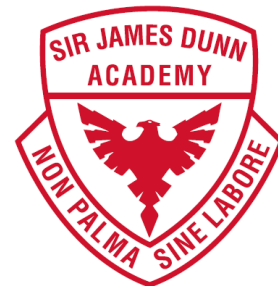


# Course Calendar

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2019 – 2020

Sir James Dunn Academy



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The course calendar is used by current Grade 9, 10 and 11 students at Sir James Dunn Academy while choosing their courses for the upcoming school year. Use the chart below to determine which pages are relevant to you.

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<b>Grade 9/10</b>	Students are enrolled in a common, compulsory and non-credit system. In Grade Ten students have the opportunity to take one high school course.
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<b>Grade 11/12</b>	Students entering Grade 11 at Sir James Dunn Academy will be following a 5-credit semester, allowing the opportunity for a greater variety of courses and the opportunity to study a subject in greater depth.
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### Course of Studies Grade 9

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<b>Full Year</b>	English 9 Math 9
<b>Semester</b>	Science 9 Social Studies 9 French 9 Personal Development and Career Planning Physical Education and Health 9 Music 9

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### Course of Studies Grade 10

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<b>Full Year</b>	English 10
<b>Semester</b>	Geometry, Measurement and Finance 10 <b>AND</b> Numbers, Relations and Functions 10  Broad based Technology 10 French 10 Physical Education and Health 10 Science 10 Social Studies 10\  One high school elective

## Credit System

“How many credits do I need”

A central component of the semester high school program is the credit system that applies to all grade 11 & 12 course offerings.

- The term *credit* describes a successfully completed course
- *One credit* corresponds to approximately 90 instructional hours
- All students are required to obtain *17 credits* in order to be eligible for High School Graduation in New Brunswick.

## Course Codes

“What do the numbers mean”

- The first two digits indicate the grade during which this course is usually taken
- The third digit indicates the level of difficulty
  - 0 Only available at one level.
  - 1 Enriched university preparatory. These courses generally move at a faster pace and cover the content to greater depth than the Level 2 course equivalents.
  - 2 Regular university and community college preparatory.
  - 3 Prepares a student to study some one-year courses at community college and/or Business College or go directly to work.

## Course Requirements & Elective Course

- Pre-requisites are courses, which *must* completed prior to registration in your selected course. Foundations of Math 110 must be taken before Pre-Calculus 110.
- Elective courses are designed to allow students flexibility in completing their requirements for graduation.
- Electives may be chosen from a broad range of subjects, or students may choose to concentrate in one specialized area of curriculum such as science or technology.
- Elective course selected will often depend on counselling, as they must have courses appropriate to the course of student offered by the post-secondary institution of their choice.

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# ENGLISH

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## Graduation Requirements

All students are required to obtain 3 credits in this subject area. All students must take English 11 course (2 credits) and an English 12 course (1 credit). Students planning to go to university or to study certain community college programs must select courses ending in either 1 or 2. Students should seek advice from the Guidance Department with regard to entrance requirements for specific programs.

### Required Courses Grade 11

#### English 113

*Prerequisite:* English 10

*Description:* An emphasis is placed on the development of basic reading, writing and speaking skills. This course is considered an applied language course. Less emphasis is placed on literature and its analysis. The main focus is developing strong language and communication skills.

#### English 112

*Prerequisite:* English 10

*Description:* This course focuses on academic language practices and is required for university acceptance. Students enhance listening, speaking, reading and writing skills. Students respond to variety texts with higher academic complexity, including some text of literary merit. Students will respond through a variety of ways of representation.

#### English 111

*Prerequisite:* English 10

*Description:* English 111 is an enriched English course. It follows a pattern similar to English 112 but greater emphasis is placed on close reading of texts and academic writing. This course will move at a faster pace and engage students in a variety of activities.

## Required Courses Grade 12

### English 122

*Prerequisite:* English 11

*Description:* This course focuses on more academic language practices and is required for university acceptance. Students enhance listening, speaking, reading and writing skills. Students respond to a variety of texts with high academic complexity, including some text of literary merit. Students will respond through a variety of ways of representation.

