

COURSE DESCRIPTION GUIDE



COUNTY CENTRAL HIGH
SCHOOL
2017/18

ART Mr. Shain

Art 10 (3, 4 or 5 credits)

The Art 10 course is broken into three modules to allow students to explore areas of expression that interest the individual student. We begin with Drawing Media and Composition skills. All students are required to complete this module as it forms the basis for all explorations in art. In this module we experiment with a variety of graphite, charcoal, ink, wash and watercolour techniques while examining the fundamental rules of composition and principles of art and design.

In the second and third modules, students are invited to explore two of the following media: art history, painting, printmaking, graphic design/commercial art, ceramics, stop-action animation, art video and sculpture.

Students generally set project goals for themselves in consultation with the instructor. The purpose of the modular approach is to allow each student to explore ideas and methods of expression that capture her or his imagination.

Course assessment includes a sketchbook component along with critique and discussion of projects. Assessment emphasizes process rather than finished product and stresses the learning of fundamental art skills and techniques.

Art 20 (3, 4 or 5 credit)

Art 30 (5 credits)

BAND (3 and 5 credit) Mr. Rodgers

Band 10/20/30

The Senior Concert Band is a performance group made up of traditional instrumentation (strings, winds, brass and percussion). They play a number of performances throughout the year and have an opportunity to tour to other cities to showcase their talents. The prerequisite for Band 10/20/30 is Band 9 and/or an audition with Mr. Rodgers.

Rock Band

Rock Band is another performance group made up of rock band instruments (vocals, guitar, bass guitar, drums). They play a variety of cover songs and also have the opportunity to perform for the public. Owning your own instrument is recommended however there are no other requirements to join this course.

BIOLOGY Mrs. Mattatall

Biology 20 (5 credits)

Biology is the study of life and living systems from the molecular level to the biosphere. Through the study of biology, students are given the opportunity to explore and understand the natural world and to become aware of the profound influence of biology in their lives. It is a largely terminology and memorization based course with applications to real world situations. Students need to be prepared for a large amount of information.

Topics covered include: Ecosystems and populations, evolution, photosynthesis and cellular respiration, and human systems (digestive, respiratory, blood, immune, and excretory systems).

The prerequisite for Bio 20 is Science 10 with a mark of 50% on the Biology unit.

Biology 30 (5 credits)

Biology 30 is an academic program that helps students understand the biological principles behind natural events they experience and the technology they use in their daily lives. It is a largely terminology and memorization based course with applications to real world situations. Students need to be prepared for a large amount of information.

Topics covered include: Nervous and endocrine systems, reproductive system, cell division, basic genetics, molecular biology, and population dynamics.

The prerequisite for Bio 30 is a recommended mark of 60% in Bio 20.

CALM (Career and Life Management) (3 credits)

This course is required by Alberta Learning in order for students to receive their high school diplomas. Topics covered in CALM include: interest inventories, occupation research, budgeting and various health topics.

CHEMISTRY Mr. Monts

Chemistry 20 (5 credits)

The topics included in Chem 20 include: atomic structure, quantitative analysis, gases, solutions acids and bases, as well as chemical bonding.

This course is designed to provide a basic introduction to chemistry at a high school level and to set the foundation for further studies in chemistry at the Grade 12 and post-secondary levels. Also included in the course are several concept reinforcing labs that provide a hands-on approach to learning chemistry. Students get to burn and mix stuff – a really cool way to learn science!

Evaluation for the course is largely test based. Why? Like it or not, the end of the program in Grade 12 has students write a final exam worth 30% of their Grade 12 mark. The emphasis on tests in Grade 11 allows for a smooth transition to the diploma exam next year. Therefore, if students are successful in the 20 level, they WILL be ready for the 30 level.

The prerequisite is Science 10 with a recommended mark of 60% on the Chemistry unit.

CHEMISTRY 30 (5 credits)

This course is structured into 4 main units of study. They are: (1) Energy; (2) Redox; (3) Acids and Bases; and (4) Organics.

The concepts in Chem 30 are reinforced by lab work that is meaningful and useful. Again the evaluation for the course is largely test based – 30% of the students' marks are based on their diploma exams results.

