

CAREER and TECHNOLOGY STUDIES

Strand and Course Descriptions

(Revised 2005)

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* There is a *Guide to Standards and Implementation (GSI)* to support each of the 22 strands. The GSIs outline the mandatory course requirements in shaded format, and provide additional information useful in implementing strand-specific courses in schools and classrooms. The GSIs are highly recommended to those delivering instruction and assessing student achievement in specific CTS stands and courses.

The GSIs can be downloaded through the Alberta Education Web site at http://www.education.gov.ab.ca/k_12/curriculum/bySubject/cts, or purchased in print format from the Learning Resources Centre (LRC). If purchased from the LRC, they can be ordered online at <http://www.lrc.education.gov.ab.ca>.

SCOPE AND SEQUENCE

AGRICULTURE

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Agriculture: The Big Picture ★ <i>AGR1010</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Animal Husbandry/Welfare <i>AGR2020</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Issues in Agriculture <i>AGR3010</i> </div>	Social and Cultural Perspectives
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Production Basics <i>AGR1030</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Consumer Products & Services <i>AGR1060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Basic Landscape/Turf Care <i>AGR1070</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Basic Floral Design <i>AGR1080</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Market Fundamentals <i>AGR1090</i> </div> <div style="border: 1px solid black; padding: 5px;"> Agriculture Technology <i>AGR1100</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Field Crops 1 (Materials & Processes) <i>AGR2030</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Nursery/Greenhouse Crops 1 (Materials & Processes) <i>AGR2140</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Livestock/Poultry 1 (Materials & Processes) <i>AGR2040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Equine 1 (Materials & Processes) <i>AGR2070</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Agrifoods 1 (Materials & Processes) <i>AGR2050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Landscape/Turf Management 1 (Maintenance Practices) <i>AGR2060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Floral Design 1 (Projects for All Occasions) <i>AGR2080</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Marketing 1 (Open Marketing Structures) <i>AGR2090</i> </div> <div style="border: 1px solid black; padding: 5px;"> Protected Structures <i>AGR2100</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Field Crops 2 (Management Techniques) <i>AGR3030</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Nursery/Greenhouse Crops 2 (Management Techniques) <i>AGR3140</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Livestock/Poultry 2 (Management Techniques) <i>AGR3040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Equine 2 (Management Techniques) <i>AGR3070</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Agrifoods 2 (Standards & Regulation) <i>AGR3050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Landscape/Turf Management 2 (Installation & Repair) <i>AGR3060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Floral Design 2 (Creative Design & Display) <i>AGR3080</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Marketing 2 (Closed Marketing Structures) <i>AGR3090</i> </div> <div style="border: 1px solid black; padding: 5px;"> Biotechnology <i>AGR3100</i> </div>	
<div style="border: 1px solid black; padding: 5px;"> Resource Management <i>AGR1110</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Soils Management 1 (Soil Properties/Classification) <i>AGR2120</i> </div> <div style="border: 1px solid black; padding: 5px;"> Integrated Pest Management <i>AGR2130</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Water Management <i>AGR3110</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Soils Management 2 (Soil Testing & Amending) <i>AGR3120</i> </div> <div style="border: 1px solid black; padding: 5px;"> Sustainable Agriculture Systems <i>AGR3130</i> </div>	Management and Conservation

Prerequisite
 Recommended sequence
 ★ Module provides a strong foundation for further learning in this strand.

MODULE DESCRIPTIONS

Module AGR1010: Agriculture: The Big Picture

Students demonstrate knowledge of the diversity and significance of agriculture, and they identify career opportunities within the industry.

Module AGR1030: Production Basics

Students demonstrate the basic steps involved in planting, growing and harvesting a plant commodity; or in raising, growing and finishing an animal commodity, and they identify related career opportunities.

Module AGR1060: Consumer Products & Services

Students demonstrate the basic steps involved in processing (adding value to) an agriculture commodity and/or in providing related services, and they identify career opportunities in agriculture processing.

Module AGR1070: Basic Landscape/Turf Care

Students demonstrate knowledge of the techniques used to perform basic landscape and turf care services, focusing attention on plant identification, equipment and supplies and basic maintenance tasks; and they identify related career opportunities.

