves and of reality because, in a sense, they are the raw material of their art. By using their body, their imagination, their sensitivity and their culture when they create, perform or appreciate dances, they convey who they are and express their world view.” - Quebec Education Program.

Drama

Drama 402 is a performing arts class with a heavy concentration on leadership, communication, participation and teamwork. Students will be expected to master these skills before the end of the year and to use them on a daily basis. High expectations will be placed on the mediums of theatre explored at this level and the levels before it—please note this class is only for those students who either wish to continue their study of performing arts after high school or for those who wish to challenge their leadership and communication skills by using drama as a support medium. As this is the only senior level drama class, high expectations will be placed on those who choose to take this class and to their level of commitment to performance and to the arts.

Music

Students will focus on three competencies: performing, appreciating music and creating music. The music classroom's environment will foster expression, performance, communication and autonomy. Students will use their instrument, imagination and culture to convey who they are and their world-view when they create or perform a musical work. Students will also be encouraged to develop collaborative skills, listening skills and problem solving skills through group ensemble work.

Secondary V Option Courses

Advisory Mentor Program

The Advisory Mentor Program is new this year to D'Arcy. Students entering Grade 11 will apply to become student mentors for Grade 9 students. If accepted into this option course, students will study leadership theory and will be responsible for planning and coordinating the Grade 9 advisory program. Students will be placed in teams of three or four to lead one advisory for the year under the guidance of a teacher facilitator. This course will require students to be responsible, dedicated and enthusiastic.

Biology

The student will investigate life and basic life processes as an introduction to the vast field of biology. The scientific method is used to carry out research on topics related to living things including ourselves. Laboratory work will help students to understand the diversity and inter connectivity of species found on this planet, as well as develop a method of work that is proper to science.

Chemistry

This secondary five science course is designed for students who plan on taking a science oriented post-secondary path. Through Mathematics, Science and experimentation, students will analyze various phenomena and relate it to their daily lives. Students will: 1) Use a knowledge base and analytical skills to problem solve; 2) Conduct experiments in a controlled setting to observe, analyze and verify various scientific principles. These experiments will be communicated in a formal lab write-up; 3) Discover the relationship between Mathematics and Science; Use target setting to foster achievement; and 4) View the world differently.

Computer Science and Engineering II (CSE)

This course is a continuation of the grade 10 COM414 course. It is designed from a fusion of two independent fields of science and engineering studies: **Computer Science** and **Computer Engineering**. Although they are very much related in some aspects of their applications they will be offered as two separate modules.

In the Computer Science module, students will be studying the fundamental concepts of an operating system (OS) as well as the main functionalities of well-known operating environments such as Windows, Macintosh, and Linux. They will also be learning fairly advanced programming techniques in which they will apply various strategies to problem solving, program testing and debugging. They will also be studying on one hand the processes of designing computer software systems known as “Software Development Life Cycle” (SDLC) and on the other hand the methodology tools widely used in the systems design world. Additionally, software maintenance and technical support will be discussed in this module.

Creative Writing

Students in this course will focus on writing conventions with a particular emphasis of creating various genres of fiction. Consideration will be given to satire, horror, mystery, drama, and poetry. Through a process of personal and peer revision students will be required to produce polished pieces of writing.

Film Studies

Film studies focuses on the main aspects of cinema as an art form. Students will explore the development and history of cinema through lectures, readings, projects and screenings (from the earliest silent films to contemporary ones). Students also learn how to analyze film on thematic and critical levels by writing responses, essays and reviews. Finally, students synthesize the knowledge gleaned from the first part of the class (history, analysis and criticism) in the form of scripts and film production. The latter part of the course will culminate in a major film project.

Holistic Fitness

This is a non-competitive approach to physical education that will focus on: yoga, pilates, aerobic exercise, free weight training and stretching. There will also be opportunities to participate in outings: hiking, swimming, kickboxing, other. This will depend on availability of facilities and cost. This course is for students who enjoy physical exercise.

Home Economics

Home Economics class will be more than just a chance to do a little cooking and sewing, it will be an exploration of how the everyday choices we make affect the environment, our health and the well being of produces half a world away.

