

Hope Christian School

Senior High School CTS Courses 2019-2020

CTS Options
Management and Marketing
<u>MAM1010 – Marketing and Management</u>
<u>MAM1020 – Quality Customer Service</u>
<u>MAM1050 – Agriculture Consumer Products and Services</u>
<u>MAM3010 – The Business Organization</u>
<u>MAM3020 – Business in the Canadian Economy</u>
<u>MAM3030 – Business in the Global Marketplace</u>
<u>MAM3040 – Promotion: Sales Techniques</u>
<u>MAM3050 – Distributing Goods and Services</u>
Mechanics
<u>MEC1040 – Engine Fundamentals</u>
Recreation Leadership
<u>REC1020 – Injury Management</u>
<u>REC1040 – Foundations for Training 1</u>
<u>REC2010 – Nutrition for Recreation Activities and Sport</u>
Tourism Studies
<u>TOU1910 - Introduction to Tourism</u>
Agriculture
<u>AGR1010 – Introduction to Agriculture</u>
<u>AGR1040 – Introduction to Animal Basics</u>
<u>AGR2020 – Animal Husbandry/Welfare</u>
<u>AGR2040 – Livestock 1</u>
<u>AGR2070 – Equine 1</u>
<u>AGR3070 – Equine 2</u>
<u>AGR3000 – Agricultural Safety</u>
Communications
<u>COM1005 – Visual Composition</u>
<u>COM1205 – Photography – introduction</u>
<u>COM1215 – Photography – exposure</u>
<u>COM1275 – Photography – digital processing 1</u>
<u>COM2205 – Photography – composition</u>
<u>COM2215 – Photography – communication</u>
<u>COM2235 – Photography – lenses</u>
<u>COM3205 – Photography – lighting</u>

<u>COM3215 – Photography – photojournalism</u>
<u>COM3225 – Photography – colour</u>
<u>COM3235 – Photography – BW Digital Technologies</u>
<u>COM3245 – Photography – outdoors</u>
<u>COM3275 – Photography – digital processing 2</u>
Community Care Services
<u>CCS3110 – Early Learning and Child Care 1</u>
<u>CCS3120 – Early Learning and Child Care 2</u>
<u>CCS3130 – Early Learning and Child Care 3</u>
<u>CCS3140 – Early Learning and Child Care 4</u>
<u>CCS3150 – Early Learning and Child Care 5</u>
Fashion Studies
<u>FAS1000 – Fashion Illustration</u>
<u>FAS1030 – Sewing Fundamentals</u>
<u>FAS1050 – Redesign and recycle</u>
<u>FAS1060 – Creating Accessories</u>
<u>FAS1130 – Construction Fundamentals</u>
<u>FAS1190 – Textile Arts 1</u>
<u>FAS2000 – Fashion Illustration 2</u>
<u>FAS2080 – Activewear</u>
<u>FAS2090 – Specialty Fabrics 1</u>
<u>FAS2110 – Creating Home Décor</u>
<u>FAS2120 – Surface embellishment</u>
<u>FAS2130 – Construction Fundamentals 2</u>
<u>FAS3000 – Fashion Illustration 3</u>
<u>FAS3040 – Contemporary Tailoring</u>
<u>FAS3070 – Creators of Fashion</u>
<u>FAS3080 – Cultural Fashions</u>
<u>FAS3090 – Specialty Fabrics 2</u>
Financial Management
<u>FIN1010 – Personal Financial Information</u>
<u>FIN1015 – Accounting Prep</u>
<u>FIN1020 – Accounting Cycle 1</u>
<u>FIN1030 – Accounting Cycle 2</u>
Foods
<u>FOD1010 – Food Basics</u>
<u>FOD1020 – Contemporary Baking</u>
<u>FOD1030 – Snacks and Appetizers</u>
<u>FOD1040 – Meal Planning 1</u>
<u>FOD1050 – Fast and Convenience Foods</u>
<u>FOD1080 – Nutrition Basics</u>

FOD2040 – Cake and Pastry
FOD2050 – Bread Products
FOD2060 – Milk and Eggs
FOD2070 – Soups and Sauces
FOD2090 – Creative Cold Foods
FOD2130 – Vegetarian Cuisine
FOD2180 – Fruits and Vegetables
FOD3030 – Creative Baking
FOD3040 – Yeast Products
Health Care Services
HCS3000 – Workplace Safety Systems
HCS3010 – Workplace Safety Practises
HCS3040 – Child First Aid
HCS2020 – First Aid
Health Services Strand
HSS1010 – Health Services Foundation
HSS1020 – Nutrition and Wellness
Information Processing
INF1030 – word Processing 1
INF1050 – Database
INF1060 – Spreadsheet 1
INF1070 – Powerpoint
INF2020 – Keyboarding
Legal Studies
LGS1030 – Relationship Law
Wildlife
WLD1070 – Hunting and Game Management
WLD1075 – Bowhunting Education
WLD1090 – Boat Safety
CTS Bundles
IT Essentials
NET2020 - Workstation Technology and Operations
NET2030 - Network Structures
NET2080 - Laptops and Peripherals
NET2110 - Telecommunications
NET1910 - Project A for Cap Stone Project OR INF3010 Hardware and Software Analysis

<u>CCNA Intro to Networking</u>
NET2040 - Network Media and Devices
NET2050 - Open System Interconnection
NET2060 - Network Protocols
NET3100 - Network Media & Device Security
NET2920 – Project B for Cap Stone Project
<u>CCNA Routing and Switching Essentials</u>
NET2070 - Local Area Networks
NET3060 - Wide Area Networks
NET2920 - Project C to help cover course content
NET2930 - Project D to help cover course content
NET - Project for Cap Stone Project
<u>Scaling Networks</u>
NET3070 - Routing Fundamentals
NET3090 - Network Management
NET3910 - Project D to help cover course content
NET3920 - Project E to help cover course content
NET Project for Cap Stone Project
<u>Connecting Networks</u>
NET3080 - Internet Processes
NET3110 - Telecommunications 2
NET Project to help cover course content
NET Project to help cover course content
NET Project for Cap Stone Project
<u>Introduction to Video Game Design</u>
COM1005 - Visual Composition
COM1015 - Media
COM1145 - Animation 1
COM2145 - Animation 2
COM1910 - COM Project A in place of INF1070 Digital Presentation
<u>Composition of a Video Game Design</u>
COM1035 - Graphic Tools
COM2035 - Raster Graphics 1
COM3145 - Animation 3
DES1020 - The Design Process
DES1030 - 2-D Design

[Linux - Network Operating Systems](#)

NET3050 - Network Operating Systems

NET Project to help cover course content

NET Project to help cover course content

NET Project for Cap Stone Project

[Linux - Introduction to Linux I](#)

No Senior High School Credits Available

[Linux - Introduction to Linux II](#)

No Senior High School Credits Available

[C++ Programming](#)

CSE1010 - Computer Science 1

CSE2140 Structured Programming 1

CSE2120 Computer Science 2

CSE2130 Data Structures 1

CSE2910 Second Language Programming 1

[Java Programming 12](#)

CSE1110 - Structured Programming 1

CSE1120 - Procedural Programming 1

CSE2110 – Computer Science 3

CSE3120 - Object-Oriented Programming 1

CSE3130 - Object-Oriented Programming 2

CTS - Agriculture

[AGR1010 – Introduction to Agriculture](#)

Students explore and gain an understanding of the diversity of agricultural activity in Alberta, Canada, and the global community. They will also learn about the economic, environmental, and social significance of agriculture.