Module AGR1080: Basic Floral Design

Students demonstrate knowledge of the techniques used to construct basic floral designs and arrangements, focusing attention on plant and flower identification, care and handling of fresh cut flowers and foliage, and simple fresh/dried/artificial arrangements; and they identify related career opportunities.

Module AGR1090: Market Fundamentals

Students explain the basic principles involved in marketing a plant or animal product or service, and they identify related career opportunities.

Module AGR1100: Agriculture Technology

Students describe applications of science and technology within an agriculture or horticulture industry.

Module AGR1110: Resource Management

Students describe the practices used to manage water, soil and land use; and they present the results of research on one or more related issues in agriculture.

Module AGR2020: Animal Husbandry/ Welfare

Students apply the principles of animal science and health technology in providing care for a domestic animal.

Module AGR2030: Field Crops 1 (Materials & Processes)

Students apply knowledge of materials and processes in growing a field crop, focusing attention on plant anatomy and identification, growth requirements, physical structures and equipment and practical production tasks; and they identify related career opportunities. Potential areas of specialization include the production of cereals, forage, oil seeds, pulse crops, mushrooms, spices/herbs, vegetables, fruits, medicinal plants and exotic plants.

Module AGR2040: Livestock/Poultry 1 (Materials & Processes)

Students apply knowledge of materials and processes in raising livestock, poultry or other animal commodities, focusing attention on anatomy and identification, rations and feeding, housing, animal handling and restraint, animal health and welfare, and care for the young; and they identify related career opportunities. Potential areas of specialization include the production of beef, dairy, poultry, swine, sheep, game, exotics and bees and/or the study of aquaculture.

Module AGR2050: Agrifoods 1 (Materials & Processes)

Students demonstrate knowledge of materials and processes used in producing an agrifood product or in providing a related service, focusing attention on industry inputs, and processing technologies and practices; and they identify related career opportunities. Potential areas of investigation include dairy, beef, pork, poultry, cereals, oil seeds, sugar beets, wine, fruits/vegetables and honey.

Module AGR2060: Landscape/Turf Management 1 (Maintenance Practices)

Students demonstrate the techniques used to provide landscape and turf maintenance services, focusing attention on plant identification, equipment maintenance, effective landscape practices, cost analysis and pricing. Potential areas of specialization include home landscapes, golf courses, recreational fields and parks, institutional/industrial grounds and roadside landscapes.

Module AGR2070: Equine 1 (Materials & Processes)

Students demonstrate practical skills and approved practices in providing for the daily care of a horse, focusing attention on the origin and history of horses, anatomy and conformation, types and breeds, handling and feeding practices, and basic health care; and they identify related career opportunities.

Module AGR2080: Floral Design 1 (Projects for All Occasions)

Students demonstrate knowledge of the practices involved in providing floral design and interior plantscape services, focusing attention on plant and flower identification, elements and principles of design, floral projects for all occasions, interior plant care and marketing practices.

Module AGR2090: Marketing 1 (Open Marketing Structures)

Students apply knowledge of general marketing principles within the context of an agriculture or horticulture industry, focusing attention on materials and services offered to the consumer through open (free enterprise) marketing structures and marketing techniques; and they identify related career opportunities.

Module AGR2100: Protected Structures

Students identify essential components of a controlled growing/living environment and demonstrate the techniques used to manage the growing/living environment within a protected enclosure.

Module AGR2120: Soils Management 1 (Soil Properties/Classification)

Students examine soil formation and classification, conduct tests to determine the physical and chemical properties of soils, and they explain the impact of soil properties on productivity.

Module AGR2130: Integrated Pest Management

Students apply knowledge of biological, cultural and chemical pest-control measures within the context of an agriculture, horticulture or forest industry.

Module AGR2140: Nursery/Greenhouse Crops 1 (Materials & Processes)

Students apply knowledge of materials and processes in growing a nursery or greenhouse crop, focusing attention on plant anatomy and identification, growth requirements, physical structures and equipment, and practical production tasks; and they identify related career opportunities.

Module AGR3010: Issues in Agriculture

Students analyze a range of issues relevant to agriculture and food production, and they develop strategies for dealing with agriculture issues within a global context.

