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CAREER AND LIFE MANAGEMENT (CALM)

CALM 20 (Career and Life Management) - 3 credits

Required for High School graduation

The aim of senior high school Career and Life Management (CALM) is to enable students to make well-informed, considered decisions and choices in all aspects of their lives and to develop behaviors and attitudes that contribute to the well-being and respect of self and others, now and in the future. CALM is the core course for health literacy at the senior high school level in Alberta. Emphasis is placed on individual decision making and goal setting throughout the CALM course.

CALM provides students with opportunities to develop and shape their lives occupationally, financially, and socially. The curriculum is organized into three major units: Personal Choices, Resource Choices, & Career and Life Choices. In addition, the course will contain one optional theme, Human Sexuality.
CAREER AND TECHNOLOGY STUDIES (CTS)

The Career and Technology Program of Studies offers students the opportunity to explore complementary courses that can develop and cultivate their individual talents, interests and abilities. These courses can help students:

- prepare for entry into the workplace and/or related post-secondary programs
- develop daily living skills
- investigate career skills

Alberta Education has reorganized the Career and Technology Program of Studies from the original 22 “strands” to 5 occupational “clusters”. The occupational clusters are based on the National Occupational Classifications (NOC). The 5 occupational clusters include: Business, Finance and Information Technology (BIT), Trade, Manufacturing and Transportation (TMT), Media, Design and Communication Arts (MDC), Health, Recreation and Human Services (HRH) and Natural Resources (NAT). The intent of this reorganization is to make it easier for students to develop a personal “pathway” when planning for post-secondary education or employment after high school. A pathway is a series of high school courses that reflect a student’s interests and abilities.

Advanced Level courses may be used to satisfy Alberta high school diploma requirements. Depending upon the university and faculty chosen, advanced level C.T.S. courses may be used for university entrance purposes. They may also be used for the Rutherford scholarship.
BUSINESS ADMINISTRATION, FINANCE AND INFORMATION TECHNOLOGY (BIT)

- Computer Graphics
- Computer Science
- Financial Management
- Management & Marketing

COMPUTER GRAPHICS/MULTIMEDIA

Computer Graphics 202 - 3 credits
Turn simple snapshots into unique photographs. Using Photoshop, learn to edit and enhance photos from the digital camera for printing, illustration and for the Web. Create effects that are seen in magazines, on TV, and on the Web. Retouch photos, colour, paint, add filters for special effects and make alterations to the photos. Students will be introduced to the fundamentals of animation, photo editing and graphic manipulation using Adobe software and photo capturing devices. The elements and principles of design for various media will be introduced. Students will use a variety of animation techniques to produce a simple animation; the focus is on basic skills, including planning, keyframing, stage set-up and production, used to create a moving picture. Storyboarding will be used to plan out a final animation project that tells a story.

Students learn the fundamentals of consumer-based digital image acquisition, management, composition, manipulation and editing software to improve image composition using Adobe Photoshop, Adobe Bridge, Adobe Soundbooth and other titles in the Adobe software lineup.
Computer Graphics 300 - 3 credits
Prerequisite: Computer Graphics 202
In the first module students will further their animation skills by learning how to design their own animations using 2d and 3d animation software for projects such as company and logo advertisements.

Students explore the evolution of various animation styles and techniques (traditional and digital). Students apply planning, idea development and storytelling techniques to create an effective animation. Students will also be introduced to character modeling using Autodesk Mudbox software.

They will have a thorough understanding of animation basics and know how to incorporate sound and interactivity to create engaging animations. In the second module students will work with their teacher to create a multimedia project of their choice.

Students will submit a project proposal and use the tools at their disposal to meet their outcomes. Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

In the final module students will work on various photography and graphic editing projects including movie posters, advertisements and relevant graphic projects in the world today. Students acquire original digital images from a digital camera and extend and refine their knowledge of image-editing software. Students focus on composition principles and more advanced editing techniques to enhance images as well as ways to maintain and organize personal libraries.

Computer Graphics 310 - 3 credits
Prerequisite: Computer Graphics 300
This course is a continuation of Computer Graphics 300. Photography and graphic editing focus.

Students will learn to use the advanced features of animation and image editing software as well as video editing techniques such using Adobe software tools. Students will create interactive presentations using multiple software titles and tools at their disposal.
This course includes a project module where students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.
COMPUTER SCIENCE

Computer Science 101 - 3 credits
Introduction to Computer Programming: This is an introductory Computer Science course that uses Alice, a Java based programming system. Students rapidly learn about object oriented programming. Students create movies and interactive games with characters from Alice in Wonderland, ballerinas, wizards, samurai, space aliens, robots, and lost worlds of ancient Greece and Egypt. Students are also introduced to other areas of computing such as robotics.

Computer Science 201 - 3 credits
Prerequisite: Computer Science 101
Object-Based Programming: Using the Java computer programming language, students will solve problems by organizing information in a way that reflects the real world rather than the way computers are designed. Students will develop their understanding of decisions and repetitive instructions. They will also be introduced to Java graphics libraries and use lists of information called arrays in their programs.

Computer Science 202 - 3 credits
Prerequisite: Computer Science 201
Object-Oriented Designs and Data Structures: This is a more advanced class that places an emphasis on systematic class design using a subset of UML (Unified Modeling Language), test driven development, debugging and error handling. Recursion, inheritance and polymorphism get demystified.
**Computer Science 301** - 3 credits  
*Prerequisite: Computer Science 202*

**Project Driven Application of Computer Science Skills:** Students develop their understanding of hardware and software as well as apply their computer programming skills. The ability to store data to files and implementing graphical user interfaces will be developed. Students will prepare a major project that develops their project management skills and integrate their skills acquired in other CTS areas.

**Computer Science 302** – 3 credits  
*Prerequisite: Computer Science 202*

**Dynamic Data Structures, Recursion and Project Problem Solving:** Data structures are explored with each structure being presented in the context of the standard Java collections library using iterators, sets and maps. Students also learn to implement their own structure classes. A major project is undertaken to synthesize concepts covered, the programs students develop are now more sophisticated, and an emphasis is placed on efficiency and speed of accessing data.
Financial Management 101 - 3 credits
The introductory level course will give students some experience in the mechanics of the accounting cycle. They will be introduced to the step-by-step preparation of simple sets of accounting records in a service business. This includes the preparation of journals, ledgers, and simple financial statements. This course will assist students if they take accounting in post-secondary institutions.

Financial Management 201 - 3 credits
Prerequisite: Financial Management 101
Students will be introduced to a step-by-step preparation of accounting records for a merchandising business. This includes the preparation of journals, ledgers, and simple financial statements. Incorporated through the course will be the opportunity to learn and use computer software to discover how this software may be used effectively to assist in the creation of accounting records.

Financial Management 301 - 5 credits
Prerequisite: Financial Management 201
Financial Management 30 allows students to take prior accounting knowledge and apply those skills in real world situations. Through the use of case studies, an investing competition while and numerous real world examples we will learn how to read and analyze the financial health of a business and prescribe ways in which to improve that health. We will also learn how determine which businesses are good investments and which are not. Come and make millions in Financial Management 301!
## MANAGEMENT AND MARKETING

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<th>Course Code</th>
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<th>Credits</th>
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<td>Management and Marketing</td>
<td>5</td>
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<tr>
<td>201</td>
<td>Management and Marketing</td>
<td>3</td>
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<tr>
<td>301</td>
<td>Management and Marketing</td>
<td>3</td>
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### Management and Marketing 101 - 5 credits

Students will learn how to be an entrepreneur. In the classroom, they will develop and operate their own businesses. By learning how to formulate a business plan, they will create and sell a product their company has designed.

### Management and Marketing 201 - 3 credits

Learn basic management and marketing concepts, as well as retail merchandising strategies. Study the basics for setting up and successfully running a retail business.

### Management and Marketing 301 - 3 credits

This is the class to learn about what it takes to be a business person. A great introduction if you have an interest in joining the business world right away and very valuable if you intend to take business at the post-secondary level.

Create your very own advertising campaign for television, radio and magazines! In this exciting and dynamic class, you are the creator, producer and director of an exciting marketing campaign. You will learn about effective selling strategies, and have the opportunity to deliver a pitch! Learn about strategies that are used to inform potential customers about products and services available in the marketplace, as well as techniques for successful selling.

Students will also have the opportunity to look at organizational structures, management theories and organizations as working units. The manner in which business decisions are made within the community, provincially, nationally and globally will be examined.
TRADE, MANUFACTURING AND TRANSPORTATION (TMT)

CONSTRUCTION TECHNOLOGY

These courses will introduce students to the interesting world of woodworking. Learn about the many different types and uses of wood - from furniture and cabinet making, to home construction and renovation.

These courses will be of interest to all students whether their interests are career exploration, art and design, or general interest.

**Construction Technology 101** – 3 credits  
*Prerequisite: None*  
In Construction Technology 101 students will be introduced to basic hand tools, simple wood joinery techniques, and safe usage of large power tools. Students will complete projects using various solid woods.

**Construction Technology 201** – 3 credits  
*Prerequisite: Construction Technology 101*  
Construction Technology 201 will continue to build upon the basic skills learned in Construction Technology 101, with the student focusing more on furniture and cabinet making. Multiple materials will be used and students will learn how to combine composite materials.

**Construction Technology 202**  
*Prerequisite: Construction Technology 101*  
In Construction Technology 202 students will continue to build on the skills developed in Construction Technology 201. Students choosing both Construction Technology 201 and 202 will be able to build larger and/or more elaborate wood projects.

**Construction Technology 301**  
*Prerequisite: Construction Technology 101*
Construction Technology 301 continues to develop skills in the fine art of furniture making and design. This course will provide the student an opportunity for complete design and creation of a free standing project of their choice.
ELECTRONICS

Electronics
Approximately seventy percent of class time will be spent on practical lab work, exercises, and building projects. The remaining 30% will be spent on theory.

Electronics 101 - 3 credits
This is an introductory electronics course, where you will learn the main function of many electronic gadgets. Study DC power sources and learn how to read and measure resistances and voltages in DC circuits using a multimeter. You will learn bread boarding techniques and construct several circuits to practice your skills. Finally, you will assemble your own electronic project that you get to keep! – Strobe light

Electronics 201 - 3 credits
Prerequisite: Electronics 101
Digital electronics. Learn the building blocks to digital electronics. You will identify and explain logic systems, construct and experiment with basic gates, and simulate circuits using electronic workbench. You will completely disassemble a working computer system (easy part) and then reassemble the system to ensure it is still working properly (tricky part). You will be introduced to pneumatic circuits and have the opportunity to build 10 circuits using a variety of pneumatic components on the Festo learn line apparatus’, and simulate circuits using FluidSim. Finally, using the photographic method you will assemble your own digital electronic project that you get to keep! – Siren.