Prerequisite: Successfully completing Chem 20 (60% mark recommended) and Math 20.

CTS BUSINESS EDUCATION

Information Processing (3 credits)

Students are introduced to the proper use of word processing software including document creation, editing, printing of properly-formatted documents. Students will also develop skills used for developing presentations involving text, graphics, sound and animation.

CTS HOME ECONOMICS

Foods 10 (3 credits)

Foods 10 is made up of three modules in which 60% of class time is labs and 40% is theory.

- (1) Basic Foods 1010 – Students learn safe and sanitary food handling procedures, equipment care, comprehension of recipes and the importance of efficient work habits.
- (2) Contemporary Baking 1020 – Students develop and demonstrate an understanding of traditional and contemporary baking, focusing on basic measuring techniques, preparation methods, role of ingredients and the proper use of equipment for baked goods.
- (3) Meal Planning I 1040 – Students develop an understanding of planning, preparation and evaluation of balanced healthy meals.

Foods 20 (3 credits)

Foods 20 is made up of 3 modules which can include: Nutrition, Food Venture, Vegetarian Cuisine, Food Safety and Sanitation, Creative Cold Foods, International Cuisine, Stocks, Soups and Thickening Agents, Vegetables, Fruits and Grain Products, Milk Products and Eggs, Baking Basics, Yeast Products, and Basic Meat Cookery.

The course is comprised of 70% cooking labs and 30% theory, research papers and tests.

Foods 30 (3 credits)

Foods 30 is also made up of three modules. The modules that a student may select from are: Nutrition II, the Food Entrepreneur, Entertaining with Food, Food Processing, Global Food Issues, Short Order Cooking, Beautiful Food, Fish and Poultry, Creative Baking, and Advanced Meat Cookery.

The students will have to complete the cookbook from Foods 10 and 20, do a research paper, do various food cooking demonstrations and various cooking labs to meet the course requirements.

CTS INDUSTRIAL EDUCATION

CABINETRY 1, Introduction (4 credits) Mr. Brandley

Students will build and finish a night stand that contains the basic joints used in manufacturing: rabbet, dovetail, dado, dowel, pocket joint, miter joint and groove. No experience is necessary.

CABINETRY 2, Intermediate(3 credits) Mr. Brandley

In this course students will build a five-drawer chest. You will use the skills, knowledge, and procedures acquired in the Introduction to Cabinetry course and then build on these

skills and processes. After completion of the five-drawer chest you can build “anything” you want in the Advanced Cabinetry course. **Prerequisite:** Cabinetry, Introduction

CABINETRY 3, Advanced (3 to 6 credits) Mr. Brandley

Build what you want...a wall unit,entertainment centre, coffee table, desk, chest of drawers, etc. **Prerequisite:** Cabinetry, Intermediate.

DESIGN AND CAD 1 (4 credits) Mr. Brandley

Students will acquire skills relevant to a broad range of careers, such as engineering, fashion design, architecture, product design, construction, home renovation, landscape design, etc. You will learn the basics of design and how it applies to the world around us. You will then learn how to take ideas, draft them and then turn those drawings into working CAD drawings. CAD is used extensively in industry from engineering to fashion design.

ELECTRONIC PUBLISHING/YEARBOOK 1 (3 credits) Mr. Shain

The students will learn the basics of electronic publishing, designing and working with layouts, story compilation and editing. They will be responsible for compilation and completion of the CCHS Yearbook. Students will work through four one-credit CTS courses.

ELECTRONIC PUBLISHING/YEARBOOK 2 and 3 (3 credits each) Mr. Shain

This course will build on the skills you acquired from the Electronic Publishing/Yearbook 1 Introduction course.

FABRICATION STUDIES 1, Introduction (3 credits) Mr. Brandley

Students will learn the basics of sheet metal fabrication, SMAW and GMAW welding, and Foundry. You will learn basic safety and procedures used in the metals lab after which you will fabricate a small metal tray. You will then learn how to run weave and stringer beads as well lap joints in the flat position using two of the more common electrodes (6013 and 7014). In addition, you will learn how to run surface welds with GMAW. For the foundry course you will design a simple pattern using either CAD software or paper and pencil. You will then create a simple pattern using either the 3D printer, the CNC Mill, or hand tools. The completed pattern will be used to make an aluminum casting.