Module AGR3030: Field Crops 2 (Management Techniques)

Students demonstrate the techniques used to produce a field crop, focusing attention on industry trends, enterprise selection, genetics and reproduction, and production skills. Potential areas of specialization include the production of cereals, forage, oil seeds, pulse crops, mushrooms, spices/herbs, vegetables, fruits, medicinal plants and exotic plants.

Module AGR3040: Livestock/Poultry 2 (Management Techniques)

Students demonstrate the techniques used to manage production of livestock, poultry or other animal commodities, focusing attention on industry trends and opportunities, genetics and reproduction, rations and feeding, housing, animal handling and restraint, animal health and welfare, breeding operations and care for the young. Potential areas of specialization include the production of beef, dairy, poultry, swine, sheep, game, exotics and bees and/or the study of aquaculture.

Module AGR3050: Agrifoods 2 (Standards & Regulation)

Students demonstrate knowledge of the techniques used to manage the development of an agrifood product or related service, focusing attention on government regulation and control, economic principles, product quality and safety, environmental impact and industry trends. Potential areas of investigation include dairy, beef, pork, poultry, cereals, oil seeds, sugar beets, wine, fruits/vegetables and honey.

Module AGR3060: Landscape/Turf Management 2 (Installation & Repair)

Students demonstrate the techniques used to provide landscape and turf management services, focusing attention on plant identification, effective maintenance practices, diagnosis and correction of problems, installation of specialty items, cost analysis and seasonal estimates. Potential areas of specialization include home landscapes, golf courses, recreational fields and parks, institutional/industrial grounds and roadside landscapes.

Module AGR3070: Equine 2 (Management Techniques)

Students demonstrate practical skills and approved practices in providing for the daily care of a horse, focusing attention 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.

Module AGR3080: Floral Design 2 (Creative Design & Display)

Students demonstrate knowledge of the practices involved in providing creative floral design services, focusing attention on plant and flower identification, more advanced design techniques, floral services for special occasions and promotional displays of floral services offered.

Module AGR3090: Marketing 2 (Closed Marketing Structures)

Students explain specialized applications of marketing within closed (supply managed) marketing structures, focusing attention on regulatory agencies/policies that influence the supply of a commodity, product or service.

Module AGR3100: Biotechnology

Students present the results of research on applications of biotechnology in agriculture and food production.

Module AGR3110: Water Management

Students explain principles of water management and establish appropriate water management practices for an agriculture or horticulture enterprise.

Module AGR3120: Soils Management 2 (Soil Testing & Amending)

Students demonstrate knowledge of appropriate soil testing and amending techniques, and they interpret soil survey maps and reports.

Module AGR3130: Sustainable Agriculture Systems

Students examine the impact of a range of agriculture practices on the environment, and they propose strategies for ensuring the sustainable use of natural resources.

**Module AGR3140: Nursery/Greenhouse
Crops 2 (Management Techniques)**

Students demonstrate techniques used to produce a nursery or greenhouse crop, focusing

attention on enterprise selection, plant identification, genetics and reproduction, production skills and venture analysis.

SCOPE AND SEQUENCE

CAREER TRANSITIONS

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Job Preparation <i>CTR1010</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Job Maintenance <i>CTR2010</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Preparing for Change <i>CTR3010</i></div>	Career Readiness	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Governance & Leadership <i>CTR2030</i></div>			Leadership	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 1A <i>CTR1110</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 2A <i>CTR2110</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 3A <i>CTR3110</i></div>	Career Extensions	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 1B <i>CTR1120</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 2B <i>CTR2120</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 3B <i>CTR3120</i></div>		
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 2C <i>CTR2130</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 3C <i>CTR3130</i></div>		
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 2D <i>CTR2140</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 3D <i>CTR3140</i></div>		
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 2E <i>CTR2150</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Project 3E <i>CTR3150</i></div>		
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Practicum A <i>CTR3040</i></div>			Career Credentials	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Practicum B <i>CTR3050</i></div>				
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Practicum C <i>CTR3060</i></div>				
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Practicum D <i>CTR3070</i></div>				
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Practicum E <i>CTR3080</i></div>				
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Personal Safety† (Management) <i>CTR1210</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Workplace Safety (Practices) <i>CTR2210</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Safety Management Systems <i>CTR3210</i></div>	Job Safety Skills	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Client Service 1 <i>CTR1030</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Client Service 2 <i>CTR2040</i></div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Client Service 3 <i>CTR3090</i></div>	Client Service	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Career Directions—Expansion <i>CTR2310</i></div>			<div style="border: 1px solid black; padding: 5px; display: inline-block;">Career Directions—Transitions <i>CTR3310</i></div>	Career Directions

— Prerequisite - - - - - Recommended Sequence

† Course is also offered in Community Health.