Electronics 301 - 3 credits
Prerequisite: Electronics 201
Power Supplies. This is an intermediate electronics course and will continue to build upon the basic skills learned in Electronics 101. You will explore, experiment, and manipulate various electrical components and equipment such as capacitors, transformers, oscilloscopes, and
ohmites. You will be introduced to electro-pneumatic circuits and have the opportunity to build 10 circuits using a variety of electro-pneumatic components on the Festo learn line apparatus’, and simulate circuits using FluidSim. Finally, you will build and design your very own DC power supply that you get to keep!

**Electronics 302** - 3 credits  
*Prerequisite: Electronics 201*  
**Automation & Robotics.**  
You will learn how to identify, interface, and experiment with small scale robots, such as Vex and Lego MindStorm. Construction techniques will be explored as you build and experiment with numerous variables to increase the efficiency and desired outcome of the task. You will also gain experience in controlling the robot through a variety of programming techniques. Using the Arduino-Uno platform, you will bread board several circuits and manipulate the outcomes with the programming language C. Finally, you will create a fully automated system using 4 MecLab’s.
MECHANICS

Mechanics
The focus of the Mechanics courses is on skill development. The courses will be of benefit to all students, whether their interests are in vehicle ownership or career exploration.

Mechanics 101 - 3 credits
Mechanics 101 is an introductory level course. Students will study various vehicle systems and gain an understanding of how they operate together to make a functioning vehicle. Minor mechanical tasks will be performed in Mechanics 101 as well as disassembly and reassembly of a small gasoline engine. CTS modules in Mechanics 101 include:
   - vehicle service and care
   - engine fundamentals
   - hydraulic and pneumatic systems.

Mechanics 201 - 3 credits
Prerequisite: Mechanics 101
Mechanics 201 is an intermediate level course that will focus on major mechanical repairs. CTS modules in Mechanics 201 include:
   - braking systems
   - ignition systems
   - electric fundamentals.
Theory and practical tasks will cover all aspects of these vehicle systems.

Mechanics 300 (301 and /or 302) - 3 or 6 credits
Prerequisite: Mechanics 201
Mechanics 300 is an advanced level course. Students will be able to choose from a number of CTS modules. Modules in Mechanics 300 include:
   - electrical components
   - engine performance diagnosis
- engine tune-ups
- engine removal and installation
- engine reconditioning I (upper engine)
- engine reconditioning II (lower engine)
- computer management systems
- automatic transmissions.

Prerequisites apply to some modules; therefore not all modules included in Mechanics 300 are available to all students. Students who have received full credits in Mechanics 101 and 201 will have the required prerequisites for all modules.
MEDIA, DESIGN & COMMUNICATION ARTS (MDC)

DESIGN STUDIES

Design Studies 101 → Design Studies 201 → Design Studies 301 → Design Studies 302

Design Studies 101 - 3 credits
Students develop an understanding of design problems through research and select, generate and evaluate possible solutions. Students develop basic knowledge and skills in computer-aided design (CAD). The course involves basic design sketching for architectural floor planning. Students create their own real world simulated products using solid part modeling software from Autodesk. In addition to Industrial product design students will spend time building houses in Revit Architecture by Autodesk.

3D printing is introduced with student designs printed in class using Autodesk Inventor software. Students also create a 3D model of a bungalow house from their earlier floor plan using Autodesk Revit architectural software.

Design Studies 201 - 3 credits
Prerequisite: Design Studies 101
Students are given a design brief and the opportunity to enter in the Calgary Home Builders design competition. Students plot their work on a large format printer and create poster-boards from their architectural plans to enter in the city wide competition. Study architectural design dealing with residential construction techniques and their representation on drawings using Autodesk Revit architectural software. Students have a choice to further explore industrial design concepts creating solid part models through the use of Autodesk Inventor software. Students create parts, assemblies and digital prototypes simulating real world products. OR take a module introducing 3d Animation concepts using 3ds Max software by Autodesk.
Design Studies 301 - 3 credits
Prerequisite: Design Studies 201
Students create their own design brief for an architecture project of their choice, producing a set of working drawings for an architectural structure using Autodesk Revit Software. Students will be given the opportunity to produce working drawings and media to add to their design portfolio. Students may continue working with solid part assemblies in Autodesk Inventor and animation using Autodesk 3ds Max. Students concentrate on various drawing and computer drawing types to illustrate design concepts and solutions. From a design brief students will deal with such aspects as shaping, massing, proportion, scale, contrast, colour, texture and finish within the context of complex three-dimensional design projects. A variety of software programs from the Design Academy Suite will be used including 3ds Max for animation and architecture visualization projects, Inventor for solid part assembly modeling and Revit for architecture design problems.

Design Studies 302 - 3 credits
Prerequisite: Design Studies 202
Students are given a choice of potential design projects and software to accomplish module objectives to create a portfolio based presentation of work created in their previous courses. Project topics range from architecture to industrial design and design visualization using animation software such as 3ds max. Course is largely project based.
HEALTH, RECREATION, AND HUMAN SERVICES (HRH)

COSMETOLOGY

HAIR STYLING

Cos. 101 → Cos. 201 → Cos. 301 → Cos. 302

OR

ESTHETICS

Cos. 102 → Cos. 104

The Cosmetology program offers three years of study for students who are interested in learning all the secrets used to create artistic hair styles, haircuts, colors, and perming techniques. Students will also learn how to care for their nails, skin and to apply make-up products, by learning how to give esthetic treatments, and by choosing the best professional beauty products to use for themselves and others.

In grade 10, students can choose from four 3 credits courses. Students need a minimum of 3 credits from grade 10 in either the Cos. 101 or Cos. 102 courses to advance to the Cos. 200 level and then the Cos. 300 level.

Cosmetology 101 (HAIR STYLING) - 3 credits
No prerequisite
This course will introduce the students to basic hair styling tools and techniques used to create a variety of hair styles with thermal styling, braiding designs, shampoos, roller sets and comb outs. These are just some of the techniques taught in this course. Students will also learn about professional hair care products that they can use for their own hair and scalp care needs.
**Cosmetology 102 (ESTHETICS) - 3 credits**

*No prerequisite*

This course will teach the student how to care for their hands and nails. Students will be taught how to give a basic manicure with massage manipulations, and learn how to create nail art designs. They will also learn to give a facial treatment and do a make-up application while gaining a better understanding of professional skin care and make-up products.

**Cosmetology 104 (ESTHETICS) - 3 credits**

*Prerequisite: Cosmetology 102*

This course is for students who want to learn more about creating nail art designs, French manicuring, skin care and facials services. Included will be spa inspired treatments such as aroma therapy, reflexology, and air brush make-up applications.

**Cosmetology 201 (HAIR STYLING) - 5 credits**

*Prerequisite: Cosmetology 101*

This course will provide students with an opportunity to develop skills and knowledge in hair cutting, hair coloring, and permanent waving. Students will continue to develop skills in shampooing, thermal styling, roller sets and comb outs on short and long hair. Students will receive not only their own manikin for hair cutting, and a cutting comb.

**Cosmetology 301, 302 (HAIR STYLING) - 5 credits each course**

*Prerequisite: Cosmetology 201*

Students at the 300 level of Cosmetology will be prepared to provide clients with basic salon services, such as: shampoos and sets, haircuts, colors, highlights, and perms. Students will also learn how to give pedicures and hair removal services. Reception duties, product sales, and salon management are also included at the 300 level to prepare them for further training in an apprenticeship and salon employment.
FOOD STUDIES

Food Studies 101

Baking 201 → Baking 301

Cooking 202 → Cooking 302

Food Studies 101 - 3 credits
Students will learn the basics of cooking and baking by developing skills in the preparation of a variety of foods.

Each module in the Foods 10 course consists of a combination of food preparation labs and written activities. Learning how to plan, prepare and serve family size portions. Each module will include food sanitation, kitchen safety, and nutritional wellbeing.

You must successfully complete the Food Basics 1010 module in order to take sequential courses in Grades 11 or 12.

Baking 201 - 3 credits
Prerequisite: Food Studies 101
This course is in greater depth than Foods 101 with a focus on Baking. Students will develop their skills and learn to prepare a variety of baked goods from Yeast Breads, Cakes and Pastry and piping and icing techniques.

Baking 301 - 3 credits
Prerequisite: Baking 201
Baking 301 is in further depth into baking techniques and various types of icing. Written projects and baking projects are an expectation.
Cooking 202 – 3 credits
Prerequisite: Food Studies 101
More advanced cooking techniques and styles are practiced. Nutrition and healthy food choices and styles are explored. Modules include; Safety and Sanitation, International and Vegetarian Cuisine.

Cooking 302 - 3 credits
Prerequisite: Cooking 202
Cooking at the 302 level is advanced and continuing on from Cooking 202. In this course, more advanced cooking styles are explored. Theory and written work as well as selecting recipes are an integral part of this course.
LEGAL STUDIES

Legal Studies 101 - 3 credits
What are an individual’s rights? Through the use of realistic scenarios and case studies, students will gain a better understanding of our legal system. This exciting look at the Canadian justice system will include examining how laws directly affect students. This course will also look at various elements of criminal and civil law, and specifically at the Youth Criminal Justice Act.

Legal Studies 201 - 3 credits (No prerequisite)
Legal Studies 201 is an exciting class which allows students to examine in detail areas of law such as; Family Law, Employment Law, and Travel Law. Through the use of case studies and mock trials students will have the opportunity to examine a broad range of legal issues relating to personal relationships, contracts of employment, unions and collective bargaining, employment insurance, and workers’ compensation in the workplace. Students will also have the opportunity to learn about legal issues that may arise when individuals travel domestically and internationally.

Legal Studies 301 - 5 credits (No prerequisite)
Legal Studies 301 is a dynamic class that investigates topics in areas of law such as; Criminal Law, Negligence, and Property Law. We will examine the criminal justice system, including the criminal process and the roles and responsibilities of the participants. We also explore challenging and controversial issues that have impacted and formed our Canadian justice system. You will have the opportunity to go see a real court room and participate in your very own mock trial. If you have any interest in law or the criminal justice system, this is the course for you, no previous experience in Legal Studies is necessary.
SPORT MEDICINE

Sports Medicine 15 - 5 credits
This is a course for students who are interested in working as trainers with one of the school’s athletic teams. The curriculum offers a logical beginning for students who are interested in such fields as: sports medicine, physiotherapy, nursing, medicine, anatomy, kinesiology, physiology, physical education or basic first aid. In addition to class time, students are also required to work as trainers for a minimum of 20 hours with school teams.