FOUNDRY, Intermediate and Advanced (1 to 2 credits) Mr. Brandley

These foundry courses build on the procedures and skills acquired in the Fabrication Studies Introduction course. You will make a split (two-piece) pattern using either CAD

software or paper and pencil. You will then create a split pattern using either the 3D printer, the CNC Mill, or hand tools. (Register for Fabrication Studies 2)

GRAPHIC DESIGN 1, Introduction (3 credits) Mr. Brandley

Students are introduced to the basics of computer graphics (vector and raster) and graphic computer programs. Students will work on branding (logos, etc.) and will learn how to create and modify various graphics and will then integrate your graphics into practical items such as business cards, ads, signage, logos, etc. You will be using software such as CorelDRAW, Photoshop, Illustrator, etc.

PHOTOGRAPHY 1, Introduction (4 credits) Mr. Brandley

We all take snapshots every day; whether in our mind when we see something cool-looking or on our smartphone when we snap a selfie or a pic for Snapchat or Instagram. In this introductory course you will learn what it takes to turn that snapshot into a photograph. The skills you learn are skills you will use for the rest of your life; whether you go on amazing vacations or simply hangout with family or friends. (Cameras will be supplied by the school.)

PHOTOGRAPHY 2 and 3, Intermediate and Advanced (1-11 credits) Mr. Brandley

There are several one credit CTS courses that students can choose from such as: Digital Processing 1, Communication, Lenses, Lighting, Photojournalism, Colour, BW Techniques, Outdoor, Digital Processing 2, etc. This course will build on the skills you gained from the Introduction to Photography course. **Prerequisite:** Photography 1, Introduction.

ROBOTICS (1 to 3 credits) Mr. Brandley

In this course students will apply the fundamentals of robotics systems and basic robotics functions. After completion of the research component students will follow a tutorial to build their first robot. This practice-bot must be able to complete a given course and perform a given task in a competition. Students will build robots using Tetrix components and LEGO NXT components. (Register in an Advanced CTS block.)

VIDEOGRAPHY/MEDIA 1, Introduction (3 credits) Mr. Brandley

Students discover the impact of the media and relay a message effectively using various forms of media including print and video production. You will acquire basic videography production skills, including planning, recording and editing. You will produce a simple audio/video project.

VIDEOGRAPHY 2, Intermediate (3 credits) Mr. Brandley

Students will learn and apply the three stages of videography; I.e., Preproduction, Production, and Postproduction. You will then create and follow shot lists, storyboards, etc. to produce a short video presentation. **Prerequisite:** Media/Videography, Introduction.

WELDING, Advanced (1 to 3 credits) Mr. Brandley

This course will build on the skills you gained from the Fabrication Studies Introduction course. You will be able to select from various SMAW, GMAW, FCAW, etc. courses. To take this course register for the Intermediate/Advanced CTS block. **Prerequisite:** Fabrication Studies, Introduction. (Register for Fabrication Studies 2.)

DRAMA 10/20/30 (3 or 5 credits) Mr. Rodgers and Mrs. Porath

Students will learn to communicate in various ways and work creatively with others as they discover dramatic expression. Through eight dramatic disciplines, they will develop both performance and technical skills, becoming more confident in themselves and their ability to work together.

TECHNICAL THEATRE (3 or 5 credits) Mr. Rodgers and Mrs. Porath

Technical Theatre/Design is the appropriate selection, construction and manipulation of those staging variables that visually and orally support the performer and the needs of the production. Possible components of study include: costume, lighting, makeup, management (business/house/stage), properties, set and sound. In a 3-credit course, students study one component; in a 5-credit course, they study two components. It is expected that students will experience different components at each grade level.

PALAEONTOLOGY Mrs. Mattatall

Palaeontology 15 (3 credits)

Paleontology 15 is an introductory science course providing a foundation for Paleontology 25 and 35. This course complements different units in Biology, Chemistry, and Math. The evaluation in this course includes many projects for each topic, unit exams, and a final exam.

Course topics are: the organization of past biodiversity; Earth history and life on Earth; and the ecological/evolutionary mechanisms that change the geological/biological

balance on Earth. This course includes a field component provided by the ATCO Learning Centre at the Royal Tyrrell Museum in Drumheller.