Prerequisite: None

[AGR1040 Introduction to Animal Basics](#)

Students learn to identify and demonstrate the basic steps involved in raising and caring for a domestic animal. Students gain an understanding of general care to ensure animal health. Students may choose between a horse, cow, sheep, cat or dog to focus their studies on.

Prerequisite: None

[AGR2020 – Animal Husbandry/Welfare](#)

Students apply the principles of animal science and health technology in providing care for a domestic animal. Students may choose between a horse, cow, sheep, cat or dog to complete their studies

Prerequisite: AGR1040, AGR 3000

[AGR2040 – Livestock 1](#)

Students explore different breeds of livestock. Focusing on basic anatomy and physiology and the requirements for growing and finishing practices, students will consider the welfare of the animals and the technology available. Access to livestock, poultry or specialty animals and to appropriate animal housing and fencing structures. Potential areas of specialization include the production of cattle (beef or dairy), poultry, swine, sheep and diversified livestock (elk, bison and deer).

Prerequisite: AGR3000

[AGR2070 Equine 1](#)

Students develop practical skills, based on approved practices, for providing the daily care of a horse, focusing on the origin and history of horses, anatomy and conformation, types and breeds, handling and feeding practices, and basic health care. Access to a horse and appropriate equine housing/fencing structures.

It is recommended that students have a minimum of 50 hours of previous experience in horse handling and horse care prior to commencing the study of this course. Students must have access to instruction from an individual with specialized training and/or experience related to horsemanship and/or English or Western riding.

Prerequisite: AGR3000

[AGR3070 – Equine 2](#)

Students develop practical skills, based on approved practices, for providing the daily care of a horse. Attention will focus on the use of physical facilities, procedures for stall cleaning and bedding a horse, guidelines for turnout and shelter,

reproductive fundamentals and techniques, and basic horsemanship. Access to a horse and appropriate equine housing/fencing structures.

It is recommended that students have a minimum of 50 hours of previous experience in horse handling and horse care prior to commencing the study of AGR2070: Equine 1 and AGR3070: Equine 2. Students must have access to instruction from an individual with specialized training and/or experience related to horsemanship and/or English or Western riding.

Prerequisite: AGR3000, AGR2070

[AGR3000 Agriculture Safety](#)

This course will benefit the academic growth of students as well as keep them safe as they begin their working lives. Students recognize and assess the hazards and manage the risks of working in agriculture. This course does have a final exam if students want certification.

Outcomes:

- Identify and describe potential hazards found in the agricultural area
- Examine and demonstrate standards/practices associated with agricultural health and safety
- Identify and demonstrate methods for dealing with potential hazards in the agricultural area
- Research and identify legislation and /or exemptions for agricultural health and safety
- Demonstrate basic competencies
- Create a transitional strategy to accommodate personal changes and build personal values

Students who complete this course successfully and pass the summative evaluation approved by the JSSS will qualify for Level 1 or Level 2 Job Safety Certification by JSSS.

Prerequisite: None

CTS – Career Transitions

[CTR1010 – Job Preparation](#)

CTR1010 Job Preparation assists students to develop effective employment search skills, including career planning. Students acquire knowledge, skills, and attitudes relevant to workplace health and safety.

NOTE: This course is no longer accepted as the pre-requisite for Work Experience.

Prerequisite: None

CTS – Communication Technology

[COM1005 – Visual Composition](#)

COM1005 Visual Composition students learn to employ fundamental elements and principles of design for various media and gain a strong foundational multidisciplinary experience in preparation for other Communication Technology courses.

IMPORTANT NOTE: COM1005 is the prerequisite for all other Communication Technology courses.

Prerequisite: None

[COM1205 Photography Introduction](#)

COM1205 Photography Introduction students develop essential skills in camera use with a focus on basic composition, set-up, and examination of exposure. Students operate a camera to capture images and produce final display proofs.

Prerequisite: COM1005

[COM1215 Photography Exposure](#)

Students learn the technical and creative uses of aperture, shutter speed and ISO, and demonstrate how combinations of the three elements give very different results. Students also discover how a correct exposure is obtained through the combination of shutter speed, aperture and ISO, which make up the photographic triangle. Access to a camera with the ability to control aperture and shutter speed independently, and to processing and display equipment.

Prerequisite: COM1005

[COM1275 Photography Digital Processing 1](#)

Students learn the fundamentals of consumer-based digital image acquisition, management, composition, manipulation and editing software to improve image composition.

Prerequisite: COM1005

[COM2205 Photography Composition](#)

Students expand their photography skills including composition, exposure, basic lighting, camera operation, image processing and proofing, and display. Access to a camera with the ability to control aperture and shutter speed independently, and to a metering device, processing and display equipment.

Prerequisite: COM1005

[COM2215 Photography Communication](#)

Students use photographic prints or digital images to communicate a message or tell a story. Access to a camera and to processing, display and audio equipment.

Prerequisite: COM1005

[COM2235 Photography Lenses](#)

Students expand photographic concepts by using various lenses and applying depth of field in composition. Access to a single-lens reflex (SLR) camera, variety of lenses, tripod, monopod, and processing and display equipment.

Prerequisite: COM1005

[COM3205 Photography Lighting](#)

Students apply various light sources, multiple lighting arrangements and metering techniques with an emphasis on flash and studio lighting. Access to a camera with ability to control aperture and shutter speed independently, access to a studio facility, light meter, lighting equipment, flash, processing and display equipment.

Prerequisite: COM1005

[COM3215 Photography Photojournalism](#)

Students develop skills and explore processes to present a story, primarily through the use of pictures and text. Access to a camera with the ability to control aperture and shutter speed independently, and to processing, display and audio equipment.

Prerequisite: COM1005

[COM3225 Photography Colour](#)

Students are introduced to various techniques used to create high-quality colour photographs through understanding the process, parameters and issues that arise when working on colour photographs. Access to a single-lens reflex (SLR) or Micro Four Thirds system camera with the ability to control aperture and shutter speed independently, and to colour-processing and display equipment.

Prerequisite: COM1005

[COM3235 Photography BW Digital Techniques](#)

Students develop an understanding of various production and postproduction black-and-white digital techniques and the differences in mood and appeal between colour and monochrome. Access to a digital single-lens reflex (SLR) or Micro Four Thirds system camera with the ability to control aperture and shutter speed independently, and to processing and display equipment.

Prerequisite: COM1005

[COM3245 Photography Outdoor](#)

Students plan and respond to outdoor conditions to capture and produce high-quality outdoor images. Access to a single-lens reflex (SLR) or Micro Four Thirds system camera with the ability to control aperture and shutter speed independently, and to a variety of lens, processing and display equipment.

Prerequisite: COM1005

[COM3275 Photography Digital Processing 2](#)

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. Access to a camera with the ability to control aperture and shutter speed independently, and to advanced processing software and display equipment.