COURSE DESCRIPTIONS

Course CTR1010: Job Preparation

Students develop successful employment search skills and a personal employment search portfolio.

Course CTR1030: Client Service 1

Students are introduced to the principles and practices of client service. The learning acquired through other CTS courses is extended and enhanced, and opportunities are provided for students to apply and to integrate, in real-life contexts, the knowledge, skills and attitudes developed through other courses.

The context of instruction for this course is determined by the other CTS strands to which it is linked.

Course CTR1110: Project 1A

Course CTR1120: Project 1B

Students, through projects, extend and enhance competencies developed in the Career Transitions strand or other Career and Technology Studies strands to contexts that are personally relevant.

Course CTR1210: Personal Safety (Management)

Students develop practical safety-related knowledge, skills and attitudes, and obtain certification in emergency first aid.

Course CTR2010: Job Maintenance

Students acquire knowledge about workplace requirements, rights and responsibilities and relate this knowledge to personal career/employment expectations.

Course CTR2030: Governance & Leadership

Students are introduced to governance, its place within the administrative structure of a school or community, including the roles, responsibilities, practices and procedures for participating in governance and leadership.

Course CTR2040: Client Service 2

Students expand on the principles and practices of client service previously developed. The learning acquired by students in CTR1030 Client Service 1 is extended and enhanced, and additional opportunities are provided for students to develop client service abilities by applying and integrating, in real-life contexts, the knowledge, skills and attitudes developed through other courses.

The context of instruction for this course is determined by the other CTS strands to which it is linked.

Course CTR2110: Project 2A

Course CTR2120: Project 2B

Course CTR2130: Project 2C

Course CTR2140: Project 2D

Course CTR2150: Project 2E

Students, through projects, extend and enhance competencies developed in the Career Transitions strand or other Career and Technology Studies strands to contexts that are personally relevant.

Course CTR2210: Workplace Safety (Practices)

Students explore workplace safety principles and practices, and apply these principles and practices to a variety of contexts.

Course CTR2310: Career Directions—Expansion

Students build on work done in CTR1310: Career Directions—Foundations to update their learning/career plan, to enhance their career tool kit, and to update their action plan for strengthening essential competencies and learning capacity.

Course CTR3010: Preparing for Change

Students develop knowledge and skills relating to the changing labour market, and relate these changes to analyzing and refining personal career plans.

Course CTR3030: Leading for Change

Students investigate change and decision-making processes used in the school and/or community. They construct, propose and initiate the use of a project planning model to affect change.

Course CTR3040: Practicum A

Course CTR3050: Practicum B

Course CTR3060: Practicum C

Course CTR3070: Practicum D

Course CTR3080: Practicum E

Students, on the worksite, continue to develop and refine those competencies developed in related Career and Technology Studies courses, previous practicums and other experiences.

Course CTR3090: Client Service 3

Students build on the principles and practices of client service acquired in CTR2040 Client Service 2. Additional opportunities are provided for students to apply and to integrate, in real-life contexts, the knowledge, skills and attitudes developed through other courses.

The context of instruction for this course is determined by the other CTS strands to which it is linked.

Course CTR3110: Project 3A

Course CTR3120: Project 3B

Course CTR3130: Project 3C

Course CTR3140: Project 3D

Course CTR3150: Project 3E

Students, through projects, extend and enhance competencies developed in the Career Transitions strand or other Career and Technology Studies strands to contexts that are personally relevant.

Course CTR3210: Safety Management Systems

Students conduct an in-depth investigation of safety management systems and demonstrate the ability to design a safety program for a selected business/ industry.

Course CTR3310: Career Directions—Transitions

Students build on work done in CTR2310: Career Directions—Expansion to update their learning/career plan, and to ensure their career tool kit can support them as they make the transition from high school into the workplace or post-secondary learning.