### English 121

*Prerequisite:* English 111

*Description:* English 121 is an enriched English course, which builds upon the requirements of the English 122 college preparatory course. It has more focus on literature with particular attention being paid to close reading of texts, academic writing and an overview of the historical, philosophical, social and other contexts, which influence literary development

## Elective Courses Grade 11 & 12

### Media Studies 120

*Description:* This is a hands-on course in the media. It will deal with film, television, advertising and video. The course will cover the characteristics and techniques of each medium and will involve extensive practical work in such areas as the making of videos and commercials. Although it is a hands-on course, students are expected to do a substantial amount of reading and writing dealing with the theory related to the various media.

### Theatre Arts 120

*Description:* This course deals with the major aspects of theatre performance, including acting, interpretation, stagecraft, play management & theatre history. The course offers the opportunity to deal with both practical and theoretical issues as they relate to drama and theatre.

## Journalism 120

*Description:* Journalism 120 provides students with intensive practice in writing and editing. Students learn to identify or generate story ideas, to gather pertinent information and to write and edit their stories with a view to publication. The activities accompanying preparation for publication engage students in creative skills such as writing, design, layout and photography, and in practical skills such as budgeting, meeting deadlines and working with others. Examining examples of journalistic style is an element of the course but writing for publication is the focus.

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# MATHEMATICS

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## **Graduation Requirements**

All students are required to obtain 1 grade 11 credit in Mathematics. Students planning to go to university or to study certain community college programs must select additional courses.

### Required Courses Grade 10

#### Geometry, Measurement and Finance 10

*Prerequisite:* Math 9

*Description:* Using algebra, spatial reasoning and problem-solving strategies students explore a variety of topics related to financial mathematics and mathematics of shape and space. Unit pricing, currency exchange, income and credit options are explored in relation to student experience. The Pythagorean Theorem, primary trigonometric ratios, and an understanding of angles and parallel and perpendicular lines are used to solve problems. Both the metric and imperial systems of measurement are used to explore the geometry of 2D and 3D shapes.

#### Numbers, Relations and Functions 10

*Prerequisite:* Math 9

*Description:* This course lays the foundation for further work with algebra, relations and functions. The concepts and skills around factoring, square and cube roots, irrational numbers, powers, and the multiplication of polynomial expressions are explored and practiced. The relationships between numbers in data and graphical form are interpreted and explained with reference to concrete situations. Linear relationships are explored in detail-slope, ways to represent linear relationships, characteristics when graphed, algebraic and functional notation, calculations of distance and midpoint, and methods of solving systems of equations.

## Required Courses Grade 11 – All students must select one of the following:

### Financial and Workplace Mathematics 110

*Prerequisite:* GMF 10 and NRF 10

*Description:* This course is designed for entry into post-secondary trades and technical programs, or for direct entry into the work force. Concepts of right angles, trigonometry, and angles of elevation and depression are applied to contextual problems. Scale models and drawings of 2-D and 3-D objects are constructed from various views and perspectives. Students are challenged to solve problems that involve numerical reasoning. Costs and benefits of renting, leasing and buying are explored, investment portfolios analyzed and personal budgets developed. Students manipulate and apply formulas in a variety of ways and solve problems using proportional reasoning and unit analysis.

### Foundations of Math 110

*Prerequisite:* GMF 10 and NRF 10

*Description:* This course is a pre-requisite for a second **Foundations of Math 120** which provides a pathway designed for entry into academic programs not requiring pre-calculus. It is also a pre-requisite for the pre-calculus pathway. Students develop spatial sense and proportional reasoning through problems that involve rates, scale diagrams and relationships among similar 2-D and 3-D shapes and objects. Students develop logical reasoning skills and apply this to proofs and problems angles and triangles, the sine law and the cosine law. Students model and solve problems involving systems of linear inequality in two variables and explore characteristics of quadratic functions. Costs and benefits of renting, leasing and buying are explored and investment portfolios are analyzed.

### Pre-Calculus 110

*Prerequisite:* Foundations of Math 110

*Description:* Students demonstrate an understanding of absolute value of real numbers, and solve problems that involve radicals, rational expressions, and radical equations. Students determine equivalent forms, simplify rational expressions and solve problems that involve rational equations. They develop an understanding of angles in standard position and solve problems in these angles using the primary trigonometric ratios. Polynomial expressions are factored and absolute value functions and quadratic functions are analyzed and graphed. Students solve problems that involve quadratic equations and solve, algebraically and graphically, problems that involve systems of linear-quadratic and quadratic – quadratic equations in two variables. They also solve problems that involve linear and quadratic inequalities that involve linear and quadratic inequalities in two variables and quadratic inequalities in one variable.