Prerequisite: COM1005

CTS – Community Care Services

[CCS3110 – Early Learning and Child Care 1](#)

Students investigate the roles and responsibilities of a child care worker, and develop communication, observation and skills for guiding behaviour. Access to children *between the ages of 0–5* in any of the following ways: a licensed child care centre; a licensed preschool; a licensed or approved family day home; a licensed out-of-school care program; or, a school-based pre-Kindergarten program. (A Kindergarten program will not fulfill the needs of the program due to the age of the children.) This is the first of five courses leading to the provincial certification required to work in licensed child care programs. Upon successful completion of the following courses—Early Learning and Child Care 1, 2, 3, 4, and 5—the student may be eligible to receive certification, providing the objectives of the *Orientation Course for Childcare Staff 1* from Alberta Children and Youth Services have been met. Students should be aware that a security check may be required for access to child care facilities.

Prerequisite: none

[CCS3120 – Early Learning and Child Care 2](#)

Students will develop skills to assist in promoting the physical, intellectual and language development in children from birth to age six. Access to children *between the ages of 0–5* in any of the following ways: a licensed child care centre; a licensed preschool; a licensed or approved family day home; a licensed out-of-school care program; or, a school-based pre-Kindergarten program. (A Kindergarten program will not fulfill the needs of the program due to the age of the children.)

Prerequisite: CCS3110

[CCS3130 – Early Learning and Child Care 3](#)

Students will develop skills to assist in promoting the social-emotional and creative development with children from birth to age 6. Students also will examine the development of learning through play.

Prerequisite: CCS3120

[CCS3140 – Early Learning and Child Care 4](#)

St Students will examine family dynamics and issues, as well as the cultural diversity of the children and families under their care. Students also will develop skills to support and promote the cultural identity of children.

Prerequisite: CCS3130

[CCS3150 Early Learning and Child Care 5](#)

Students will learn appropriate practices related to routines in a child care program. Students also will plan for the health, safety and well-being of children in child care programs.

Prerequisite: CCS3140

CTS - Design Studies

[DES1010 – Sketch, Draw, and Model](#)

In Design Studies 1010, students are introduced to observational sketching, drawing and modeling (sculpting), as well as to a selection of basic drawing and modelling materials and tools, including their various applications, which will enable students to develop creative skills that can be used and enhanced in further design studies activities. Students will be required to create and maintain a Design Journal, as well as to present an online Design E-Portfolio. Students should have access to a digital camera or scanner, basic drawing supplies (i.e. drawing paper, various sizes of pencils, ink pens, oil pastels, choice of paint and paintbrushes) and sculpture material (i.e. modelling clay/dough and cardboard).

Online – via a course player, which includes interactive tutorials, instructions and assignments that is delivered electronically through ADLC's secure website and e-mail.

Prerequisite: None

CTS - Electro-Technologies (ADLC)

[ELT1010 – Electro - Assembly](#)

ELT1010 Electro-Assembly 1 is an introductory course in electricity and electronics. Students apply basic fabricating and servicing techniques to construct and test electronic and electromagnetic devices and cables. Students must have access to basic electrical hand tools and soldering equipment as not all supplies are in the loan kit.

Students must supply: soldering iron, hot glue gun, clear glue sticks, solder suitable for soldering electronic circuits (tv or radio solder), needle-nose pliers, battery holder for four C size or D size batteries, four C or D batteries, electrical tape, metric ruler, calculator, wire stripper (preferable) or utility knife, sandpaper (preferable: 80-400 grit), and screwdriver. Be sure to order the lab and loan kits for the rest of the supplies needed to complete the labs.

Note: This is not a true online course. It is a print course with web based resources. This course does not contain online simulations. Practical work is done through labs.

Prerequisite: None

CTS - Fashion Illustration

[FAS1000 - Fashion Illustration I](#)

Fashion Illustration 1 introduces students to the world of fashion illustration and the work of a fashion artist. They learn to sketch a croquis, incorporate simple gestures. Then, they apply these skills to create fashion illustrations.

Prerequisite: None

[FAS1030 – Sewing Fundamentals](#)

Sewing Fundamentals students learn how to use and care safely for sewing and pressing equipment, and to apply these skills in project assembly. Students need access to sewing-related equipment and supplies. This course is the prerequisite for most other Fashion Studies courses.

Prerequisite: None

[FAS1050 – Redesign, Recycle, and Restore](#)

Students experiment with creative ways to redesign, recycle, or restore projects by repairing, customizing, or embellishing the project. Students use these techniques to update or create something new from something old.

Prerequisite: FAS1030

[FAS1060 – Creating Accessories 1](#)

Creating Accessories 1 students use basic sewing skills and techniques to construct a home or personal accessory. Access to sewing-related equipment and supplies is essential.

Prerequisite: FAS1030

[FAS1130 – Construction Fundamentals 1](#)

Construction Fundamentals 1 students learn how to determine pattern size, choose a suitable pattern and fabric, make pattern alterations, and prepare the fabric and pattern for layout. These skills will be applied during the assembly of a simple garment.

Prerequisite: FAS1030

[FAS1190 – Textile Arts 1](#)

Textile Arts 1 students explore various yarn or textile art techniques and apply basic skills while creating a project. Students can choose from knitting, crocheting, quilting or a textile art of their choice

Prerequisite: None

[FAS2000 – Fashion Illustration 2](#)

Students apply techniques and knowledge to create a variety of fashion illustrations with a focus on movement, poses and details of heads, hands and feet.

Prerequisite: FAS1000

[FAS2080 - Activewear](#)

Students learn about activewear fabrics and how to make unique, attractive, and serviceable activewear. Students must have access to sewing-related equipment and supplies.

Prerequisite: FAS1030

[FAS2090 – Specialty Fabrics I](#)

Students research, experiment with and produce a project using a specialty fabric such as spandex, stripes, one way design, satin, pile, velvet, waterproof or other fabrics discussed with the teacher.

Prerequisite: FAS1030

[FAS2110 – Creating Home Décor](#)

Creating Home Décor students apply design and sewing techniques to create a home décor fashion. Students need access to sewing-related equipment and supplies.

Prerequisite: FAS1030

[FAS2120 – Surface Embellishment](#)

Students practise a variety of embellishment techniques and apply these skills to a finished project. Some techniques include dyeing, bleaching, painting, scrunching.

Prerequisite: none

[FAS2130 – Construction Fundamentals 2](#)

Students apply intermediate construction techniques and knowledge of fabrics and patterns to complete a garment for the lower torso.

Prerequisite: FAS1130

[FAS3000 – Fashion Illustration 3](#)

Students use the skills honed in level 1 and level 2 to create a fashion line using technical or impressionistic techniques. This includes a variety of blouses, necklines, tops, skirts, pants, tailored garments and accessories.

Prerequisite: FAS2000

[FAS3040 – Contemporary Tailoring](#)

Students will construct a jacket or coat using contemporary tailoring techniques. This will include pad stitching, lapels, collars, and advanced seam finishing.

Prerequisite: FAS1030

[FAS3070 – Creators of Fashion](#)

Creators of Fashion students discover the world of fashion designers. An indepth study of a fashion designer of their choice will be required.

Prerequisite: None

[FAS3080 – Cultural Fashions](#)

Students research and learn about the fashions of other cultures and produce a project related to their research. The final project could include a garment from a historical era, their own family tree or a garment of interest from another culture.