SCOPE AND SEQUENCE

COMMUNICATION TECHNOLOGY

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Media & You★ COM1020 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Media Design & Analysis 1 COM2020 </div> <div style="border: 1px solid black; padding: 5px;"> Script Writing 1 COM2030 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Media Design & Analysis 2 COM3020 </div> <div style="border: 1px solid black; padding: 5px;"> Script Writing 2 COM3030 </div>	Presentation
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photography 1 COM1030 </div> <div style="border: 1px solid black; padding: 5px;"> Digital Imaging 1 COM1210 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photography 2 COM2040 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photographic Communication COM2050 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photographic Techniques 1 COM2060 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Special Effects Photography COM2130 </div> <div style="border: 1px solid black; padding: 5px;"> Digital Imaging 2 COM2210 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photography 3 COM3040 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photojournalism COM3050 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Photographic Techniques 2 COM3060 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Colour Photography COM3070 </div> <div style="border: 1px solid black; padding: 5px;"> Digital Imaging 3 COM3210 </div>	
<div style="border: 1px solid black; padding: 5px;"> Printing 1 COM1050 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Printing Techniques 1 COM2070 </div> <div style="border: 1px solid black; padding: 5px;"> Printing Applications 1 COM2080 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Printing Techniques 2 COM3080 </div> <div style="border: 1px solid black; padding: 5px;"> Printing Applications 2 COM3090 </div>	Print
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Audio/Video Production 1 COM1060 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Animation 1 COM1070 </div> <div style="border: 1px solid black; padding: 5px;"> Digital Design 1 COM1080 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Audio/Video 1 COM2090 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Audio/Video 2 COM2100 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Animation 2 COM2110 </div> <div style="border: 1px solid black; padding: 5px;"> Digital Design 2 COM2120 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Audio 3 COM3100 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Video 3 COM3110 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Animation 3 COM3120 </div> <div style="border: 1px solid black; padding: 5px;"> Digital Design 3 COM3130 </div>	Audio/Video/ Digital

Prerequisite
 Recommended sequence

★ Course provides a strong foundation for further learning in this strand.

COURSE DESCRIPTIONS

Course COM1020: Media & You

Students are provided with a hands-on introduction to the various segments of communication studies: presentation and communication, photography, print, and audio/video production.

Course COM1030: Photography 1

Students operate a camera to take photographs and produce prints.

Course COM1050: Printing 1

Students are introduced to basic layout/design techniques and to various print reproduction processes; e.g., offset, screen, electrostatic.

Course COM1060: Audio/Video Production 1

Students acquire basic production skills through the use of simple audio and/or video equipment and techniques.

Course COM1070: Animation 1

Students are introduced to a variety of animation techniques and are given the opportunity to produce simple animation.

Course COM1080: Digital Design 1

Students are introduced to the integration of various media; e.g., audio, video, photographic, graphic, for the purpose of producing a multimedia message.

Course COM1210: Digital Imaging 1

Students will learn the fundamentals of digital image acquisition, using a digital camera. Images will be saved to a folder or directory and manipulated, using bitmap editing software.

Course COM2020: Media Design & Analysis 1

Students explore various media and examine their impact on personal, community and national interests.

Course COM2030: Script Writing 1

Students write sample scripts for a variety of media forms.

Course COM2040: Photography 2

Students review and expand on the concepts outlined in COM1030 Photography 1, including composition, exposure, camera operation, image processing, proofing and enlarging.

Course COM2050: Photographic Communication

Students use photographic prints, slides or digital images to communicate a message or tell a story.

Course COM2060: Photographic Techniques 1

Students expand photographic concepts using various lenses and applying depth of field in composition.

Course COM2070: Printing Techniques 1

Students are introduced to single-register reproductive printing.

Course COM2080: Printing Applications 1

Students apply the technique of single-register printing to practical situations.

Course COM2090: Audio/Video 1

Students expand on basic audio/video production techniques.

Course COM2100: Audio/Video 2

Students build on production skills through application of preproduction and post-production techniques.

Course COM2110: Animation 2

Students build skills in planning, idea development and storytelling technique, and their application through various animation methods.

Course COM2120: Digital Design 2

Students enhance their abilities to integrate various media for the purpose of producing a multimedia message for a target audience, using the computer as a significant production tool.

Course COM2130: Special Effects Photography

Students are introduced to the creative use of the camera, the darkroom and/or digital techniques, in order to produce various photographic effects.