## Elective Courses Grade 12

### Pre-Calculus A 120

*Prerequisite:* Pre-Calculus 110

*Description:* This course follows **Pre-Calculus 110** and precedes **Pre-Calculus B 120**. Students demonstrate and apply an understanding of the effects of horizontal and vertical translations, horizontal and vertical stretches, and reflections on graphs of functions and their related equations. They are introduced to inverses of functions, logarithms and the product, quotient and power laws of logarithms and use these laws and the relationship between logarithms and exponential functions to solve problems. Students are introduced to angles in standard position, expressed in degrees and radians, and to the unit circle. The six trigonometric ratios and the sine, cosine and tangent functions are used to solve problems. First and second-degree trigonometric equations are solved algebraically and graphically with the domain expressed in degrees and radians.

### Pre-Calculus B 120

*Prerequisite:* Pre-Calculus A 120

*Description:* This course follows **Pre-Calculus A 120** and precedes **Calculus 120**. Students analyze arithmetic and geometric sequences and series to solve problems. They learn to factor polynomials of degree greater than 2, and to graph and analyze polynomial functions. They also graph and analyze radical, reciprocal and rational functions, building a function toolkit. Students are introduced to the concept of limits and determine the limit of a function at a point both graphically and analytically. They explore and analyze left and right hand limits as  $x$  approaches a certain value using correct notation, analyze the continuity of a function and explore limits, which involve infinity.

### Foundations of Math 120

*Prerequisite:* Foundations of Math 110

*Description:* This is the second of two courses in the Foundations of Mathematics pathway designed for entry into post-secondary academic programs not requiring pre-calculus. In statistics, students are introduced to normal curves, and learn to interpret statistical data, using confidence intervals, confidence levels, and margins of error. To develop logical reasoning students analyze puzzles and games, and solve problems that involve application of set theory and conditional statements. The validity of odds and probability of two events, the fundamental counting principle, permutations and combinations. The binomial theorem is used to expand powers of a binomial. Data is represented using polynomial functions, exponential and logarithmic functions and sinusoidal functions to solve problems.



## Calculus 120

*Prerequisite: Pre-Calculus*

*Description:* This is the last course offered in the Pre-Calculus Pathway, and follows **Pre-Calculus B 120**. This course develops the concepts of average and instantaneous rates of change. Derivatives are determined by applying the definition of a derivative and the derivative rules including the Chain Rule, and are determined for trigonometric functions. Limits and derivatives of exponential and logarithmic functions are found. Calculus techniques are used to sketch graphs of functions, and to solve optimization problems. Problems are solved involving inverse trigonometric functions, involving related rates and involving the application of the integral of a function are determined.

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# SCIENCE

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## **Graduation Requirements**

All students are required to obtain 1 credit in Science. All Science courses are one semester-long. Students may choose from the following courses:

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- Physics 112 / 122
  - Biology 112 / 122
  - Chemistry 112 / 122
  - Environmental Science 120
  - Human Physiology 110
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## Physics 112

*Prerequisite: Science 10*

*Description:* Through lecture and lab components, an introduction to mechanics, momentum, energy and waves will be explored. Describing the motion of objects requires understanding of position, displacement, velocity, and acceleration and the connection between them.

## Physics 122

*Prerequisite: Physics 112*

*Description:* In Physics 122, students extend the study of mechanics from Physics 11 to include two-dimensional motion. This extension requires a substantial mathematical component including a solid understanding of trigonometry and quadratics. The course will include the extension of dynamics to two dimensions, projectile motion, simple harmonic motion, universal gravitation and fields (electrical, magnetic, gravitation).

### Biology 112

*Prerequisite: Science 10*

*Description:* In Biology 112 students study the cell as the basic unit of life, the diversity of organisms that make up the world's ecosystems, and several systems that allow multi-cellular organisms to maintain equilibrium with the outside environment. Through the lecture and lab components of this course the goal is to make students more aware of the tremendous impact of biology and technology upon society.

### Biology 122

*Prerequisite: Biology 112*

*Description:* In Biology 122, students focus on Biology at the molecular level. They study how organisms grow and pass along characteristics to future generations, and how this impacts living things at the species and population level. Additional systems are also studied that allow multi-cellular organisms to maintain equilibrium internally and with their environment. There is more emphasis placed on the study of biochemistry and the goal is to make students more aware of the tremendous impact of biology and technology upon society.