Prerequisite: FAS1030

[FAS3090 – Specialty Fabrics 2](#)

Students learn about the characteristics and techniques for preparing, sewing and caring for an advanced specialty fabric. Subsequently, they create and construct a distinctive project.

Prerequisite: FAS2090

CTS – Financial Management

[FIN1010 – Personal Financial Information](#)

Personal Financial Information allows students to explore such concepts that affect the finances of an individual, including a code of conduct, the economic environment, acquiring and using financial resources and the effects of government legislation.

Prerequisite: None

[FIN1015 – Accounting Prep](#)

Accounting Prep introduces students to accounting and terminology unique to financial accounting. Students become familiar with financial statements, generally accepted accounting principles and how to prepare for the process of starting up a business.

Prerequisite: None

[FIN1020 – Accounting Cycle I](#)

Accounting Cycle I introduces students to the accounting cycle for a service business. Students will analyze and record business transactions up to trial balance for the fiscal period of a business using terminology unique to financial accounting. There is a final project for this course.

Prerequisite: FIN1015

[FIN1030 – Accounting Cycle II](#)

Accounting Cycle II completes the accounting cycle for a service business, preparing financial statements, and closing accounts. Students will also explore other factors of a business, including budgets. There is a final project for this course.

Prerequisite: FIN1020

CTS - Foods

[FOD1010 – Food Basics](#)

In Food Basics, students learn safe and sanitary food handling procedures, equipment care, comprehension of recipes, and the importance of efficient work habits. Students need access to a personal or commercial food preparation facility. This course is the pre-requisite for all subsequent Foods courses. There is no final exam for this course.

Prerequisite: None

[FOD1020 – Contemporary Baking](#)

In Contemporary Baking, students develop an demonstrate and 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. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

[FOD1030 – Snacks and Appetizers](#)

In Snacks and Appetizers, students apply the importance of snacks and appetizers related to lifestyle, by making nutritious, as well as delicious snacks and appetizers. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

[FOD1040 – Meal Planning](#)

In Meal Planning, students develop an understanding of planning, preparation, and evaluation of balanced healthy meals. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

[FOD1050 – Fast and Convenience Foods](#)

In Fast and Convenience Foods, students consider budget, time, quality of food, and food alternatives, by making wise choices in the buying, using, and preparing of fast foods and convenience foods. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

[FOD1080 – Food and Nutrition Basics](#)

In Food and Nutrition Basics as students participate in healthy food preparation, they learn about the leader, or basic nutrients, in which foods they are found in and how such foods affect performance and future health. Students need access to a personal or commercial food preparation facility. This course has no final exam.

Prerequisite: FOD1010

[FOD2040 – Cake and Pastry](#)

In Cake and Pastry, students expand their knowledge and skills in the production of a variety of cake and pastry products. Students need access to a personal or commercial food preparation facility.

Prerequisite: FOD1010

[FOD2050 – Bread Products](#)

Students describe the role of ingredients and use specialized skills in working with bread products.

Prerequisite: FOD1010

[FOD2060 – Milk Products and Eggs](#)

In Milk Products and Eggs, students develop skills in using milk products and eggs by examining how to retain their nutritional value and quality through a variety of preparation and presentation methods. Students need access to a personal or commercial food preparation facility.

Prerequisite: FOD1010

[FOD2070 – Soups and Sauces](#)

In Soups and Sauces, students combine stocks with various thickening agents to produce hearty soups and sauces. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOF 1010

[FOD2090 – Creative Cold Foods](#)

In Creative Cold Foods, students learn to combine nutrition and creativity in the preparation of salads and sandwiches. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

[FOD2130 – Vegetarian Cuisine](#)

Students learn to create healthy, wholesome vegetarian diets by preparing suitable foods in a variety of ways.

Prerequisite: FOD1010

[FOD2180 – Fruits and Vegetables](#)

Students learn about the wide range of vegetables and fruits available, and how to retain their nutritional value and quality through a variety of preparation and presentation methods.

Prerequisite: FOD1010

[FOD3030 – Creative Baking](#)

In Creative Baking, students learn about specialty cakes and pastry products by selecting and creating specialty cakes, pastries, desserts, and a major baked project. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

[FOD3040 – Yeast Products](#)

In Yeast Products, students further their skills in the handling of yeast dough through the preparation of a variety of yeast products. Students need access to a personal or commercial food preparation facility. There is no final exam for this course.

Prerequisite: FOD1010

CTS – Forestry

[FOR1010 – Forests and Society](#) (ADLC)

The Forests and Society course has been developed by ADLC and the Woodland Operations Learning Foundation (WOLF).

In Forests and Society, students study the social, cultural, economic and environmental significance of forests, with particular focus on the impact of society as a whole and the impact individuals have had on forests.

Prerequisite: None

[FOR1020 – Forest Ecology in Regions of Canada](#) (ADLC)

The Forest Ecology in Regions of Canada course has been developed by ADLC and the Woodland Operations Learning Foundation (WOLF).

In Forest Ecology in Regions of Canada, students investigate forest ecosystems and explain the structure and function of trees in relation to life processes. Students also learn to identify factors that determine the distribution of forests, as well as research forest regions of Canada with an emphasis on specific species.

Prerequisite: None

[FOR1100 – Forest Use and Protection](#) (ADLC)

The Forest Use and Protection course has been developed by ADLC and the Woodland Operations Learning Foundation (WOLF).

Students examine past and present uses of Canada's forests, and how research and technology impact forest management.

Prerequisite: None

[FOR2010 – Forest Protection and Stewardship](#)

Students examine the Land-use Framework and the Alberta Land Stewardship Act as they relate to forestry to understand what measures are being taken to promote environmental stewardship.

Prerequisite: None

[FOR3080 – Forest Research & Development](#)

Students examine current and emerging research and development in the forest industry. The course consists of 7 quizzes and 2 assignments. There is no final exam for this course.

Prerequisite: None

CTS – Health Care Services

[HCS3000 – Workplace Safety Systems](#)

The Workplace Safety Practices course has been the Job Safety Skills Society (JSSS). This course will benefit the academic growth of students as well as keep them safe as they begin their working lives. In Workplace Safety Systems, students will gain knowledge, skills, and attitudes in workplace health and safety preparing them for workplace orientation to off-campus education learning experiences, and the transition to the world of work. This course does not have a final exam if students want certification.

Students who complete this course successfully and pass the summative evaluation approved by the JSSS will qualify for Level 1 or Level 2 Job Safety Certification by JSSS.

Prerequisite: None

[HCS3010 – Workplace Safety Practices](#)

The Workplace Safety Practices course has been developed by the Job Safety Skills Society (JSSS). This course will benefit the academic growth of students as well as keep them safe as they begin their working lives. In Workplace Safety Practices, students explore workplace safety principles and practices, and apply these principles and practices to a variety of contexts. This course does have a final exam if students want certification.

Students who complete this course successfully and pass the summative evaluation approved by the JSSS will qualify for Level 1 or Level 2 Job Safety Certification by JSSS.