Prerequisite for this course is a completed or in progress Science 10 course.

Palaeontology 25 (3 credits)

Paleontology 25, the second of three secondary paleontology courses, builds upon the fundamental understanding of the history of the Earth, established in Paleontology 15. This course complements different units in Biology, Chemistry, and Math. The evaluation in this course includes many projects for each topic, unit exams, and a final exam.

Course topics are: an introduction to systematics and classification; a detailed exploration of evolutionary theory and theories of extinction; and biogeography. This course includes a field component provided by the ATCO Learning Centre at the Royal Tyrrell Museum in Drumheller.

Prerequisite for this course is a completed Paleontology 15 course.

ENGLISH Mrs. Slover

English Language Arts 10-1 and 10-2 (5 credits)

All students will enter as Grade 10 English students. The content of this course will focus on reviewing and expanding students' understanding of the use of literary techniques, improving vocabulary, examining and employing the correct use of grammar, and exploring a variety of literary genres. These will include a Shakespearean play and a novel among other literary works.

Students who are headed for university will enroll in a 10-1 program. 10-2 is suitable for students for whom English is a more challenging subject or who are thinking of college or the trades after high school.

ENGLISH 20-1 (5 credits)

English 20-1 builds on the English 10-1 program and is preparation for Eng. 30-1. It is an academic course with an emphasis on literature and writing. The course is made up of several units which focus on the short story, poetry, essay writing, research, a novel study, and Shakespeare. There are numerous writing assignments throughout the course, including at least one book project. A solid background in English 20-1 is crucial for success in English 30-1.

Prerequisite: English 10-1, preferably with a grade of 65% or better.

ENGLISH 20-2 (5 credits)

English 20-2 exposes students to the same genres of literature as students in 20-1 but at a less intense level. They are introduced to the style of essay writing which they will be expected to use on the diploma exam in grade 12.

Students explore poetry and short stories as well as reading a Shakespearean play and completing a full length novel study. Students will read at least one novel independently and complete a book project. A research project on a subject of their choice will be completed as well.

ENGLISH 30-1 (5 credits)

English 30-1 is an academic course with an emphasis on literature and writing. In addition to the short stories, films, plays, poetry and books read during class, students will independently read a novel and complete weekly writing assignments. Students will practice reading comprehension and complete the type of writing assignments which will prepare them for the diploma exam. The student's final mark in English 30-1 is determined by both the school-based mark (70%) and diploma results (30%). English 30-1 is required for entrance to university.

Prerequisite: English 20-1 – preferably with a grade of 65% or better.

ENGLISH 30-2 (5 credits)

Students in 30-2 complete studies of poetry, short stories, plays, books and films, all of which can be used as sources for the writing portion of their Diploma Exam. Their writing assignments are designed to familiarize and give them experience in the styles of writing needed for their Diploma Exam. The student's final mark in English 30-2 is determined by both the school-based mark (70%) and the diploma exam (30%).

GREEN CERTIFICATE Ms. Hill

This program is operated by Alberta Agriculture, Alberta Education and the farming industry (cow-calf, field crop, feedlot beef, irrigated crop, dairy, sheep, swine, bee keeping and equine).

Participation in the program will provide students with opportunities to enter a variety of agriculture-related, structured learning pathways as part of their senior high school program and to earn up to 16 high school credits.

There are three rounds of testing and each discipline consists of three, 30-level courses. Testing takes place at Lethbridge College.

Prerequisite: AG 3000

MATHEMATICS Ms. Gibbon

Students are encouraged to consider both their current interests and their future plans when deciding upon a course sequence.

Mathematics -1 Course Sequence is designed for students interested in careers emphasizing mathematics or sciences such as: an engineer, an airline pilot, an accountant, a veterinarian, etc.

Mathematics -2 Course Sequence is designed for students interested in careers in a wide variety of areas such as: nursing, human resources, psychology, etc.

Mathematics -3 Course Sequence is designed for students interested in careers in trades or direct entry into the workforce such as: baker, auto body technician, electrician or welder, etc.