Sports Medicine 25 - 5 credits
Prerequisite: Sports Medicine 15
This is a continuation of the Sports Medicine 15 course, concentrating on injuries of the upper body. Students will have to perfect a wide variety of taping skills, train in first aid and CPR, and increase their knowledge of stress tests and assessment of athletic injuries. For the practicum, students will work as a trainer for a school team for a minimum of 60 hours throughout the school year. Some of the curriculum content will be available on-line in order that students may work more independently.

Sports Medicine 35 - 5 credits
Prerequisite: Sports Medicine 25
This course includes a concentrated study in the areas of rehabilitation of athletic injuries and an understanding of a variety of treatment modalities. Students will use the computer to work on scenarios focusing on detailed assessment and immediate care. Advanced CPR, taping skills, massage, and a study of career options through guest speakers and tours are also studied. As a trainer of a team, students will also work with mentoring Sports Medicine 15 and 25 trainers. For the practicum, students will work as a trainer for a school team for a minimum of 60 hours throughout the school year. Some of the curriculum content will be available on-line in order that students may work more independently.
SPORT PERFORMANCE

**Sports Performance 15 - 5 credits**
The purpose of this course is to provide students involved in sports with the knowledge, skills and attitudes necessary to understand the factors related to sports performance. By exposing students to both the theoretical and practical nature of sports, students will be expected to demonstrate outcomes in a variety of areas. These include: current training principles, basic sport nutrition and hydration, performance evaluation, goal setting, leadership fundamentals, and sport psychology.

**Sports Performance 25 - 5 credits**
*Prerequisite: Sports Performance 15*
The purpose of this course is to build on the knowledge acquired in the Sports Performance 15 class. Students will be expected to demonstrate knowledge in high level athletic training. Students will study and use in a practical context: Developing and following a short term personal fitness plan, developing a nutrition and hydration plan, Olympic lifting, advanced concepts of speed, agility and aerobic training.

**Sports Performance 35 - 5 credits**
*Prerequisite: Sports Performance 25*
This course is a continuation of Sports Performance 25. This course focuses on year round high level athletic training. Sports Performance 35 concentrates on individual performance in an athletic setting. Students learn to design and implement a year-round program specific to an activity. Students will also learn to track and analyze their nutritional habits as they pertain to physical & mental performance.
YOGA

Yoga (3 or 5 credits)
This course will safely introduce students to the basic postures (asanas), breathing techniques and relaxation methods of yoga. It will also introduce students to the historical roots of yoga and give them an understanding of basic anatomy and physiology as it applies to this discipline. Students will develop an enhanced appreciation for, and acceptance of, their own body and its limitations. Students will learn to be non-judgmental about their own, and others’, yoga practices. The program is designed to allow students to experience the benefits of increased flexibility, strength, focus and concentration. They will relieve stress, learn to relax at will, and experience the health benefits of yoga. Students must provide their own yoga mat.
ENGLISH LANGUAGE ARTS

ELA 10-1, 20-1 and 30-1 are academically rigorous courses designed for students who are interested in the study, creation, and analysis of literary texts. Students registering in these courses should have demonstrated strengths in both their reading comprehension and writing skills.

ELA 10-2, 20-2 and 30-2 are courses for students who are interested in popular culture and real world contexts or students who have encountered difficulty with English and who could benefit from continuing support. This program can lead to the -1 program. Students should check with a guidance counsellor for more specific information regarding post-secondary entrance requirements.

**English Language Arts 10-1** - 5 credits
This is an academically demanding course designed to help students develop skills in reading, writing, listening, and oral communication. Assignments will encompass formal essays, critical analysis, personal responses, and creative writing for a variety of audiences and purposes. This course serves as a preparation for ELA 20-1 and ELA 20-1 IB. Course requirements include the study of short stories, novels, poetry, Shakespearean or modern drama, film, and non-fiction. Students who are best suited for this course are those who enjoy reading literature, writing critically about what they read.
English Language Arts 10-2 - 5 credits
This course is designed to help students develop fundamental skills in reading, writing, listening, viewing, and oral communication. Teachers will offer an integrated approach in the development of language arts skills by using short stories, novels, poetry, Shakespearean or modern drama, film, and non-fiction for discussion and writing. Assignments and activities stress personal, analytical and functional writing for a variety of audiences, contexts, and purposes.

10-2 Replacement
Students who are successful in ELA 10-2 (minimum grade of 65% is recommended) and would like an additional challenge should consider enrolling in ELA 10-1. They should consult with their English teacher prior.

English Language Arts 20-1 - 5 credits
Prerequisite: English Language Arts 10-1
Recommendation for Success – at least 65% in ELA 10-1
This is an academically demanding course designed to help students continue to develop more effective skills in reading, writing, listening and oral communication. Assignments encompass formal essays, both critical and analytical, personal responses, and creative writing for a variety of audiences and purposes. Course requirements include the study of short stories, novels, poetry, Shakespearean drama, film and non-fiction. Students who are best suited for this course are those who enjoy reading literature, writing critically about what they read.

English Language Arts 20-2 - 5 credits
Prerequisite: English Language Arts 10-2 OR 45% in ELA 10-1
This is a general course designed to help develop fundamental skills in reading, writing, listening, viewing and oral communication. Teachers will offer an integrated approach in the development of language arts skills by using short stories, novels, poetry, Shakespearean or modern drama, film and non-fiction for discussion and writing. Assignments and activities stress personal, analytical, and functional writing for a variety of audiences, contexts and purposes.
20-2 Replacement
Students who are successful in ELA 20-2 (minimum grade of 65% is recommended) and would like an additional challenge should consider enrolling in ELA 20-1. They should consult with their English teacher prior.

English Language Arts 30-1 - 5 credits
Prerequisite: English Language Arts 20-1 OR a Teacher Mark of 65% in ELA 30-2 and teacher recommendation
Recommendation for Success: 65% in English Language Arts 20-1
This is an academically demanding course that surveys a variety of literature and other texts, with emphasis on understanding themes and literary techniques. It is also designed to help students continue to develop more effective skills in reading, writing, representing, viewing, listening and speaking. Writing assignments encompass formal essays, both critical and personal, and creative writing for a variety of audiences and purposes. Course content includes the study of short stories, novels, poetry, Shakespeare play, modern drama or feature film, and non-fiction. Students who are best suited for this course are those who enjoy reading literature, writing critically about what they read.

Students will be required to write the Alberta Diploma Exam which will count for 30% of their overall grade.

English Language Arts 30-2 - 5 credits
Prerequisite: English Language Arts 20-2 OR 45% in English Language Arts 20-1
This is a general course that emphasizes the integration of life skills with a study of language, media, and literature. It is designed to help students develop fundamental skills in reading, writing, representing, listening, viewing and speaking. Teachers will offer an integrated approach in the development of language arts skills by using short stories, novels, poetry, Shakespearean or modern drama, film and non-fiction for discussion and writing. Assignments and activities stress personal, analytical, and functional writing for a variety of audiences, contexts and purposes.

Students will be required to write the Alberta Diploma Exam which will count for 30% of their overall grade. Students wishing to graduate with ELA 30-1 credits need to register in 30-1 after successfully completing ELA 30-2. A minimum grade of 65% is recommended to do this.
FINE ARTS

ART

Art 10 → Art 20 → Art 30

See IB Section for IB Art Courses

Art 10 - 5 credits
This is a fun and challenging introductory course which gives students the opportunity to explore and develop skills in drawing, colour and design, painting, ceramics and sculpture. The program also introduces students to the cultural importance of art through the study of significant artists. Junior high art is not a prerequisite; however students must have an interest in art and a good work ethic.

Art 20 - 5 credits
Prerequisite: Art 10
This is an intermediate course where students will continue to build their skills and confidence. Students will be challenged to explore a wider range of media in drawing, painting and sculpture.

Art 30 - 5 credits
Prerequisite: Art 20
This is the final course in studio art. Students will now have the skills and confidence to explore a number of individually developed projects. Students will further develop their skills and apply them towards the creation of original, personal statements in drawing, painting, photography, sculpture, printmaking and mixed media. All students in this course will exhibit their work in our Grad Art Show at the end of each semester.

The completion of this challenging program empowers students to visually express themselves with confidence. This program also enables serious art students to create competitive portfolios for application programs in art, graphic design, interior design and architecture to post-secondary.
CHORAL MUSIC

Choral Music 10 - 5 credits
This is a course that will allow the choral student to participate in a performing concert choir singing in a variety of musical styles and genres. It will be offered twice a week during after-school rehearsals outside the regular timetable for the entire school year. Concert Choir is scheduled this way to allow the ensemble to perform through the entire school year while receiving five credits. This course requires a commitment to a variety of performing experiences including concerts, workshops, and festivals.

Choral Music 20 - 5 credits
Prerequisite: Choral Music 10
This course builds upon the fundamentals of large ensemble singing as introduced in Choral Music 10. Student musicians are challenged to develop sight-reading skills, interpretive skills and independent rehearsal skills via section practices. In this course students will perform at school assemblies, the winter and spring concerts at the university, local music festivals, and a variety of Calgary venues.

Choral Music 30 - 5 credits
Prerequisite: Choral Music 20
In their third year of choir students will be expected to fulfill team leadership roles such as section leaders. They will serve as musical role models for younger musicians. This type of cross-grade course involvement allows students to work as musical mentors. This course requires a commitment to a variety of performing experiences. Students will perform at school assemblies, the winter and spring concerts at the university, local music festivals, and a variety of Calgary venues.
DRAMA

Drama 10 - 5 credits
This is an entry level program. It is not necessary to have junior high drama, however, a sincere interest in theatre is important. Areas of study are: movement, voice and speech, improvisation and character work.

Drama 20 - 5 credits
Prerequisite: Drama 10
Students will use the skills developed in Drama 10 to interpret and bring to life someone else's words - in other words, to focus on acting and script work. Acting, playwriting, scene study, and monologues are all part of the curriculum.

Drama 30 - 5 credits
Prerequisite: Drama 20
This course pulls everything together. Topics include: acting, directing, auditioning, and technical theatre. When students have completed this program, they will:
- be comfortable in any secondary theatre setting
- be comfortable auditioning for any program
- enjoy giving reports and other public speaking situations
- find the analysis of literature easier.
Most importantly, students will find they have the tools to control and focus their creativity in theatre. Excellence is the result.
TECHNICAL THEATRE

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<td>201</td>
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<td>301</td>
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Technical Theatre 101 - 3 credits
In this course students will work with set design, set construction, lighting, costume, stage management, etc. When possible, they will work with the current school production.