Prerequisite: HCS3000

[HCS2020 – First Aid/CPR with AED](#)

Students study and demonstrate first-aid skills and procedures, including cardiopulmonary resuscitation (CPR) and automatic external defibrillator (AED), for dealing with emergency situations. Students recommend practices for a safe environment and demonstrate skills and procedures for dealing with common emergency situations. Students examine safety strategies to prevent infection from blood-borne pathogens in health care and recreational settings. Access to instruction from an individual with a recognized First Aid/Level C CPR with AED Instructor's Certificate.

Prerequisite: HCS3000

[HCS3040 – Child First Aid](#)

Students study and demonstrate first-aid skills and procedures, including cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED), for dealing with emergency situations with emphasis on children and infants. Students identify a child safe environment and recognize and demonstrate skills and procedures for dealing with child and infant emergency situations and medical conditions. Access to instruction from an individual with a recognized First Aid and First Aid in Child Care/CPR Instructor's Certificate.

Prerequisite: HCS3000

CTS – Human and Social Services

[HSS1010 – Health Services Foundations](#)

In this project-based course, students examine fundamental attitudes, knowledge, and skills to prepare for further study in career pathways in health, recreation and community services. Concepts related to the determinants of health, the dimensions of wellness, basic principles of anatomy, physiology, and disease, and basic safety and reporting protocols for providing care to individuals in health, recreation, volunteer, and community support settings are reviewed. This course consists of five projects.

Prerequisite: None

[HSS1020 – Nutrition and Wellness](#)

Students learn the importance of nutrition and hydration for the promotion and maintenance of physical, emotional and social health and wellness throughout life. Students evaluate food and supplement choices, the effects of activity on nutritional requirements and the use of labels to improve daily nutritional intake at all ages.

Prerequisite: None

CTS – Information Processing

[INF1030 – Word Processing 1](#)

Students are introduced to the proper use of word processing software, including document creation, editing and printing of properly formatted documents.

Prerequisite: None

[INF1050 – Database 1](#)

Students develop skills in the proper use of a database management system by developing flat-file databases and demonstrating their use in personal and business applications

Prerequisite: None

[INF1060 – Spreadsheet 1](#)

Students develop skills in the proper use of spreadsheet software through general data manipulation and personal record keeping.

Prerequisite: None

[INF1070 – Digital Presentation](#)

Students develop skills with tools used for computerized presentations involving text, data, graphics, sound and animation.

Prerequisite: None

[INF2020 - Keyboarding](#)

Students enhance their occupational level keyboarding competence of all keystroke functions, using unedited, edited and straight copy material. Students will have to achieve a WPM between 30 and 50 and a numerical keystroke speed between 100 and 125.

Prerequisite: None

CTS – Legal Studies

[LGS1030 – Relationship Law](#)

Students learn about laws affecting family members through the use of realistic scenarios and case studies.

Prerequisite: None

CTS – Management and Marketing

[MAM1010 – Marketing and Management](#)

Students identify basic management and marketing concepts and describe retail merchandising strategies of value to the retail employee, manager or owner.

Prerequisite: None

[MAM1020 – Quality Customer Service](#)

Students identify and describe the target customer and the selling floor, including sales and nonsales activities. They will demonstrate techniques required by employees in the field.

Prerequisite: MAM1010

[MAM1050 – Agriculture Consumer Products and Services](#)

Students demonstrate the basic steps involved in processing or adding value to an agriculture commodity and/or in providing related services.

Prerequisite: None

[MAM3010 – The Business Organization](#)

Students identify and describe organizational structures, management theories and organizations as working units. Students also explain their beliefs of what successful organizations might look like in the future. There is a final exam.

Prerequisite: None

[MAM3020 – Business in the Canadian Economy](#)

Students investigate and relate their knowledge of economics to how business decisions are made within the community, provincially, nationally and internationally.

Prerequisite: None

[MAM3030 - Business in the Global Marketplace](#)

Students examine the opportunities and challenges that confront business persons in establishing a global business operation.

Prerequisite: None

[MAM3040 - Promotion: Sales Techniques](#)

Students learn and demonstrate techniques for successful selling.

Prerequisite: None

MAM3050 - Promotion: Sales Techniques

Students explore the channels of distribution and modes of transportation used to direct goods from the producer to the consumer.

Prerequisite: None

MAM3050 – Distributing Goods and Services

MAM3050 Distributing Goods and Services allows students to explore the channels of distribution and modes of transportation used to direct goods from producers to consumers. There is a final exam.

Prerequisite: None

CTS – Mechanics

MEC1040 – Engine Fundamentals

MEC1040 Engine Fundamentals assists students to investigate and describe operating principles as well as the construction and applications of engines. Through practical experience, students demonstrate safe use of tools and develop a positive attitude toward safe workplace practices. Students must have access to a small four-stroke cycle engine (such as a lawnmower) and relevant hand tools to complete this course.

Prerequisite: None

CTS – Recreation Leadership

REC1020 – Injury Management 1

Students learn prevention, assessment, and management techniques related to injuries that may occur during recreation and sporting events and activities. There is no final exam.

A student may qualify for equivalency training in Athletic Injury Management through the Sport Medicine Council of Alberta by completing this course.

Prerequisite: None

REC1040 – Foundations of Training 1

Foundations for Training 1 students apply basic training and movement principles to health-related and performance-related components of fitness training. In addition, students create fitness activities and develop a basic individual fitness plan to achieve goals for health-related and performance-related components. Videos of Alberta students training in a variety of fitness environments help those taking the course to gain a deeper understanding of the course goals.

NOTE: Students need to make plans to have access to an activity supervisor (i.e. coach, fitness instructor, fitness trainer, teacher) for the fitness testing and training that will take place during this course.

Prerequisite: None

[REC2010 – Nutrition for Recreation Activities and Sport](#)

In Nutrition for Recreation Activities and Sport, students explore the role of food and hydration in helping individuals achieve optimal physical performance for recreational physical activities and sport. Students acquire knowledge and skills to plan effectively for nutrition and hydration related to a variety of recreational activities and athletic events. Students examine food labeling and the role of recreation leaders and coaches related to promoting nutrition for performance.

A student may qualify for equivalency training in Sport Nutrition through the Sport Medicine Council of Alberta by completing this course. A student may also qualify for equivalency for the Nutrition module with the National Coaching Certification Program (Competition-Introduction level) by completing this course.

Prerequisite: None

CTS – Tourism

[TOU1010 – The Tourism Sector](#)

Students analyze the organizational structure of the tourism industry at local, provincial, national and global levels. Students will perform introductory investigations of employment opportunities in tourism

Prerequisite: None

CTS - Wildlife

[WLD1070 – Hunting and Game Mgmt Theory](#)

Students explain the role of regulated hunting in game management, identify Alberta's game animals, and develop and demonstrate the attitudes, skills and knowledge necessary for safe and comfortable experiences in the outdoors with bows, arrows, crossbows and firearms. Completion of the Alberta Conservation and Hunter Education Course Training Course together with the Canadian Firearms Safety Course constitute completion of this module.

Prerequisite: None

[WLD1075 – Bow Hunting Education](#)

Students explain the role of regulated bowhunting in game management, identify Alberta's game animals and develop and demonstrate the attitudes, skills and knowledge for safe and comfortable experiences in the outdoors. Completion of the International Bowhunter Education program constitutes completion of this module.