### Chemistry 112

*Prerequisite: Science 10*

*Description:* Students begin with a quick review of atomic theory and the periodic table of the elements, and then will go on to cover compounds, chemical reactions, the mole, gas laws, stoichiometry, and an introduction to chemical bonding. This course has a large lab component, which will familiarize students with lab safety, lab apparatus and a variety of laboratory techniques.

### Chemistry 122

*Prerequisite: Chemistry 112*

*Description:* This is the second chemistry course in which science orientated students should enroll. In this course, the following sections will be covered: organic chemistry, thermal chemistry, chemical equilibrium, kinetics, acids and bases. The labs associated with this program will be considerably more challenging as students will be involved in the preparation and setting up of labs. In addition, there are substantial theoretical and mathematical components to this course, so students require a strong mathematics background to complete this course.

### Environmental Science 120

*Prerequisite: Science 10*

*Description:* The major topics covered will deal with the structure of the environment, attitude towards the environment, the ecosystem concept, natural resources,

population, sustainable development and current environmental issues. This course includes lectures, demonstrations, laboratory work and field trips.

### Human Physiology 110

*Prerequisite: Science 10*

*Description:* This course is designed to appeal to a wide range of learners including students for whom this will serve to fulfill their science graduation requirement and students who will take additional science courses. A study of human physiology will be relevant to every student, providing them with the tools they will need to make informed choices about their own health and that of others. It focuses on the biology and healthy functions of all major human body systems and how wellness can be compromised by struggles with mental and social health, lifestyle choices and disorders.

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## **HUMANITIES**

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### **Graduation Requirements**

All students are required to obtain one credit in Modern History. Students planning to go to university or to study certain community college programs must select courses ending in 2.

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### Modern History 113

*Prerequisite: Social Studies 10*

*Description:* Provides students with an understanding of the main events and historical themes of the Modern Era from the French Revolution to the Cold War. Students focus on learning about the most significant events of our times through reading and writing, research projects, geographical information and maps, class discussions and more. Particular attention is given to primary source materials and how to use it, as well as how does the past shape us in today's world.

### Modern History 112

*Prerequisite: Social Studies 10*

*Description:* Focuses on European history and investigates significant events in the development of "The West". This course examines and questions the most important political, social, cultural, economic, scientific and technological changes from the French Revolution in the 18<sup>th</sup> Century to the Cold War in the 20<sup>th</sup>. Students make direct connections between events of the past and today's world as well as examine the methodology historians use to understand and shape our collective past. This course is intended for students pursuing post-secondary studies and prepares them with a solid foundation for future humanities courses.

### Law 120

*Description:* Examines the foundations of Canadian Law and our legal system. Students will be studying their legal heritage, human rights, criminal law and young people. Students will be studying current trails and we will be inviting relevant guest speakers, visiting courtroom, as well as debating current law topics affecting Canadians. This course requires independent reading, writing and presenting, as well as research and group work. You must also be willing to participate in discussions and be able to present arguments.

### World Issues 120

*Perquisite: Modern History*

*Description:* World Issues gives you the opportunity to examine and propose solutions for the most significant challenges facing humanity. This is an academic course grounded in critical thinking that investigates issues from a variety of sources and perspectives. Take World Issues and learn how to change the world!

### Sociology 120

*Description:* Sociology is the study of human society, group behavior and the social and cultural processes that shape our world. The ultimate goal is to find out why group of people act the way they do and explain how they treat others. It examines the formation of cultural views and perspectives including constructions of race, class, gender and other identities. Students use Canadian profiles and statistics to experiment with sociological methods inside and outside the classroom.

### Political Science 120

*Description:* Political Science 120 is an introductory course designed to overview how government in Canada function as well as compare our system with those in other nations. Students develop an understanding of the historical roots of various political ideologies and systems like democracy, communism and fascism and how they are connected to present day governments, groups and issues.

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## **LANGUAGES**

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### **Graduation Requirements**

The French Language requirement for Graduation in the Province of New Brunswick is satisfied by the completion of the French 9 and 10 courses. Any further study would prepare students to take the French Proficiency Certification at the completion of any French 12 course.