Math 10C (5 credits)

Mathematics 10C students determine the surface area and volume of 3-D objects and use trigonometric ratios to solve problems involving right triangles. They simplify expressions that involve powers with integral and rational exponents and simplify or factor polynomial expressions. At this level, students also analyze linear relations, solve systems of linear equations and solve problems related to both of these sets of skills.

Math 10-3 (5 credits)

Mathematics 10-3 students solve linear and area measurement problems of 2-D shapes and 3-D objects using SI and imperial units. They use spatial reasoning to solve puzzles; solve problems involving right triangles and angles; solve unit pricing, currency exchange and income problems; and manipulate formulas to solve problems. They also use scale factors and parallel and perpendicular lines to solve problems.

Math 20-1 (5 credits)

Mathematics 20-1 students investigate arithmetic and geometric patterns and use the sine and cosine laws to solve problems involving triangles. They investigate the properties of radicals and rational expressions. Mathematics 20-1 students also analyze the characteristics of absolute value functions and quadratic functions, solve quadratic

equations and systems of equations in various ways, and analyze the relationship between a function and its reciprocal.

Math 20-2 (5 credits)

Mathematics 20-2 students use proportional reasoning to solve real-life problems involving 2-D shapes and 3-D objects. They use the properties of angles and triangles, including the sine and cosine laws, to solve problems; use reasoning to prove conjectures; use spatial reasoning to solve puzzles; and solve problems that involve radicals. They interpret statistical data, solve problems involving quadratics and research and present a mathematical topic of their choice.

Math 20-3 (5 credits)

Mathematics 20-3 students solve surface area, volume and capacity problems. They use primary trigonometry to solve problems involving two or three right triangles, and model and draw 3-D objects and their views to scale. They use numerical reasoning to solve puzzles; create and analyze personal budgets; use proportional reasoning, unit analysis and manipulation of formulas to solve problems; and create and interpret graphs. Students use their understanding of slope and rate of change to interpret graphs.

Math 30-1 (5 credits)

Mathematics 30-1 students investigate the properties of logarithms; study the characteristics and transformations of trigonometric, polynomial, exponential and logarithmic functions by sketching and analyzing their graphs; and solve equations and problems related to these functions. Students also use basic counting principles to determine the number of permutations or combinations of the elements of a set to solve problems.

Math 30-2 (5 credits)

Mathematics 30-2 students use numerical and logical reasoning to solve puzzles, and solve real-life problems about the probability of events occurring. They solve problems algebraically involving rational equations; investigate exponential, logarithmic, polynomial and sinusoidal functions; and research and present a mathematical topic of their choice.

Math 30-3 (5 credits)

Mathematics 30-3 students investigate the limitations of measuring instruments, use trigonometry to solve problems involving triangles, and describe and illustrate properties

of polygons. They investigate slides, rotations, flips and size changes of 2-D shapes or 3-D objects; they use logical reasoning to solve puzzles; and they solve various other problems involving financial situations, linear relations and probability.

Math 31 (5 credits)

Mathematics 31 students determine the limit of a function at finite or infinite values of the independent variable. They use derivative theorems to determine the derivative of a function, either explicitly or implicitly, and use derivatives to sketch graphs of functions and solve optimization problems. They also investigate the relationship between differentiation and integration.

This is NOT a diploma course.

PHYSICAL EDUCATION Mrs. McCullough (Seaman)

Physical Education 10 (3 or 5 credits)

Physical Education 10 is a mandatory requirement for a high school diploma. Students may choose either the 3 or 5 credit option.

PHYSICS Mr. Monts

Physics 20 (5 credits)

This course is a basic introduction to the study of physics. The goal of the course is not to make students physicists. It is to give them an idea of the ways in which physicists view the world and perhaps give them the satisfaction of understanding and even predicting the outcome of activities occurring all around them.

Physics 20 involves the study of: kinematics, dynamics, circular motion, conservation of energy, waves, sound and light.

The main goal of Physics 20 is to develop sound analytic thinking skills that will not only be used in future science courses, but in everyday life. Plus, the course gives students the opportunity to look at some everyday things in a new light.

Evaluation for the course is largely test-based. Why? Like it or not, the end of the program in Grade 12 has students write a final worth 30% of their grade mark.