Prerequisite: None

[WLD1090 – Boating Safety](#)

Completion of the Pleasure Craft Operators Course and Test constitutes completion of this module.

Prerequisite: None

CTS – Bundles

PC Hardware and Software – Cisco IT Essentials

(*NOTE: Use the following 5 course codes to register.)

- NET2020 Workstation Technology and Operations
- NET2030 Network Structures
- NET2080 Laptops and Peripherals
- NET2110 Telecommunications
- NET1910 Project A for Cap Stone Project OR INF3010 Hardware and Software Analysis

Course Description

IT Essentials covers fundamental computer and career skills for entry-level IT jobs. The IT Essentials curriculum includes hands-on labs that provide practical experience. Virtual tools help you hone your troubleshooting skills and practice what you learn. The course also provides a learning pathway to Cisco CCNA.

Curriculum Objectives

The primary objective of this course is to help students prepare for entry-level IT positions in a variety of working environments. Students gain confidence with the components of desktop and laptop computers by learning the proper procedures for hardware and software installations, upgrades, and troubleshooting.

By the end of the course, students will be able to complete the following objectives:

- Define information technology (IT) and describe the components of a personal computer.
- Describe how to protect people, equipment, and environments from accidents, damage, and contamination.
- Perform a step-by-step assembly of a desktop computer.
- Explain the purpose of preventive maintenance and identify the elements of the troubleshooting process.
- Install and navigate an operating system.
- Configure computers to connect to an existing network.
- Upgrade or replace components of a laptop based on customer needs.
- Describe the features and characteristics of mobile devices.
- Install and share a printer.
- Implement basic physical and software security principles.
- Apply good communications skills and professional behavior while working with customers.
- Perform preventive maintenance and advanced troubleshooting.
- Assess customer needs, analyze possible configurations, and provide solutions or recommendations for hardware, operating systems, networking, and security.

Career Pathways

IT Essentials is ideal for students seeking entry-level IT positions in companies, government agencies, educational institutions, or service providers, or to work for themselves.

Job titles include - Help Desk Technician, IT Support Technician, Field Service Technician, Support Engineer, Network Support Technician, Network Support Engineer, and more.

Industry certification

Helps prepare for CompTIA A+ certification exam(s).

Prerequisite: None

[Cisco Certified Network Administrator \(CCNA\) Introduction to Networks](#) - approximately 110 hours.

(NOTE: Use the following 5 course codes to register.)

- NET2040 Network Media and Devices
- NET2050 Open System Interconnection
- NET2060 Network Protocols
- NET3100 Network Media & Device Security
- NET2920 Project B for Cap Stone Project

The 5 courses listed above are bundled to complete the 5 credit version of CCNA Discovery 1 — Networking for Home and Small Business

NOTE: This is a 5 credit bundle. Students must register in ALL of the 5 credits listed above.

Course Description

Introduction to Networks is the first course in the Cisco CCNA Routing and Switching curriculum teaching students the architecture, structure, functions and components of the Internet and other computer networks. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

Curriculum Objectives

Students who complete Introduction to Networks will be able to perform the following functions:

- Understand and describe the devices and services used to support communications in data networks and the Internet
- Understand and describe the role of protocol layers in data networks
- Understand and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments
- Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks
- Explain fundamental Ethernet concepts, such as media, services, and operations
- Build a simple Ethernet network using routers and switches
- Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations
- Utilize common network utilities to verify small network operations and analyze data traffic

Career Pathways

CCNA Routing and Switching curriculum builds the skills you need to get hired and succeed in jobs related to networking computers, devices, and things. Whether you go for that first job or specialize with more study, CCNA is a great foundation.

[Career pathways](#) include: network technician, support engineer, network administrator, network designer, network engineer, and more.

Industry certification

Helps prepare for Cisco CCNA certification exam(s).

Prerequisite: PC Hardware and Software - IT Essentials

[Cisco Certified Network Administrator \(CCNA\) Routing and Switching Essentials](#) - approximately 110 hours.

(NOTE: Use the following 5 course codes to register.)

- NET2070 Local Area Networks
- NET3060 Wide Area Networks
- NET2920 Project C to help cover course content
- NET2930 Project D to help cover course content
- NET Project for Cap Stone Project

Course Description

Routing and Switching Essentials is the second course in the CCNA Routing and Switching curriculum teaching students how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing.

Curriculum Objectives

Students who complete the Routing and Switching Essentials course will be able to perform the following functions:

- Understand and describe basic switching concepts and the operation of Cisco switches
- Understand and describe the purpose, nature, and operations of a router, routing tables, and the route lookup process
- Understand and describe how VLANs create logically separate networks and how routing occurs between them
- Understand and describe dynamic routing protocols, distance vector routing protocols, and link-state routing protocols
- Configure and troubleshoot static routing and default routing (RIP and RIPv2)
- Configure and troubleshoot an Open Shortest Path First (OSPF) network
- Understand, configure, and troubleshoot access control lists (ACLs) for IPv4 and IPv6 networks
- Understand, configure, and troubleshoot Dynamic Host Configuration Protocol (DHCP) for IPv4 and IPv6 networks
- Understand, configure, and troubleshoot Network Address Translation (NAT) operations

Career Pathways

CCNA Routing and Switching curriculum builds the skills you need to get hired and succeed in jobs related to networking computers, devices, and things. Whether you go for that first job or specialize with more study, CCNA is a great foundation.

[Career pathways](#) include: network technician, support engineer, network administrator, network designer, network engineer, and more.

Industry certification

Helps prepare for Cisco CCNA certification exam(s).

Prerequisite: Grade 11 or higher & Introduction to Networks

Cisco Certified Network Administrator (CCNA) Scaling Networks - approximately 110 hours.

(NOTE: Use the following 5 course codes to register.)

- NET3070 Routing Fundamentals
- NET3090 Network Management
- NET3910 Project D to help cover course content
- NET3920 Project E to help cover course content
- NET Project for Cap Stone Project

Course Description

Scaling Networks is the third course in the CCNA Routing and Switching curriculum teaching students how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, and STP.

Curriculum Objectives

Students who complete the Scaling Networks course will be able to perform the following functions:

- Understand, configure and troubleshoot enhanced switching technologies such as VLANs, Rapid Spanning Tree Protocol (RSTP), Per VLAN Spanning Tree Plus Protocol (PVST+), and EtherChannel
- Understand, configure, and troubleshoot first hop redundancy protocols (HSRP) in a switched network
- Understand, configure, and troubleshoot wireless routers and wireless clients
- Configure and troubleshoot routers in a complex routed IPv4 or IPv6 network using single-area OSPF, multiarea OSPF, and Enhanced Interior Gateway Routing Protocol (EIGRP)
- Manage Cisco IOS® Software licensing and configuration files

Career Pathways

CCNA Routing and Switching curriculum builds the skills you need to get hired and succeed in jobs related to networking computers, devices, and things. Whether you go for that first job or specialize with more study, CCNA is a great foundation.

Career pathways include: network technician, support engineer, network administrator, network designer, network engineer, and more.

Industry certification

Helps prepare for Cisco CCNA certification exam(s).

Prerequisite: Grade 11 or higher & Routing and Switching Essentials

[Cisco Certified Network Administrator \(CCNA\) Connecting Networks](#) - approximately 110 hours.