Technical Theatre 201 - 3 credits
Technical students at this level will be expected to work on two more areas in technical theatre, and to control a real project for the school play or some other production.

Technical Theatre 301 - 3 credits
Students at this level are expected to take a leadership role in a production.

This course runs outside the timetable in conjunction with the Mainstage Production. Enrolment is at the discretion of the department.
MUSIC (Instrumental)

If students do not own their own instruments, rentals are available.

**Music 10W (Woodwind Section) - 5 credits**

Prerequisite: *1 Junior high band participation OR a minimum of one full year of regular private lessons on a band instrument and an ability to read music.

This is a course designed to build fundamental musical skills on instruments. It emphasizes performance and covers all facets of music study including performance, theory, applied history, and chamber music. A midi-lab is used to augment the studies. **This course is a co-requisite needed to enroll in Music 15CB (Concert/Symphonic Band, which is another 5 credit course occurring outside the regular timetable).** All Band and Instrumental music students must have basic skills in reading music notation.

*1 3 years of Junior High band participation
Music 10BP (Brass/Percussion Section) - 5 credits  
Prerequisite: See Music 10W above

Music 15 CB (Concert/Symphonic Band) - 5 credits  
Prerequisite: Junior high music or equivalent private study  
Co-requisite: Music 10BP, 10WW  
This course allows the band student to participate in a performing concert band. It will be offered two times per week during early morning rehearsals outside of the regular timetable for the entire school year. Concert band and Symphonic band are scheduled in this way to allow the group to perform for the entire school year while receiving five credits. This course requires a commitment to a variety of performing experiences including: concerts, workshops, festivals, and band trips, which occur on evenings and weekends. Parents of students in Music 15CB (and 25CB and 35CB) are members of the Sir Winston Churchill Band Parents’ Association and volunteer to support the program. There are extra costs for Band 15

Music 20W (Woodwind Section) - 5 credits  
Prerequisite: Music 10BP OR Music 10WW  
Co-requisite: Music 25CB  
This course continues to develop the techniques of the apprentice student musician. Music theory, applied history, and chamber music continue at a higher level. Twelve mini-computer work stations are used for theory, ear training, and composition. This course is performance focused, and continues to develop musicality and music concepts for the instrumentalist. Independent study projects allow students to design and focus a portion of this course.

Music 20BP (Brass/Percussion Section) - 5 credits  
Prerequisite: See Music 20W above

Music 30W (Woodwind Section) - 5 credits  
Prerequisite: Music 20BP OR Music 20W  
This is a sequential program for the advanced apprentice musician. Independent study projects will allow students to design and focus a portion of the course. This course, along with some private music lessons on instruments, fulfills the requirements for university entrance.

Music 30BP (Brass/Percussion Section) - 5 credits  
Prerequisite: See Music 30W above
Music 25 CB (Concert/Symphonic Band) - 5 credits

*Prerequisite: Music 15 CB
*Co-requisite: Music 20B OR 20W

This course builds upon the fundamentals of large ensemble playing as introduced in Music 15 CB. Student musicians explore a wider array of repertoire and are challenged to develop sight-reading skills, interpretive skills, and independent rehearsal skills via section practices. This course requires a commitment to a variety of performing experiences including: concerts, workshops, festivals, and band trips, which occur on evenings and weekends. Parents of students in this course are members of the Sir Winston Churchill Band Parents’ Association and volunteer to support the program. There are extra costs for Band 25.

Music 35 CB (Concert Band) - 5 credits

*Prerequisite: Music 25 CB.
*Co-requisite: Music 30B OR 30W

In their third year of band, students will be expected to fulfill team leadership roles such as section leader, principal player, or soloist. They will be a musical role model for younger musicians. This type of cross-grade course involvement allows students to work as musical mentors. This course requires a commitment to a variety of performing experiences including: concerts, workshops, festivals, and band trips, which occur on evenings and weekends. Parents of students in this course are members of the Sir Winston Churchill Band Parents’ Association and volunteer to support the program. There are extra costs for Band 35.

Music 15, 25, 25 (Blue Jazz Band – Advanced Jazz Study) - 5 credits

*Co-requisite: Music 10 or 20 or 30 AND Music 15 or 25 or 35

*Concert/Symphonic Band

This group of musicians is selected by audition in mid-September. All members must be involved in the regular Concert/Symphonic Band program. This is a five credit course that meets twice per week outside of the regular timetable on Tuesday after school and Friday morning before school. This course focuses on advanced performance of jazz music and jazz improvisation in all styles, and will be limited to twenty musicians.
Musical Theatre 15 - 5 credits
Musical Theatre is designed for students who wish to explore their talents in the disciplines of acting, dancing and singing. Students will be introduced to a variety of musical styles from the 1920's to current Broadway hits.

Musical Theatre 25 - 5 credits
Prerequisite: Musical Theatre 15
In the second year of musical theatre, students will continue developing and refining their acting, dancing and singing skills. They will continue working with professionals, and will also begin to develop their own style. Directing skills are started, and students will be expected to perform small projects that are self-initiated.

Musical Theatre 35 - 5 credits
Prerequisite: Musical Theatre 25
In the final year of musical theatre students will develop and direct their own projects that will be presented to the school. In addition, resume and audition workshops will be explored. Students will be expected to perform in school productions as well as to continue to develop their singing, dancing, and acting skills.
INTERNATIONAL LANGUAGES

WHY LEARN ANOTHER LANGUAGE?

- The 21st century requires continuous adjustments to change.
- North America is expanding its trade and business dealings to more and more countries
- Knowing more than one language is becoming extremely important for graduates. Being unilingual is no longer adequate!
- Knowing how to communicate in at least one additional language as part of one’s repertoire will open more doors and provides people with many opportunities in fields such as science, economics, technology, literature and art.
- Studying additional languages helps students in all areas of their studies, improving their first language skills, and increasing their understanding of the world around them.

SIR WINSTON CHURCHILL HIGH SCHOOL OFFERS THE FOLLOWING LANGUAGES:

- Chinese
- French
- German
- Spanish

NOTE: These languages are considered to be academic subjects and; therefore, are used in calculating the academic average for scholarships and for entrance to many programs at the post-secondary level. Students are reminded that they are able to enroll in more than one international language during their high school career.

LEARN A LANGUAGE AT SIR WINSTON CHURCHIL HIGH SCHOOL THROUGH:

- Classroom activities
- Interactive multi-media language lab where students build fluency and understanding
- Exchange trips offered to Spain, Germany, and Quebec. These opportunities allow students to rapidly improve their language ability and also expand their cultural knowledge
• Opportunities for summer programs (e.g. summer jobs in Quebec) and individual opportunities for students to practice their language in immersion, real-life situations. See individual teachers for explanations.

Sir Winston Churchill offers IB courses in French and Spanish (See the IB section of this course guide.)

Students wishing to challenge language courses in Chinese, French, German or Spanish should contact the Learning Leader of International Languages for information on the procedures to follow. The challenge exam covers all four aspects of language: speaking, listening, reading and writing.
### CHINESE

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<th>Background</th>
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<th>Grade 11</th>
<th>Grade 12</th>
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<td>Chinese 20</td>
<td>Chinese 30</td>
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<tr>
<td>3 years of Junior High Chinese or family background in Chinese</td>
<td>Chinese 20</td>
<td>Chinese 30</td>
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**Chinese 10 - 5 credits**
This beginner level course is for students who have no background in Mandarin Chinese (or a very limited background). All four areas of language learning (listening, speaking, reading and writing) will be covered to provide students with basic communication skills. They will learn to read and write Mandarin Chinese using simplified characters. They will also learn many aspects of Chinese culture.

*Note:* Students who have had Chinese-as-a-second-language instruction at the junior high level for grades 7, 8 and 9 or those who have a family connection to the culture and minimal knowledge of Chinese language, may be eligible to challenge Chinese 10 and go to Chinese 20.

**Chinese 20 - 5 credits**
This course is for students who want to continue developing their language fluency and global understanding of Chinese culture.

**Chinese 30 - 5 credits**
In this course students will continue developing their language competence so that they will be able to use Mandarin to communicate outside the classroom.
# FRENCH

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<td>French 30 IB</td>
<td>French 31 IB</td>
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**French 10 - 5 credits**  
This beginner level course is for students who have no background in French (or a very limited background e.g. up to Grade 7). All four areas of language (listening, speaking, reading and writing) will be covered to provide students with basic communication skills through the study of a variety of topics.

**French 20 - 5 credits**  
*Prerequisite: French 10 or grades 7, 8 and 9 with a 70% average. Final assessment at the end of French 20 will determine whether credits are granted in French 10 and/or 20.*

This course continues to develop language skills in the four language areas. **A student is ready for French 20** if the following components can be used independently in speaking, listening, reading, and writing.
These include vocabulary and grammatical concepts of the French curriculum such as:

- verb conjugations:
  - avoir, être, faire
  - common -er, -ir, -re verbs (regarder, chercher, choisir, finir, vendre, attendre, etc.)
  - auxiliair verbs: vouloir, pouvoir, devoir, aller, aimer, préférer + infinitive
  - aller + infinitive
- adjective agreement (gender + number) and placement
- common adverbs
  - toujours
  - souvent
  - etc.
- coordinate conjunctions: et, mais, ou, parce que
- possessive adjectives (mon, ma, mes, ton, ta, tes, etc.)
- question formats
  - Est-ce que . . .
  - Question format with question words, such as: quand, comment, où, quel(s), quelle(s), (avec) qui, etc.
- prepositions
- articles, demonstrative adjectives, interrogative adjectives
  - un, une, des
  - le, la, les
  - du, de la, des
  - ce, cet, cette, ces
  - quel, quelle, quels, quelles
- negative and placement of negative with one and two verbs (ne. . . pas, ne . . . jamais)

**French 30 - 5 credits**

*Prerequisite: French 20 OR Grade 9 Immersion*

This intermediate level course is for students who have successfully completed French 20 or have graduated from the Grade 9 French Language Immersion Programs. This course further develops their ability to speak, understand, read, and write in French.

**TAKE PART IN THE 3 MONTH QUEBEC EXCHANGE PROGRAM!**

See IB section for French IB courses.
GERMAN

German Language and Culture 10 (5 credits)
This beginner course offers an initial experience in acquiring a fundamental knowledge of the German language. Through the various themes introduced all four components of language learning: speaking, writing, listening and reading will be emphasized. The student will have an introductory knowledge of the culture and history of Germany. Facets of everyday German life will be presented and experienced to some degree.