Journalism

The main focus of this course is on producing a school newspaper. Students will develop interviewing, writing, editing and photography skills. Research will be an integral part of this course. Layout will involve using either Adobe or another similar program. Deadlines are extremely important! Students will write a wide variety of articles from hard news to editorials. Artists are welcome to develop cartoons and graphics.

Law (Business/Criminal)

The purpose of the course is to give the student a general overview of the Canadian justice system. Emphasis is placed on criminal law. Topics covered include: The origin of law and brief history of how laws have evolved; Canada's Legal History and the Charter of Rights & Freedoms; Canada's Legal Structure; Role of the Courts; The Role of the Police; The Role of Corrections; Criminological Theories of Crime; Organized Crime.

Literature Studies

This is a course for students who want to further explore studies in English. The class will focus on literature written in English and how it has developed over time. We will explore a variety of genres: poetry, novel, short stories and non-fiction which will be studied in detail. Ideally, this class will be run like a seminar (we read the material, we discuss it in class, and students will produce a piece of writing or project). Introduction to literature offers the opportunity to hone your analytical and critical thinking skills in an environment with other like-minded students. This class is recommended for students who are considering further studies in English at the post-secondary level.

Media Studies

Media Studies takes a critical look at various forms of media found in the everyday world. After analyzing and deconstructing sociological trends and ideologies, students will be able to re-construct their own mediums with the same strategies that mass media target teens with everyday. Students will be able to understand and interpret the millions of messages that they are bombarded with everyday so that they can make critical and informed decisions on their own.

Modern History

This course aims to provide students with an opportunity to build their research and analytical skills in preparation for CEGEP. The theme of the course will be “war and peace”. We will attempt to discover why the 20th Century has been marked by war, and how, while peace has been desired, it has remained elusive. Even though the primary focus will be the world stage, students will also be able to learn more about local and personal history.

Multimedia & Internet Technology

Given the fast changing pace of the internet technology and the needs of the business world communities, this course was designed to provide students some skills and knowledge of information and communication technology (ICT) in the areas of multimedia and the Internet and their applications in the business environment.

The topics that will be studied in this course include:

- Overview of computer networking, Intranet, Extranet, and the Internet
- Multimedia and animation
- e-business concepts and e-commerce solutions, and web development
- team-based project management and collaboration
- the impact of information and communication technology

Outdoor Education

The student will focus on the relationship between good health and physical activity related to a healthy lifestyle. Students will be introduced to several outdoor activities which they will relate to their abilities, needs, motivation, lifestyle and knowledge of health promotion. Some themes include fitness, safety, nutrition, and lifestyle awareness.

Peer Tutor

Students in this program will assist individual Symmes teachers in a course, which they teach. As well, many Peer Tutors work in the Resource Room. This course is an excellent opportunity for students to find out if teaching is a viable option for them. Dependability, maturity and knowledge of the subject area are the pre-requisites for this course.

Physics

Physics 534 is an introductory course in mechanics, light, and optics. It builds on the students' basic understanding of physics from previous science courses and challenges their understanding of the world around them. The course allows the students to take on more responsibility for their own learning through exploratory labs, demonstrations, and exercises. Physics 534 will allow students to enter a science stream at CEGEP and therefore should be considered by any student looking at following a career path in sciences. Math 434 and physical sciences 434 are prerequisites for this course.

Psychology

Designed as an introduction to the social sciences, students will develop critical thinking skills by exploring various aspects of psychology and sociology. Students will study learning, perception, memory, social interaction, cultures and basic research methods, as well as contemporary issues in the field designed to spark interest and connect to their lives.

Team Sports

In this course students will gain knowledge of concepts and strategies of team sports. Ability to inter-relate with fellow students in an effective and positive manner is vital. There will be written and practical tests.

Yearbook

In this course, students learn a variety of skills while engaged in an interesting "hands-on" project: producing the school's yearbook. Emphasis will be placed on the following areas: computer page layout, typography, computer graphics, journalism, photography, and publishing. Classroom activity will be closely related to the "real world" challenge of meeting deadlines, producing a viable product, and marketing that product.