(NOTE: Use the following 5 course codes to register.)

- NET3080 Internet Processes
- NET3110 Telecommunications 2
- NET Project to help cover course content
- NET Project to help cover course content
- NET Project for Cap Stone Project

Level: Grade 11 or higher and taken Scaling Networks (Cisco CCNA).

Course Description

Connecting Networks is the fourth and final course in the CCNA Routing and Switching curriculum covering the WAN technologies and network services employed by converged applications in a complex network. By the end of this course, students will be able to configure and troubleshoot network devices and resolve common issues with data link protocols.

Curriculum Objectives

Students who complete the Connecting Networks course will be able to perform the following functions:

- Understand and describe different WAN technologies and their benefits
- Understand and describe the operations and benefits of virtual private networks (VPNs) and tunneling
- Understand, configure, and troubleshoot serial connections
- Understand, configure, and troubleshoot broadband connections
- Understand, configure, and troubleshoot tunneling operations
- Understand, configure, and troubleshoot Network Address Translation (NAT) operations
- Monitor and troubleshoot network operations using syslog, SNMP, and NetFlow
- Understand and describe network architectures:
 - Borderless networks
 - Data centers and virtualization
 - Collaboration technology and solutions

Career Pathways

CCNA Routing and Switching curriculum builds the skills you need to get hired and succeed in jobs related to networking computers, devices, and things. Whether you go for that first job or specialize with more study, CCNA is a great foundation.

Career pathways include: network technician, support engineer, network administrator, network designer, network engineer, and more.

Industry certification

Helps prepare for Cisco CCNA certification exam(s).

Prerequisite: Grade 11 or higher & Scaling Networks

Video Game Design – Fundamentals of a Video Game Design - approximately 110 hours.

(NOTE: Use the following 5 course codes to register.)

- COM1005
- COM1015
- COM1145
- COM2145
- NET1910

Level: Grade 9 or higher.

Course Description

Lessons provide a top-level overview of the video game design process, from the beginning of the game build to the sales and marketing of the final product. This course is designed to take any student from novice to advanced skills and knowledge.

Curriculum Objectives

Students who complete the Video Game Design – Fundamentals of a Video Game Design course will be able to perform the following functions:

- Describe the roles and responsibilities of team members on a video game design team
- Describe, classify, and categorize the different gaming genres
- Discuss how video games affect behavior, cognitive development, and motor skills
- Compare and contrast perspective, scene design, and basic animation
- Build applied mathematics logic statements
- Understand, configure, and troubleshoot Network Address Translation (NAT) operations
- Describe the techniques used in industry to evaluate games
- Describe and create a development plan for a video game design
- Describe how video games are marketed and sold
- Data centers and virtualization

Career Pathways

Video Game Design – Fundamentals of a Video Game Design curriculum builds the skills you need and is the first step to get hired and succeed in jobs related to video game design. When you go for more study, this course is a great foundation.

Career pathways include: any member of the production team that make up the video game design profession.

Industry certification

NA

Prerequisite: None

Video Game Design – Composition of a Video Game - approximately 110 hours.

(NOTE: Use the following 5 course codes to register.)

- COM1035
- COM2035
- COM3145
- DES1020
- DES1030

Level: Grade 9 or higher and taken Video Game Design – Fundamentals of a Video Game Design.

Course Description

Composition of a Video Game

Delivers in-depth instruction, including theory and application, on the details of video game design. Each chapter acts as a building block that supports the next skill learned. This allows students to learn the objective of each lesson, practice the corresponding skill, and lay the foundation on which to acquire the next skill set.

Curriculum Objectives

Students who complete the Video Game Design – Composition of a Video Game Design course will be able to perform the following functions:

- Explain what is meant by the scope, or life cycle, of a video game
- Develop character descriptions
- Develop a comprehensive story outline for a video game
- Design a basic HUD for a video game
- Detail the elements needed to create audience-appropriate engagement
- Evaluate the five key mechanics of a strategy game
- Develop game programming using qualifiers
- Incorporate sounds into a video game
- Apply various artistic techniques to create the perception of depth in artwork
- Compare and contrast raster images and vector images
- Create pose-to-pose animations for game assets
- Summarize the ways in which physics applies to video games
- Describe the components and identify the classifications of a simulation

Career Pathways

Video Game Design – Composition of a Video Game Design curriculum builds the skills you need and is the first step to get hired and succeed in jobs related to video game design. When you go for more study, this course is a great foundation.

Career pathways include: any member of the production team that make up the video game design profession.

Industry certification

NA

Prerequisite: Video Game Design Fundamentals

Linux Essentials

The Linux curriculum consists of three courses. Each course must be taken in sequence. This course has no CTS modules that can be correlated with the Alberta Program of Studies so any student wishing to take this course will be required to pay a tuition of \$500.

Course: Linux Essentials I - approximately 110 hours.

Level: Grade 10 or higher and taken IT Essentials.

Course Description

Knowledge of Linux is a helpful skill for a wide variety of careers in business and Information Technology fields. Many emerging and growing career opportunities including big data, cloud computing, cyber security, information systems, networking, programming and software development (to name a few) require basic to advanced knowledge of the Linux command line.

Curriculum Objectives

This course covers the fundamentals of the Linux operating system and command line. The goal of this course is to provide students a “starting place” for learning the Linux operating system. By the end of the course, students will be able to complete the following objectives:

- Understand Linux as an operating system
- Explain some of the considerations for choosing an operating system
- Understand some of the basics of open source software and licensing
- Acquire basic knowledge of working with Linux
- Learn basic Linux command line skills
- Learn how to use help commands and navigate help systems when using Linux
- Basics of how to work with Linux files and directories
- Searching and extracting data from Linux files Basic understanding of the concept of scripting
- Familiarity with the components of desktop and server computers
- Knowing where data is stored on a Linux system
- Querying vital network settings for a Linux computer on a Local Area Network
- Identifying various types of users on a Linux system
- Creating users and groups on a Linux system
- Managing Linux file permissions and ownership
- Understanding special Linux directories and files

Career Pathways

Knowledge of Linux is an important differentiator for business and IT professionals interested in big data, cloud computing, cybersecurity, information systems, networking, programming, software development, and more.

Career pathways include: network engineer, software developer, and Linux administrator

Industry certification

Not associated with any certification exams.

Prerequisite: Grade 10 or higher & PC Hardware and Software - IT Essentials

[Introduction to Linux I](#) – Approximately 100 hours

This course has no CTS modules that can be correlated with the Alberta Program of Studies so any student wishing to take this course will be required to pay a tuition of \$400 Canadian.

NOTE: Cisco also charges a \$39.95 USD per student fee to take this course

Course: Introduction to Linux I - approximately 100 hours.

Level: Grade 10 or higher and taken **Linux Essentials**.

Course Description

The Introduction to Linux I course focuses on the basic Linux skills needed in preparation for the **first** Linux Professional Institute certification exam. Learners will gain proficiency performing maintenance tasks on the command line, installing and configuring a computer running Linux and configuring basic networking.

Curriculum Objectives

By the end of the course, students will be able to complete the following objectives:

- System Architecture
- Linux Installation and Package Management
- GNU and Unix commands
- Devices, Linux Filesystems, Filesystem Hierarchy Standard

Industry certification

First Linux Professional Institute LPIC-1 certification exam.