German Language and Culture 20 (5 credits)
Prerequisite: German 10
Continuing directly from the German 10 course this German 20 course gives a more in-depth study in oral German, grammar structures and reading. There is more emphasis on writing and knowledge of modern culture of the German-speaking countries. The information and work in this course focuses on practical every day vocabulary and structures. Successful completion of this course will make students eligible to participate in a three month exchange trip to Germany during the Grade 11 year.

German Language and Culture 30 (5 credits)
Prerequisite: German 20
This course is based upon knowledge obtained by students in German 10 and 20. The objectives are the further refinement of linguistic skills and adding to the cultural understanding and appreciation of the German way of life in order for students to be able to express themselves more freely in a variety of settings.

If students have previous experience with German, please make an appointment with the German teacher at the beginning of the school year before classes commence to determine which class is most appropriate.

TAKE PART IN THE 3 MONTH GERMAN EXCHANGE PROGRAM!
SPANISH

Spanish 10 - 5 credits
This is a beginner level course designed to help students achieve success in learning Spanish in context. Emphasis will be on the four components of language learning: reading, writing, speaking and listening. A variety of activities will be incorporated to ensure a spiral learning process with specific attention paid to different learning styles. The course is theme-based and uses relevant material to encourage the development of the learner’s Spanish.

Spanish 20 - 5 credits
*Prerequisite: Spanish 10*
This course follows Spanish 10 at an intermediate level. It focuses on perfecting and developing Spanish using a variety of thematic materials and activities. Course content focuses on the practical use of Spanish via reading, writing, speaking and listening and prepares the learner to proceed to Spanish 30. The course emphasizes conversation, spontaneous writing, using Spanish in the community, and provides the opportunity for students to develop effective language learning strategies.

Spanish 30 - 5 credits
*Prerequisite: Spanish 20*
This course builds on what was learned in Spanish 10 and 20 and incorporates a less structured manner of learning. Emphasis is placed on the students’ abilities to express themselves naturally and freely. By the end of the course students will have a very solid base in grammar and culture and be ready to meet the Spanish speaking world.

If students have previous experience with Spanish, please make an appointment with the Spanish teacher at the beginning of the school year before classes commence to determine which class is most appropriate.

TAKE PART IN THE 3 MONTH SPANISH EXCHANGE PROGRAM!
LATIN

Latin 10 – 5 Credits
This course is intended to introduce students to the Latin language. Students will develop the ability to read, understand, and translate Latin literature. Latin 10 provides students the opportunity to study the etymological influences of Latin on the English language. A detailed study of grammar is provided throughout the course which helps students to bridge their study of Latin with their everyday writing. This course helps to serve as a foundation for potential future courses of study in the Sciences such as pre-medicine. The history of early Rome will also be studied.

Latin 20 – 5 Credits
Prerequisite: Latin 10
Students enrolled in Latin 20 will continue their study of the Latin language. A more detailed and enhanced study will be placed upon Latin vocabulary, grammar, and syntax. Latin 20 provides a greater range of linguistic, political, and historical understanding of Ancient Rome.

Latin 30 – 5 Credits
Prerequisite: Latin 20
Latin 30 is an intense course as students truly enhance and further their understanding of the Latin language. An enriched study and appreciation for the structure of the language and the translation of excerpts of classical texts into colloquial English are explored throughout this course. Students will acquire an appreciation of life during the Roman Empire.
MATHEMATICS

Mathematics 10C (Common) - 5 credits
Prerequisite: Successful completion of Mathematics 9
Recommendation for Success: Students should have 60% in Mathematics 9 and Science 9 OR 75% in Math 10-3
This course is designed to serve both the Pre-calculus and Math Foundations streams that begin in grade 11. Students will study polynomials and factoring, coordinate geometry, systems of equations, exponents and radicals, measurement and right angle trigonometry.

Mathematics 10C (Candidate) - 5 credits
This course is designed to serve students that will be registering in the IB program. Students must register in this course if they wish to apply to the mathematics IB program. Students will study an enriched Mathematics 10C Common program as well as further investigations into number systems, set theory and coordinate geometry.

Mathematics 15 (Competencies) – 3 or 5 credits
This course is designed to strengthen skills in mathematics. Students who wish to improve math competencies, who found Math 9 challenging, and who wish to attempt Math 10 Common should consider enrolling in this course. Students will study algebra, exponents, fractions, and problem solving.
Mathematics 10-3 - 5 credits
This course is designed for students who were not successful in Math 9. Math 10-3 should be taken by students with less than 60% in Math 9 and Science 9. Students will study measurement, geometry, right angle trigonometry and finance.

Mathematics 20-1 - 5 credits
Prerequisite: Mathematics 10C OR Mathematics 20-2 with teacher recommendation.
Recommendation for Success: Students should have a 65% or better in Mathematics 10C or 75% or better in Mathematics 20-2.
Course content includes: algebra and numbers, trigonometry, relations and functions.

Mathematics 20-2 - 5 credits
Prerequisite: Mathematics 10C
This course includes: measurement, geometry, number and logic, statistics, relations and functions.

Mathematics 20-3 - 5 credits
Prerequisite: Mathematics 10-3 OR 45% or better in Mathematics 10C.
This course focuses on the trades. Topics include: measurement, geometry, numbers, algebra, and statistics.

Mathematics 30-1 - 5 credits
Prerequisite: Mathematics 20-1 OR Mathematics 30-2 with teacher recommendation
Recommendation for Success: At least 65% in Mathematics 20-1 or in Mathematics 30-2
In this course students will study: transformations, polynomial, radical and rational functions, exponential and logarithmic functions, permutations and combinations, trigonometric functions. A diploma exam is written upon completion of this course.

Mathematics 30-2 - 5 credits
Prerequisite: Mathematics 20-2 OR 45% or better in Mathematics 20-1 with a teacher recommendation
Topics in this course include: probability, permutations and combinations, polynomial and rational functions, exponential and logarithmic functions. A diploma exam is written upon completion of this course.
Mathematics 30-3 - 5 credits
Prerequisite: Mathematics 20-3 OR 45% or better in Mathematics 20-2 with a teacher recommendation
Topics in this course include: measurement, precision and accuracy, sine law and cosine law, polygons, transformations, linear relations, mean, median and mode, buying and leasing vehicles, running a small business

Mathematics 31 - 5 credits
Prerequisite: Mathematics 30-1
Recommendation for success: 70% in Mathematics 30-1
This course is designed for students who are planning to attend university and considering post-secondary studies in mathematics, applied science, engineering or business. The course begins with the study of limits, followed by an introduction to differential and integral calculus in one variable.
PHYSICAL EDUCATION

Physical Education 10 - 5 credits
Required for High School graduation
Students will participate in a variety of team activities and sports where the emphasis is on physical fitness, basic sport skills, strategies, rules, knowledge and understanding of techniques. There are a number of compulsory units, however students will be able to choose between a variety of sports and activities for the rest of their class curriculum. The course stresses cooperation, sportsmanship, self-discipline and active participation.

Physical Education 20 - 5 credits
(A one term 3-credit course is available)
Prerequisite: approved pass from Physical Education 10
Students will participate in individual lifetime oriented activities. Due to the off-campus nature of the course, classes will require travel time outside of the regular timetable. Activities include: badminton, bowling, broomball, curling, dance, tennis, golf, racquetball, and kayaking. A snow shoe unit culminates in a one day trip to Kananaskis. The 5 credit course has a service component of 4 hours. (The 3 credit course requires 2 service hours).
Successful completion of either the 3 or 5 credit course allows enrollment in P.E. 30.

Physical Education 30 - 5 credits
Prerequisite: Physical Education 20 (3 or 5 credit courses)
This course emphasizes individual off-campus activities and leadership skills. A leadership project involving volunteering in the community provides a valuable opportunity for individual growth. Course activities include: dance, rock climbing, curling, badminton, low organizational games, flat water and moving water kayaking, squash, tennis, and golf. The highlight of the course is an outdoor unit culminating in a three day camping trip.
The Physical Education 30 course may be used for university entrance in some situations.

Some of the activities in the Physical Education program have a limited element of risk to them. The department would like to assure parents and students that all activities will be taught with well-conceived progressions in very safe environments.
Science 10 - 5 credits
Prerequisite: Successful completion of grade 9 Science
Recommendation for Success: 60% based on teacher recommendation in grade 9 Science and in grade 9 Math 10 Common is advised
Science 10 is an integrated academic course designed to help students understand and apply concepts and skills common to biology, chemistry, physics and the environmental sciences. The themes of Science 10 are: energy, matter and change in chemical, technological, living, and global systems. Skills in algebraic problem solving, in tabling and graphing data, and in writing are used throughout the course. Strong math skills are expected. Workplace Hazardous Material Information System (WHMIS) is learned. A final lab exam is scheduled for each student during the time of final examinations. There are many opportunities for activities, research, lab work and projects. Successful completion of Science 10 should allow the student to develop common skills and attitudes that are a part of the scientific process, and enable the student to make wise choices for the completion of a Science program in high school.

Science 14 - 5 credits
Science 14 is a course designed to provide an opportunity for success if students had difficulty in grade 9 Science or grade 9 Math. Science 14 should be considered if a student’s grade 9 Science and Math marks are less than 60%. The units to be covered in the course include properties of matter, energy transfer technologies, matter and energy in living systems,
and matter and energy in the environment. Math skills are developed as well. Workplace Hazardous Material Information System (WHMIS) is also learned. If successful in Science 14, the student would normally next complete Science 24.

**Science 24** - 5 credits

*Prerequisite: Successful completion of Science 14*

Science 24 is intended to allow students to complete the Science credit requirements for an Alberta high school diploma (10 credits). There is no Science course that follows this one. Students should consider taking this course if their Science 14 grade is less than 80%, or they have been recommended to take this course by their Science 10 teacher. The concepts in Science 24 build on those developed in Science 14, and include a study of the applications of matter and chemical change, understanding common energy conversions systems, linking disease defense and human health, and studying motion change and transportation safety. Skills in group or team work, individual work, lab work, computer use, math skills, reading, writing and communication skills are usually developed in this course.

**Biology 20** - 5 credits *

*Prerequisite: Successful completion of Science 10*

Recommendations for Success: 60% in Science 10 overall and 60% in the biology unit of Science 10. Chemistry 20 background and greater than 60% in Math 10 Common would be an asset.