The emphasis on tests in Grade 11 allows for a smoother transition to the diploma exam year.

Prerequisites: Science 10 (recommended 65% on the physics unit). Also strong math skills are recommended. If students don't like math, they shouldn't enroll in physics.

Physics 30 (5 credits)

Physics 30 is the continuation of concepts studied in Physics 20.

This course is divided into 4 main topics of study: (1) Momentum (e.g. how do police analyze skid marks and know how fast a vehicle was moving?); (2) Forces and Fields (e.g. Why do your socks stick to your silk shirt in the dryer?); (3) Electromagnetic Radiation (e.g. What causes the motor to turn when hooked to a battery?); (4) Atomic Structure (e.g. How does an electric eye work?).

The evaluation for the course is largely test based – 30% of the final mark is based on their diploma mark.

Prerequisite: Physics 20 with a recommended mark of 65%

RAP (Registered Apprenticeship Program) Jacob at OR

This program is a modified apprenticeship program that permits high school students to become an apprentice in one of approximately 50 trades while attending high school. Students can register for up to 8 RAP courses. Each course is worth 5 credits and requires 125 hours on the job learning. Students **MUST** be paid for their work.

SCIENCE Mr. Monts

Science 10 (5 credits)

Science 10 is an integrated science program that introduces the students to the major principles of physics, chemistry, biology, and climatology. The course is divided into four distinct units: energy from the sun, matter and energy in living systems, matter and energy in chemical change, and energy and change.

Science 10 is an academically rigorous course that will challenge students. Students entering science must have a good understanding of the major concepts introduced in Science 9. Science 10 students must also have a good knowledge of mathematics.

Science 10 is academic and challenging.

Science 20 (5 credits)

What changes do we see on Earth? Students in Science 20 extend their study of the biological, chemical, physical and Earth sciences and apply their knowledge to real-life problems. They investigate Newton's laws of motion, the properties of hydrocarbons and the chemistry of solutions. They examine evidence of how Earth's surface, climate and life forms have changed and continue to change and cycle in response to natural and human actions.

Science 30 (5 credits)

How do we sustain our energy resources? Students sharpen their scientific skills and explore a wide range of scientific concepts to strengthen their foundations in science. They investigate human systems and health, and environmentally sustainable solutions for meeting global energy needs. They also examine the impacts of chemicals in society and the environment and examine the properties and applications of electromagnetic energy.

Science 14 (5 credits)

Science 14 is a non-academic course designed for students who achieved a mark of 65% or less in Science 9. The units of study include: household science, your body in balance, science, technology and you, and investigating the environment. Science 14 assists students in developing valuable science skills by focusing on science in our everyday life.

Science 24 (5 credits)

The units of study in Science 24 include: arrive alive, disease defence, matter and molecules, and energy for living. Science 24 assists students in acquiring valuable science skills by focusing on science in our everyday lives.

SOCIAL STUDIES Mr. Egert

Social 10-1/10-2

Students will explore multiple perspectives on the origins of globalizations and the local, national and international impacts of globalization on lands, cultures, economies, human rights and quality of life.

In both courses, we will look to answer one major question – To what extent should we embrace globalization?

Prerequisite for Social 10-1: 65% or higher in Social Studies 9.

Social 20-1/20-2

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, international and global relations.

In both levels, we will look to answer one major question – To what extent should we embrace nationalism?

Prerequisite for Social 20-1: Social 10-1 or 65% in Social 10-2

Social 30-1/30-2

Students will explore the origins and complexities of ideologies and examine multiple perspectives regarding the principles of classical and modern liberalism. An analysis of various political and economic systems will allow students to assess the viability of the principles of liberalism.

In both courses, we will look to answer one major question – To what extent should we embrace an ideology?

Both 30-1 and 30-2 are diploma courses.

WORK EXPERIENCE 15, 25 and 35 Jacob at OR

Work Experience is a high school course where students spend time in the work force doing meaningful work. Students may work at a large variety of work sites where the opportunity to learn new skills will be available. This can be paid or volunteer work.

Students may earn from 3 to 15 credits toward their Alberta High School Diploma but only **15** credits may be used to meet the 100-credit requirement.

One credit = 25 hours of work experience.

Prerequisite: HCS 3000