Prerequisite: Grade 10 or higher and taken Linux Essentials.

[Introduction to Linux II](#) – Approximately 100 hours

This course has no CTS modules that can be correlated with the Alberta Program of Studies so any student wishing to take this course will be required pay a tuition of \$400 Canadian.

NOTE: Cisco also charges a \$39.95 USD per student fee to take this course

Level: Grade 10 or higher and taken Introduction to Linux I.

Course Description

The Introduction to Linux II course focuses on the basic Linux skills needed in preparation for the **second** Linux Professional Institute certification exam. Learners will continue to gain proficiency performing maintenance tasks on the command line, installing and configuring a computer running Linux and configuring basic networking.

Curriculum Objectives

By the end of the course, students will be able to complete the following objectives:

- Shells, Scripting and Data Management
- Interfaces and Desktops
- Administrative Tasks
- Essentials System Services
- Network Fundamentals
- Security

Industry certification

CompTIA Linux+ certification exam or second Linux Professional Institute LPIC-1 certification exam.

Prerequisite: Grade 10 or higher and taken Introduction to Linux I.

C++ Programming - approximately 125 hours.

(NOTE: Use the following 5 course codes to register.)

- CSE1010
- CSE1110
- CSE2010
- CSE2120
- CSE2140

Individual Module Descriptions

Level: Grade 11 or higher.

Course Description

You will learn traditional topic of an introduction-programming course along with simple game development. You start by writing console-based programs and move on to develop simple games and programs that use graphics and animation.

Curriculum Objectives

Students who complete the C++ Programming – C++ Programming course will be able to perform the following functions:

- Introduction to programming
- C++ Fundamentals
- Decision Structures and Boolean Logic
- Repetition Structures
- Functions
- Arrays
- Using Files and Arrays
- Game Code Tutorials

Career pathways include: video game and/or application programmer.

Industry certification

NA

Corerequisite: Java Programming

Individual Module Descriptions

CSE1010: **COMPUTER SCIENCE 1**

Prerequisite: None

Description: Students explore hardware, software and processes. This includes an introduction to the algorithm as a problem-solving tool, to programming languages in general and to the role of programming as a tool for implementing algorithms.

CSE 1110: STRUCTURED PROGRAMMING 1

Prerequisite: None

Description: Students are introduced to a general programming environment in which they write simple structured algorithms and programs that input, process and output data, use some of the more basic operators and data types, and follow a sequential flow of control.

CSE 2010: COMPUTER SCIENCE 2

Prerequisites: CSE1010: Computer Science 1 CSE1120: Structured Programming 2

Description: Students explore hardware, software and processes at an intermediate level. Students extend their understanding of software development by learning how to layer modular programming approaches over structured programming techniques to improve the efficiency and robustness of algorithms and programs. They also are introduced to derived data types to provide them with data structures suitable for more demanding problems. Students add to their understanding of the hardware side of computer science by exploring a stylized von Neumann computer system at the machine level, and of the social side of computer science by examining some of the issues that have arisen from the implementation of computer technology.

CSE2120: DATA STRUCTURES 1

Prerequisite: CSE2110: Procedural Programming 1

Description: Students learn how to design code and debug programs that use a set of data structures that can be used to handle lists of related data. Building on their knowledge of basic or primitive data types, they learn how to work with fundamental data structures such as the array and the record. As part of this process, they learn what types of problems benefit from the use of these types of data structures.

CSE 2140: SECOND LANGUAGE PROGRAMMING 1

Prerequisite: CSE2110: Procedural Programming 1 or CSE1120: Structured Programming 2

Description: Students who have mastered the basics of one programming language are given the opportunity to learn the basics of another. Designed for students who have learned how to write structured and/or modular programs in a more accessible programming environment, this course gives students an opportunity to develop a similar skill set in a more demanding language. In the process, they have a further opportunity to hone their structured and modular programming skills.

[Java Programming](#) - approximately 125 hours.

(NOTE: Use the following 5 course codes to register.)

- CSE1120
- CSE2110
- CSE3010
- CSE3120
- CSE3130

Level: Grade 11 or higher and taken C++ Programming 11 and C+ in Math 10.

Course Description

You are about to embark on an exciting journey of learning to program using Java. You will use virtual robots to learn structured, procedural, and object-oriented programming. Virtual robots offers significant advantages such as: visual feedback from the virtual robots; programs are easier to write when programmers can imagine what they would do if they were the robot; and the robot microworld allows students to begin programming immediately using real objects in a real programming environment.

Curriculum Objectives

Students who complete the Java Programming 12 – Java Programming course will be able to perform the following functions:

- Using Variables
- Developing Methods
- More on Variables and Methods
- Making Decisions
- More Decision Making
- Programming with Objects
- Extending Classes with Services
- Game Code Tutorials

Career pathways include: video game and/or application programmer.

Industry certification

NA

Corerequisite: C++ Programming

Individual Module Descriptions

CSE 1120: **STRUCTURED PROGRAMMING 2**

Prerequisite: CSE1110: Structured Programming 1

Description: Students work with structured programming constructs by adding the selection and iteration program control flow mechanisms to their programming repertoire. They write structured algorithms and programs that use blocks to introduce an element of modularity into their programming practice.

CSE 2110: **PROCEDURAL PROGRAMMING 1**

Prerequisite: CSE1120: Structured Programming 2

Description: Students develop their understanding of the procedural programming paradigm. They move from a structured programming approach in which modules were handled through the use of program blocks to a more formal modular programming approach in which they are handled through subprograms. In the process, students also learn to use a number of new design approaches made possible by the new paradigms. As part of this process, they also learn what types of problems are amenable to modular algorithms and programs.

CSE 3010: **COMPUTER SCIENCE 3**

Prerequisites: CSE2010: Computer Science 2

CSE2110: Procedural Programming 1

Description: Students explore hardware, software and associated processes at an advanced level. They extend their understanding of software development by moving from procedural programming approaches to an object-oriented approach. In the process, they learn how

object-oriented programming (OOP) can improve the efficiency and robustness of algorithm development and program construction. They deepen their understanding of the hardware side of computer science by exploring the connection between the binary/hexadecimal number systems and some of the simple logic gates that re the basis of the von Neumann computer. They also add to their understanding of the social implications of computer science by examining the emerging information society.

CSE 3120: OBJECT-ORIENTED PROGRAMMING 1

Prerequisite: CSE2110: Procedural Programming 1

Description: Students add to their understanding of programming paradigms by moving from a procedural programming approach, in which modularity is handled through subprograms, to an object-oriented approach, in which it is handled through objects. They learn a simple object-oriented analysis and design approach based on the use of object diagrams and write programs that use objects associated with one another in a client/server relationship.

CSE 3130: OBJECT-ORIENTED PROGRAMMING 2

Prerequisite: CSE3120: Object-oriented Programming 1

Description: Students extend their knowledge of object-oriented programming (OOP). They add to their expertise in object-oriented design by using some of the techniques associated with the UML design approach and to their programming expertise by writing programs that explore association between classes. Students work with abstract classes, developing algorithms that employ the object diagram approach and programs that use template classes, containment and inheritance to promote reusability.