Biology is the study of living systems. Students will study the processes in the exchange of matter and energy in the biosphere, ecosystems and population change, photosynthesis and cellular respiration, and some human systems. An extensive field study is required. Tabling, graphing, and writing skills are used throughout this course. Strong math and communication skills are required. Group work and computer work are expected, and independent study may be undertaken.

**Biology 30** - 5 credits *

*Prerequisite: Successful completion of Biology 20*

Recommendations for Success: 60% in Biology 20. Chemistry 20 background and successful completion of Math 20-1 would be an asset.

The concept of maintaining equilibrium is examined through the study of electrochemical and chemical control in human systems. The theme of change is a focus of learning in the study of human reproduction and development. The topics of genetics and molecular biochemistry, as well
as changes observed quantitatively in populations and communities are covered in this course. Tabling, graphing, and writing skills are used throughout this course. Strong math and communication skills are required. A diploma exam is written upon completion of this course.

**Chemistry 20 - 5 credits** *

*Prerequisite: Successful completion of Science 10  
Recommendations for Success: 60% in Science 10 and 60% in the Chemistry unit of Science 10. Students with success in the Chemistry unit of Science 10 will have a better chance to master the concepts in Chemistry 20. Greater than 60% in Math 10 Common is recommended.*

Chemistry is the study of matter and its changes. In Chemistry 20 the different states of matter are investigated and the types of attractive forces between particles are discussed. Solutions such as acids and bases are introduced. Mathematical relationships between species in a reaction are investigated. Chemical reactions, algebraic problem solving, skills in tabling data and graphing, and writing are used constantly. Strong math and communication skills are expected. Skills (from Science 10) in naming chemicals, writing formulas, and balancing reactions, are expected at the beginning of this course. An in-class individual final lab exam is planned near the end of this course.

**Chemistry 30 - 5 credits**

*Prerequisite: Successful completion of Chemistry 20  
Recommendation for Success: 60% in Chemistry 20. Successful completion of Math 20-1 is recommended.*

Chemistry 30 requires mastery of some topics taken in Chemistry 20 and extends these topics in the study of introductory organic chemistry, energy changes in chemical reactions, acid-base chemistry, reaction rates and equilibrium concepts, and a detailed study of oxidation-reduction reactions. Algebraic problem solving and skills in tabling, graphing data and in writing are used constantly. Strong math and communication skills are necessary. A diploma exam is written upon completion of this course.
* Blended Science Courses
Chemistry and Biology are offered in the traditional classroom and in a blended program. In the blended program, students complete much of the course online, using D2L. In-class work is expected for lab work and for major assessments. It is important that students interested in taking a blended program are self-directed learners who will take the initiative to work on their blended class daily. Students are responsible for daily work; therefore self-motivation to stay on track is essential to success in a blended program. Students can select a blended class on their course selection form; however it will only be offered if there is sufficient demand.

Physics 20 - 5 credits
*Prerequisite: Successful completion of Science 10
*Recommendation for Success: 60% in Science 10 overall and 60% in the Physics unit of Science 10. At least 60% in Math 10 Common is recommended. Completion of or concurrent registration in Math 20-1 is recommended.

Physics is the study of matter and energy and their interactions. Through a study of physics, an opportunity is given to explore and understand the natural physical world and to become aware of the influence of physics on our lives. Topics include: kinematics, dynamics, periodic motion and conservation of energy. Skills in algebraic problem solving, tabling and graphing data are used throughout the course. Success in this course depends on strong math and communication skills.

Physics 30 - 5 credits
*Prerequisite: Successful completion of Physics 20
*Recommendations for Success: 60% in Physics 20. Greater than 60% in Math 20-1 is recommended.

This is a continuation of the study of Physics concepts, with the addition of more abstract topics. It emphasizes conservation laws (especially momentum and energy), electricity and magnetism, field theory, electromagnetic induction and waves, models of the atom, wave-particle duality and radioactivity. Algebraic problem solving, tabling, graphing and writing skills are used throughout this course. Strong math and communication skills are required. A diploma exam is written upon completion of this course.
Science 20 - 5 credits  
*Prerequisite: Successful completion of Science 10*  
*Recommendations for Success: 60% in Science 10. Successful completion of Math 10 Common (greater than 60%) is expected.*  
Science 20 is an academic Science course that has been designed to fit students’ needs if they intend to go into post-secondary studies leading to a non-Science career. This course is designed to help students become scientifically literate adults by exposing them to a variety of Science topics from Biology, Chemistry, Physics, and Earth Science. The theme of change is explored in relation to geologic evidence, matter and energy in the biosphere, in chemical systems, and in velocity, acceleration, force and momentum. Algebraic problem solving, tabling, graphing and writing skills are used throughout this course. Strong math and communication skills are recommended.

Science 30 - 5 credits  
*Prerequisite: Successful completion of any of Science 20, Chemistry 20, Biology 20 or Physics 20*  
*Recommendations for Success: 60% in the prerequisite course. Successful completion of Math 20-1 is expected.*  
Science 30 is an academic Science course. There is a major emphasis throughout this course upon developing skills in using scientific knowledge to make personal decisions. Science 30 continues the integration of the Science disciplines. The four units of study include living systems responding to their environment, chemistry in the environment, electromagnetic energy, and energy and the environment. Algebraic problem solving, tabling, graphing and writing skills are used throughout this course. Strong math and communication skills are required. A diploma exam is written upon completion of this course.
Social Studies 10-1 - 5 credits
Prerequisite: Social Studies 9
This course will examine multiple perspectives on the origins of globalization, and the impacts of globalization on culture, economies, human rights and quality of life for the world community. Students will examine these relationships with the goal of enhancing their skills for effective participation as citizens in a globalizing world.

The use of multiple perspectives will encourage the examination of globalization on Canadians (including impacts on Aboriginal and Francophone communities), as well as the global population. Themes of study will include concepts such as: identity development and cultural diffusion, historical studies of globalization and imperialism and the effects on contemporary, economic development; the status of human rights, and citizen’s roles, and the global community for both indigenous and non-indigenous peoples.

Social Studies 10-2 - 5 credits
Prerequisite: Social Studies 9
This course will allow students to explore historical aspects of globalization as well as the effects of globalization on lands, cultures, human rights and quality of life. Students will explore the relationships among globalization, citizenship and identity. The infusion of multiple perspectives will allow students to examine the effects of globalization on people in Canada and other locations, including the impact on Aboriginal and Francophone communities. Students will develop skills to respond to issues emerging in an increasingly globalized world.
Social Studies 20-1 - 5 credits  
*Prerequisite: Social Studies 10-1*  
*Recommendation for success: 65% in Social Studies 10-1*

In this course, students will explore the complexities of nationalism in Canadian and international contexts. They will study the origins of nationalism and the influence of nationalism on regional, national, international and global relations. The infusion of multiple perspectives will allow students to develop an understanding of nationalism and how nationalism contributes to the citizenship and identity of peoples in Canada. Themes of study will include concepts such as: the relationship between nation and nation-state, the various types of nationalism (ethnic, civic, religious, political, economic, cultural, linguistic, spiritual and psychological), the connection between nation and identity, and the development of nationalism.

Social Studies 20-2 - 5 credits  
*Prerequisite: Social Studies 10-2*  

In this course, students will examine historical and contemporary understandings of nationalism in Canada and the world. They will explore the origins of nationalism as well as the impacts of nationalism on individuals and communities in Canada and other locations. Examples of nationalism, ultranationalism, supranationalism and internationalism will be examined from multiple perspectives. Students will develop personal and civic responses to emergent issues related to nationalism.

Social Studies 30-1 - 5 credits  
*Prerequisite: Social Studies 20-1 OR Social Studies 30-2*  
*Recommendation for Success: 60% in prerequisite courses*

This course is intended for students who have an interest in ideas and issues drawn from history, geography, economics, social science, and the humanities. Students will explore the origins and complexities of ideologies and examine multiple perspectives regarding the principles of classic and modern liberalism. An analysis of various political and economic systems will allow students to determine the viability of the principles of liberalism. Developing understandings of the roles and responsibilities associated with citizenship will encourage students to respond to emergent global issues. This understanding will enable students to effectively investigate, analyze and evaluate government policies and actions and develop individual and collective responses to
contemporary local, national, and global issues. A diploma exam is written upon completion of this course.

**Social Studies 30-2 - 5 credits**

*Prerequisite: Social Studies 20-1 OR Social Studies 20-2*

In this course, students will examine the origins, values and components of competing ideologies. They will explore multiple perspectives regarding relationships among individualism, common good and collectivism. An examination of various political and economic systems will allow students to assess the sustainability of the practices of political and economic systems and the viability of the values of liberalism. Developing understandings of the roles and responsibilities associated with citizenship will encourage students to respond to emergent global issues. An awareness of the evolution of ideologies is key to comprehending and responding to local, national and global issues. A diploma exam is written upon completion of this course.
Psychology 30 - 6 credits

Prerequisite for Psychology: Social Studies 20-1 OR Social Studies 20-2
Prerequisite for Applied Sociology: Social Studies 20-1 OR Social Studies 20-2 and successful completion of Psychology 30

This course consists of two term courses for 3-credits each (Psychology and Applied Sociology).

Psychology: This is a complementary academic course designed to introduce students to the social science of psychology. An intriguing science focusing on how the mind works, psychology is relevant and useful to each and every one of us. Students will explore a variety of topics and theories including cognitive processes (learning, thought, memory), personality theory, human development, stress, mental health and mental illness, therapy, altered states of consciousness, positive psychology, research methodology, and many more! Students will experience a variety of learning opportunities to develop their understanding of mental processes, and to build perspective of how and why human beings act and interact in this world.

Applied Sociology: Students will engage their critical thinking skills in this introduction to the study of human society. Exploring topics from socialization, culture, gender, conformity, and media, to social institutions, movements, and change, students are challenged to think like a sociologist and examine assumptions about society. Throughout the course students formulate sociological questions and participate in a variety of class activities and discussions, building connections between their personal experiences and the larger social forces around them.
WORK EXPERIENCE/CAREER EXPLORATION  
15/25/35

Work Experience provides students with an opportunity to do some career exploration while working or volunteering outside the classroom in a community or professional environment. This course is designed for both career exploration and the development of valuable employability skills. Work Experience offers students the chance to experience certain career paths before they start or choose their future post-secondary path. Students must acquire a minimum of 75 hours to earn 3 credits and then they receive 1 credit for every 25 hours earned after the 75 hours worked at their work site, verified by their employer on a weekly time sheet. Work Safety (HCS3000), a 1 credit course must be completed by all students prior to beginning at their work site.