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#### Post-Intensive French 110

*Prerequisite: Post-Intensive French 10*

*Description: Post-Intensive French is a literacy-based, non-immersion program for students choosing to continue to learn French as a second Language. Themes at this level include: mysteries, injustices and the power of photography.*

#### Post-Intensive French 120

*Prerequisite: Post-Intensive French 110*

*Description: It is a literacy-based, non-immersion program for students choosing to continue to learn French as a second Language. Themes at the level include: looking to the future, ecological challenges, similarities, differences, and careers.*

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## **HEALTH & PHYSICAL EDUCATION**

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### **Graduation Requirements**

Students must obtain one credit from the Fine Arts & Life Role Development Cluster

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#### Wellness through Physical Education 110

*Description: The goal is the Wellness through Physical Education Course is to promote healthy active living for life. The course is intended to encourage a broad-base exploration of a variety of activities, highlighting non-traditional approaches to fitness and wellness. As a result, this course will offer a range of learning experiences for students that encourage healthy active living, but are not sport specific.*

#### Outdoor Pursuits 110 (Grade 12 only)

*Description: This course will develop personal outdoor recreation skills based on environmental ethics. Students must complete a series of out-trips. This course will take advantage of local outdoor access and could include camping, hiking, canoeing, and other adventure activities. Students must be prepared to lead and evaluate out-trip experiences from personal and group dynamics perspectives.*

### Leadership 120 (Grade 12 only)

*Description:* This course is designed for Grade 12 students with special interest in utilizing physical activities to develop leadership skills, which will enable them to translate these interests into dynamic personal involvement in their community. This course requires a commitment to a minimum of 30 hours of out-of-class responsibilities in the area of leadership, which may focus on sport or recreational activities or other forms of community services. This course consists of units in leadership theory, sports administration, teaching theory, officiating, coaching and sports medicine.

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## **BUSINESS COURSES**

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### Intro to Accounting 120

*Description:* The course includes the development and use of journals, ledgers and related books of accounts as well as a computer accounting program. Basic accounting principles and concepts are discussed at some length to help students understand the conceptual framework of accounting. The preparation and use of the financial statements of proprietorships, partnerships and corporations are studied in some detail.

### Entrepreneurship 110 / Bakery Organized Production 120

*Description:* Entrepreneurship 110 is designed to help the student learn about the skills, abilities and personal characteristics that are needed to become a successful entrepreneur, as well as develop their individual aptitudes, attitudes and interests. The student will practice the techniques involved in accurately assessing opportunities, generating ideas, selecting and evaluating ideas, and preparing carefully drawn up plans for putting these into action. The course emphasizes the development of concepts rather than specific business skills. Both Entrepreneurship and Bakery Organized Production involve the running of a bread making business.

### Culinary Technology 110/120

*Description:* This course is an introduction to the food service industry. Through participation in different experiences within a quantity food service, the students learn both to master skills through practice and to become familiar with the required qualities for employment. Topics include food preparation, safety precautions, time management, and the importance of service nutritious and appetizing meals.

### CO-OP Education 120

*Description:* Co-operative Education is a two or three credit course. In addition to related theory and reflective leaning classes, students will participate in work placements in the community. The purpose of this program is to provide students with exploratory experiences in a variety of work roles while also fostering personal responsibility, self-reliance and teamwork.

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## **FINE ARTS COURSES**

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### Fine Arts 110

*Description:* An art appreciation class where students will explore pieces of Visual Art, Music and Drama from the 20<sup>th</sup> century. Students will learn how artists are affected by and reflect the worlds that they live in by researching, collecting and discussing a variety of artists, their work, and the events occurring around them. Our students have the unique opportunity to take this course at Sunbury Shores and learn about jewelry making and printmaking with various local artists.

### Visual Arts 110

*Description:* Visual Arts 110 is centered around the areas of drawing, painting, printmaking and 3-dimensional work and stresses personal expression and the developments of individual imagery.

### Visual Arts 120

*Description:* Visual Arts 120 is designed for students who wish to pursue art related interests. Students work through an introductory review of skills and concepts and choose blocks that lead to advanced work on a particular medium. Students are required to critique, in writing, aspects of process and product. An opportunity to develop a portfolio for submission to an art college is also available.

### Music 120

*Description:* The course consists of three major outcomes that require students to demonstrate achievement in performing music, in the application of theoretical and aural skills and concepts, and, in understanding music in an historical context.