REGISTERED APPRENTICESHIP PROGRAM (RAP) 
15/25/35

RAP is a wonderful opportunity for those students who wish to pursue a career in the trades after high school. This course allows students to be matched with a journeyman mentor to begin their apprenticeship while still in high school. The students must complete Work Safety (HCS3000), a 1 credit course, before being placed. If they are involved with construction trades, the CSTS course must be taken as well prior to their placement. Students then complete a 5 credit (125 hour) work experience probationary period at the work site, to see if the match is working for both student and mentor. If both sides are in agreement, the apprenticeship may begin. Hours are earned towards the student’s trade, while earning high school credits and receiving a salary.

- Students wanting to be involved in the RAP Program should start in the spring/summer of their Grade 10 or 11 year. A student/parent information night will be held in the spring.
SPECIAL PROGRAMS

ENGLISH LANGUAGE LEARNERS (ELL)
Formerly known as English as a Second Language (ESL)

ELL Introduction (Beginners) - 5 credits
This is a beginner level class offered for our level 1 and 2 students. In this class, students focus on reading, writing, grammar and vocabulary as well as learning some basic communication skills. Students enrolled in this class will be working towards completing Alberta ELL Proficiency Benchmarks 1 and 2.

ELL Introduction to Canadian Studies - 5 credits
This is a Social Studies course designed for students who are new to Canada. The course teaches Canadian social issues, geography, history, politics and culture. Students work on their reading, writing, speaking and listening skills while learning about Canada. This class is for students who are working on completing Alberta ELL Proficiency Benchmarks 1, 2 and 3.

ELL Intermediate (Level 3/4) - 5 credits
This is a low-intermediate/intermediate level English class. Students will continue to develop their language skills. There is a strong emphasis on improving writing skills, reading comprehension, vocabulary-building and grammar. In this course, students begin to develop their academic language. This class is for students who are completing Alberta ELL Proficiency Benchmark 3 and 4.

ELL Science Process and Vocabulary - 5 credits
This sheltered science course helps students build the vocabulary, knowledge and process skills required for further science courses. Students learn how to write lab reports and develop investigative and reading skills necessary for science. Students who successfully complete this course and have their teacher's recommendation progress to Science 10.
**Full Year English Class** - 10 credits

This course is designed to prepare students for English 10-2 credits and/or English 10-1 credits by completing requirements for Expository English 15 in the first semester. At mid-year, students may be able to challenge the English 10-2 final exam or the English 10-1 final exam as determined by the teacher. Teachers will then recommend the next English course: either continue in English 10-2 or English 10-1 in their grade 10 year; or move to English 20-2 or English 20-1 in their grade 11 year.

Students, who write the English 10-2 or English 10-1 exam in June and pass, will be awarded credits for both Expository English 15 and English 10-2/10-1.

This class will be recommended to students by administration at Sir Winston Churchill. Students who are working at ELL Benchmark 4 or 5 will be considered for this course.
INTERNATIONAL BACCALAUREATE

Students who love learning and enjoy a rigorous academic challenge should consider the International Baccalaureate (IB) programme. IB students are self-motivated, have achieved good marks in junior high, love learning and enjoy studying. Success in this programme will depend on the student’s ability to:

- handle a demanding workload at a fairly quick pace
- work to understand concepts and their development rather than just memorize
- learn to become an independent, self-disciplined student
- face challenges with enthusiasm and resilience.

Students have two candidacy options in IB: Diploma or Diploma Programme Course.

**Diploma** - students take full IB (in Grades 11 and 12, all courses are in IB). In addition, students will complete Theory of Knowledge, Extended Essay and CAS (creative, action and service activities).

**Diploma Programme Course** - students must take a minimum of two IB courses plus Theory of Knowledge and CAS. The Diploma Programme Courses must be balanced or well-rounded, including a humanities based IB course and a math/science based IB course (for example, Mathematics IB, Chemistry IB and History IB, plus be involved in TOK and CAS activities).

In May, of either the Grade 11 or Grade 12 years, or both, students will write challenging IB exams and, when applicable, the Alberta Education Diploma exams in January and/or June.

**Additional costs** – students will be responsible for: registration fees, examination and mailing fees for the external assessment of their Extended Essay and Theory of Knowledge essays.

IB courses are: Higher Level (HL) and Standard Level (SL). Higher Level courses are in-depth two year studies of a particular subject, usually beginning in grade 11. Higher Level courses are similar in difficulty to a first-year University course. Standard Level courses are normally more than one year study duration, beginning in grade 10. They do not go into the depth or detail of HL courses.
IB Courses Offered through Sir Winston Churchill:

1. Language A1 (HL) - English Literature
2. Language B - French SL OR Mandarin SL OR Cantonese SL or French SL ab initio (beginning French course) OR Mandarin ab initio* OR Spanish ab initio*
3. The Study of Individuals and Society – World History HL
4. Financial Management 101 in semester 1 for Business and Management SL
5. Sciences: Chemistry HL, Physics SL, Biology SL OR Computer Science HL
6. Mathematics HL/SL
7. Visual Arts HL

NB

*Cantonese IB and Mandarin IB are offered at The Chinese Academy, a Saturday Chinese School in partnership with the Calgary Board of Education.

Admission into IB
Students must apply in November of Grade 10 for admission into the IB program. Selection is granted on a course-by-course basis and the admission criteria are:

1. a mark of 75% OR better in each course
2. a positive recommendation by the subject area teacher
3. priority placement for (full) IB Diploma Candidates
4. a well-rounded selection of IB courses for Diploma Programme Course IB Candidates (e.g. #1 Mathematics, Physics, English OR e.g. #2 Biology, Mathematics, History)

If students accept placement in IB they will be expected to fulfill their 2-year commitment to the program not withstanding unforeseen circumstances. Withdrawal from the program will be granted only with IB Coordinator's consent, not usually at the student or parents’ request. Please select IB cautiously.
Over the next two years, in order to fulfill the IB Diploma Requirements and an Alberta Education High School Diploma, a grade 10 student must register for the following:

1. Math 10-1 (candidate) Science 10, and a language B for the first semester of Grade 10.
2. Math 20-1 IB, one of the Science 15 options, Physics or Biology, or Business and Management 20 for the second semester of Grade 10.
3. PE 10.
4. Second language (French, Spanish or Mandarin at the 10 or ab initio level).
5. CALM 20.
6. Theory of Knowledge, Extended Essay and CAS.
7. 3 HL subjects.
8. 3 SL subjects.

HL subjects are:

- English 30/35
- World History 30/35
- Math 30/31 IB HL
- Chemistry 35/30 IB
- Visual Arts 35/30 IB
- Computer Science 35/30 IB

SL subjects are:

- Biology 20/30 IB
- Physics 20/30 IB
- Math 30/31 IB SL
- Business and Management 30/31 IB
- Language B: French SL, French ab inito, Mandarin SL, Mandarin ab initio, Cantonese SL, Spanish ab initio
GRADE 10 COURSE SELECTIONS

Prerequisite – Acceptance into the IB Programme

Biology 15 IB - 3 credits
Prerequisite: Science 10
This course continues the biology section of Science 10. Topics that are studied may include: an in-depth study of cells and cell processes, cell division and nutrients. As well, the course introduces the statistics needed for IB science classes. This course is a prerequisite for Biology 20 IB.

Business and Management 20 IB - 3 credits
Prerequisite: Financial Management 10
Students will identify basic management and marketing concepts, explore organizational structures, management theories, the nature of business, organizational planning and decision making, growth and the impact of globalization, and the management of change.

Please note: This course is taken in the second semester of the grade ten year, therefore Math 10 Candidate and Financial Management 101 must be taken in the first semester.

French 20 IB (ab initio) - 5 credits
This French course is designed for those who have minimal instruction or experience with the French language.

French 21 IB
The regular French 21 curriculum of Alberta Education is initially covered. Then a variety of readers are added to the program to improve reading comprehension and a source for developing oral skills. Students are introduced to writing compositions. If students are coming from a bilingual junior high school they should request this course in Grade 11 to continue their French studies for the International Baccalaureate Program.
Mathematics 20-1 IB - 5 credits
Prerequisite: Math 10 Candidate
Students will study an enriched and extended presentation of the Math 20-1 curriculum. This course is taken in the second semester of the grade ten year. Therefore candidates must take Math 10 Candidate in the first semester. Continuation in IB Mathematics SL or movement into IB mathematics HL will occur in consultation with Mathematics IB teachers at the end of 20IB and the beginning of 30IB.

Physics 15 IB - 3 credits
Prerequisite: Science 10
Students will study an enriched presentation of various topics covered in regular Physics 20, such as: the scientific process and measurement with uncertainties, and kinematics and dynamics in one and two dimensions. This course is a prerequisite for Physics 20 IB. Math 20 IB is strongly recommended for the Physics IB program, as the sequence of topics in the Math IB programme more closely matches the needs of the Physics IB SL programme.
GRADE 11 IB COURSE SELECTIONS

**Art 20 IB** - 5 credits  
*Prerequisite: Art 10*  
Students in Art and Design 20 IB are introduced to an enriched studio program that provides opportunities to develop technical skills while exploring the following media: drawing, sculpture, printmaking, mixed media and painting. This is a rigorous and rewarding program where students will begin to develop their own personal vision through studio work and personal research of themes, significant artists and culture in the I.B. Research Work Book.

**Biology 20/30 IB** - 10 credits (full year)  
*Prerequisite: Biology 15 IB*  
Students study many of the same topics in Biology 20/30 IB as in the regular Biology 20 and 30 courses, but in more depth. The scientific method is used to explore the natural world. A major interdisciplinary research project is undertaken. The students must compile a final portfolio of scientific investigations.

**Business and Management 30/31 IB** - 10 credits  
*Prerequisite: Business and Management 20 IB*  
Students will continue developing skills in the areas of business and commerce including the exploration of topics such as: Human Resources, Accounting and Finance, Marketing, and Operations Management.

**Chemistry 20 IB** - 5 credits  
*Prerequisite: Science 10*  
Students will cover all the components of the Chemistry 20 Alberta Program of Studies. In addition, an in-depth study of atomic structure, periodicity, additional bonding concepts such as hybridization, crystal field theory, ligands and introductory organic nomenclature will be covered. A final lab exam is scheduled for each student near the end of this course. A wide variety of lab experiences are provided, and a lab portfolio is begun to be completed the following year. A major interdisciplinary research project is undertaken.
English 20 IB - 5 credits  
Prerequisite: English 10-1  
Students will be introduced, literally, to the wide world of literature. Different genres of writing from various eras and countries will be discussed, studied, and compared. An emphasis will be placed on examining the effects of writers’ craft. There is a great variety of reading, writing, listening, discussing, viewing and representing during this course. Pre-reading is required prior to the beginning of the course.

Mathematics 30-1/31 IB - 10 credits (full year)  
Prerequisite: Math 20-1 IB  
In addition to an enriched presentation of all the topics in Math 30-1 and Math 3l, this course will cover extensions in calculus, vectors, probability, and statistics.

Mathematics 30-1/31/35 IB - 15 credits (to be taken over 3 semesters)  
Prerequisites: Math 20-1 IB and teacher recommendation  
In addition to an enriched presentation of all the topics in Math 30-1 and Math 3l, this course will cover extensions in calculus, vectors, matrices, inverse trigonometric functions, probability density functions, sets, relations and groups.

Physics 20/30 IB - 10 credits (full year)  
Prerequisite: Physics 15 IB  
In this course, you will complete all the Alberta Physics Program of Studies in Physics, and also complete the requirements for Standard Level Physics IB. This is an enriched, accelerated physics program. Excellent math skills are required and the Math IB program is strongly recommended concurrently. A major interdisciplinary research project is undertaken. A lab portfolio is completed.

Social Studies 20-1 IB - 5 credits  
Prerequisite: Social 10-1  
This course provides students with an introduction to the discipline of history by surveying the development of western civilization from the Enlightenment to the types of government we have in society – both democratic and dictatorships. (Includes American history)
Spanish 20 IB (ab initio) - 5 credits
This Spanish course is designed for those who have no previous instruction or experience with the Spanish language.

Theory of Knowledge - 3 credits
This course introduces the ideas of knowing and knowledge, types of knowledge and how we know what we know by examining the various ways of knowing IB has identified. All grade 11 students are required to take TOK. It is offered in a blended format with both an in-class and an online component or as a term course. This course is begun in grade 11, and TOK continues to be explored in the core IB subjects at the grade 12 level.
GRADE 12 IB COURSE SELECTIONS

Art 30/31 IB - 10 credits (full year)
Prerequisite: Art 20 IB
Students in Art 30/31 IB continue to explore the exciting connection between their studio work and individual research. Students will have individual and class instruction and work towards creating powerful, and personally meaningful themes in drawing, photography, painting, sculpture and mixed media.

Chemistry 30/35 IB - 10 credits (full year)
Prerequisite: Chemistry 20 IB
This rigorous course, combined with Chemistry 20 IB, is equivalent to the first year of university chemistry. Topics covered include: energetics, reaction kinetics, equilibrium systems, acid/base chemistry, organic chemistry, oxidation-reduction systems, and periodicity. Two optional units (selected by the teacher) are also covered. The year ends with an IB exam in May and the Alberta Diploma Exam in June; Chemistry 30 credits are earned upon successful completion of the course. A lab portfolio is completed.

Computer Science 31 IB/33 IB - 5 credits for 31 IB and 5 credits for 33 IB
Prerequisites: IB Computer Science 202 and enrollment as an IB Higher Level Computer Candidate
A student cannot get credit in both Computer Science 301 and Computer Science 31-IB
Students have an opportunity to engage in a rigorous and dynamic course that is of university level in rigor.
Topics include:

- Dynamic Data Structures: Structures are studied as standard Java collections, using iterators, sets and maps, but student must also independently design ADT (Abstract Data Types) implementing their own versions of dynamic data structures such as arraylists, linked lists, binary search trees, stacks and queues.
- File Handling: Both sequential and direct access file handling structures are designed and implemented.
- Object oriented programming option will be selected and taught from the IB optional topics.
• **Computer Program Internal Assessment Project**: Students will plan and develop programmed solutions from their choice of IB topic areas, the program will provide a solution to a problem and encompass exception handling, testing, file handling, a suitable data structure and a graphical user interface. The internal assessment provides students an opportunity to truly demonstrate and extend their skills.

• **Extended Computer Science Topics**: Topics include: computational thinking, systems analysis and design, computer architecture and peripherals, data representation, number systems and representations, Boolean logic,

• Operating systems and utilities, algorithmic evaluation, social significance and implications of computer systems, and a case study of an industry wide application.

• IB students complete the Computer Program Internal Assessment Project begun in Computer Science 31-IB and present it for assessment using web technologies.

• **Extended IB Project**: Students extend their knowledge and skills by undertaking a further project in which they select a topic of their choice. Previous projects have included app development, web services, creating a compiler and robotics solutions. This project commences once IB exams are completed in May.

**English 30/35 IB** - 10 credits (full year)

*Prerequisite: English 20-1 IB*

This program is a continuation of English 20 IB and is designed to further develop student awareness of and appreciation for writers’ craft. Students will further develop a literary perspective by studying literature from different cultures, and time frames. At various points during this year long experience, students will be expected to complete both oral and written final exams as well as write a self-directed World Literature paper in order to meet expectations of the IB program. In addition, they will be responsible for writing the Alberta Diplomas by the end of the course. Pre-reading will be required prior to the beginning of the course.
Extended Essay IB - 5 credits  
*Prerequisite: IB Diploma Candidate*  
This is a major research program begun in grade 11 and completed by Diploma students in their grade 12 year.

**French 30 IB** - 5 credits (ab initio)  
*Prerequisite: French 20 IB*  
This course prepares students for the French 30 ab initio oral and written Diploma exams. The course is based on the curriculum of French 30 of Alberta Education (level 5/6) and on the new curriculum of the French ab initio. A variety of resources are used: *C’est à toi* and *Images* are the principal ones. The study of a variety of short stories will be done in class and students will engage in enrichment activities that are more difficult and advanced in terms of scope and depth, frequency, and richness of expression.

**French 31 IB** - 5 credits  
*Prerequisite: French 21 IB OR Approval by the IB Coordinator*  
Students will cover regular French 31 curriculum of Alberta Education. Emphasis is placed on consolidation of grammatical structures to enhance written composition using a variety of formats: journals, editorials, personal and formal letters, reports, stories etc. *Bon Voyage Level 3* is the principal resource. For reference, *Destinations Nouveaux Horizons*, and *Avec Brio* will be used for the study of grammar and structure of text. The novel *L’étranger* by Albert Camus will be studied thoroughly. Oral assessment for the IB Exam is ongoing throughout the semester.

**World History 30 IB/Social Studies 30 IB** - 10 credits (full year)  
*Prerequisite: Social Studies 20 IB*  
This course provides a detailed outline survey of modern American and European history from 1900’s to the present era. Emphasis is placed upon the study of major historical themes, document analysis, research procedures and class discussions. Our regional study is The Americas. Topics covered include events from the U.S. Civil War to the end of the Cold War.
IB at Churchill: Possible Program Core Sequence

- **ENG 10-1**
  - Grade 10
  - **ENG 20-1 IB**
  - HL Grade 11

- **Social Studies 10-1**
  - Grade 10
  - **Social Studies 20 IB**
  - HL Grade 11

- **Math 10 Candidate**
  - Grade 10
  - **Math 20 IB**
  - Grade 10

- **Financial Management 101**

- **Biology 15 IB**
  - OR
  - **Physics 15 IB**

- **Science 10**
  - Grade 10

- **Math 30 IB**
  - SL Grade 11

- **Chem 30 IB**
  - SL Grade 11

- **Business and Management 30 IB**
  - SL Grade 11

- **Math 31 IB**
  - SL Grade 11

- **Chem 35 IB**
  - HL Grade 12

- **World History 30 IB**
  - HL Grade 12

- **Eng 35 IB**
  - HL Grade 12

- **Math 30 IB**
  - HL Grade 11

- **Chem 30 IB**
  - HL Grade 12

- **Business and Management 31 IB**
  - SL Grade 11

- **Chem 35 IB**
  - HL Grade 12

- **Math 31 IB**
  - HL Grade 11

- **World History 30 IB**
  - HL Grade 12

- **Eng 30 IB**
  - HL Grade 12

- **Math 30 IB**
  - HL Grade 11

- **World History 30 IB**
  - HL Grade 12

- **Eng 35 IB**
  - HL Grade 12

- **Math 35 IB**
  - HL Grade 12

- **World History 30 IB**
  - HL Grade 12

- **Eng 30 IB**
  - HL Grade 12

- **Math 35 IB**
  - HL Grade 12

- **World History 30 IB**
  - HL Grade 12

- **Eng 35 IB**
  - HL Grade 12

- **Math 35 IB**
  - HL Grade 12

- **World History 30 IB**
  - HL Grade 12

- **Eng 30 IB**
  - HL Grade 12

- **Math 35 IB**
  - HL Grade 12

- **World History 30 IB**
  - HL Grade 12

- **Eng 30 IB**
  - HL Grade 12

- **Math 35 IB**
  - HL Grade 12
IB at Churchill: Possible Program Complementary Sequences

- **French Immersion**
  - **French 9 French**
    - Grade 9 French (3 years Jr. High, 70% Average)
  - **French 10**
    - Grade 10

- **Art/Design 10**
  - Grade 10

- **Art/Design 20 IB**
  - Grade 11
  - **Computer Science 201**

- **Art/Design 31 IB**
  - HL Grade 12
  - **Computer Science 31 IB**

- **French 20 AB IB**
  - OR **Spanish 20 AB IB**
  - Grade 10

- **French 21 IB**
  - Grade 10

- **French 30 AB IB**
  - **Spanish 30 AB IB**
  - Grade 12

- **Extended Essay**
  - Grade 11/12

- **C.A.S.**
  - Grade 10/11/12

- **Computer Science 202**

- **Computer Science 302**

- **Computer Science 33 IB**

- **Computer Science 33- IB**

### Grade 10 Credits
1. ELA 10-1/10-2 5
2. Social Studies 10-1/10-2 5
3. Science 10/14 5
4. Math 10 C or Math 10-3 5
5. Phys. Ed. 10 5
6.  
7.  
8.  

Total Credits ____________
(Minimum 40)

### Grade 11 Credits
1. ELA 20-1/20-2 5
2. Social Studies 20-1/20-2 5
4. Math 20-1 or Math 20-2 or Math 20-3 5
5. a. C.A.L.M. 20 3  
b. ________________

Total Credits ____________
(Minimum 35)

### Grade 12 Credits
1. ELA 30-1/30-2 5
2. Social Studies 30-1/30-2 5
3. 30 Level Course 5
4. 30 Level Course 5

Total Credits ____________
(Minimum 30)

Total High School Credits ______