Course COM2210: Digital Imaging 2

Students will acquire digital images from a digital camera and one or more other sources. They will extend and refine their knowledge of bitmap editing software and composition principles, and apply more advanced editing techniques to composite images.

Course COM3020: Media Design & Analysis 2

Students use school and/or community resources to produce messages for a target audience to be delivered through two or more media.

Course COM3030: Script Writing 2

Students refine script-writing skills by producing scripts for specific media formats.

Course COM3040: Photography 3

Students apply various light sources, multiple lighting arrangements and metering techniques with an emphasis on flash and studio lighting.

Course COM3050: Photojournalism

Students are introduced to photojournalism.

Course COM3060: Photographic Techniques 2

Students create special photographic effects through a variety of approaches, including advanced enlarging techniques, high contrast derivations, toning, retouching and print presentation.

Course COM3070: Colour Photography

Students are introduced to colour photography.

Course COM3080: Printing Techniques 2

Students are introduced to multiregister reproductive printing.

Course COM3090: Printing Applications 2

Students apply the technique of multiregister printing to practical situations.

Course COM3100: Audio 3

Students plan, develop and produce specific audio projects.

Course COM3110: Video 3

Students plan, develop and produce specific video projects.

Course COM3120: Animation 3

Students apply production planning techniques to produce animation that tells a story, communicates an idea or message, or creates a mood or theme. Students select and employ traditional animation techniques for the project work.

Course COM3130: Digital Design 3

Students develop and produce multimedia messages within a common theme and for a client who has an identified target audience. Students select and use a variety of media and justify their selection based on the strengths of the media and appropriateness to the task. Digital technology forms a key link in all project work.

Course COM3210: Digital Imaging 3

Students will apply advanced digital imaging software and techniques to develop a digital portfolio that demonstrates creativity and attention to aesthetic concerns. The course requires students to complete a number of projects consistent with assignments frequently encountered in the work world.

SCOPE AND SEQUENCE

COMMUNITY HEALTH

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME		
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Family Dynamics <i>CMH1010</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Adolescent Health Issues <i>CMH2010</i> </div> <div style="border: 1px solid black; padding: 5px;"> Community Volunteerism <i>CMH2030</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Family Issues <i>CMH3010</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Perspectives on Marriage <i>CMH3140</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Parenting <i>CMH3020</i> </div> <div style="border: 1px solid black; padding: 5px;"> Aging <i>CMH3030</i> </div>	Sociocultural Perspectives		
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Caring for Children <i>CMH1040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Child Development <i>CMH1050</i> </div> <div style="border: 1px solid black; padding: 5px;"> Home Care 1 <i>CMH1060</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Day Care 1 <i>CMH2050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Home Care 2 (Personal Care Services) <i>CMH2060</i> </div> <div style="border: 1px solid black; padding: 5px;"> Sensory Challenges <i>CMH2070</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Prenatal & Postnatal Care <i>CMH3040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Day Care 2 <i>CMH3050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Home Care 3 (Special Conditions) <i>CMH3060</i> </div> <div style="border: 1px solid black; padding: 5px;"> Challenged Individuals <i>CMH3070</i> </div>		Skills for Caring	
<div style="border: 1px solid black; padding: 5px;"> Perspectives on Health <i>CMH1080</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Respiratory System <i>CMH2080</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Circulatory System <i>CMH2090</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Musculoskeletal System <i>CMH2100</i> </div> <div style="border: 1px solid black; padding: 5px;"> Complementary Therapies <i>CMH2110</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Digestive System <i>CMH3080</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Nervous/Endocrine Systems <i>CMH3090</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Mental Health <i>CMH3100</i> </div> <div style="border: 1px solid black; padding: 5px;"> Advances in Medical Technology <i>CMH3110</i> </div>			Health Sciences
<div style="border: 1px solid black; padding: 5px;"> Personal Safety (Management) <i>CTR1210</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> First Aid/CPR <i>CMH2120</i> </div> <div style="border: 1px solid black; padding: 5px;"> Sports First Aid 1 <i>CMH2130</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> First Aid/CPR for Children <i>CMH3120</i> </div> <div style="border: 1px solid black; padding: 5px;"> Sports First Aid 2 <i>CMH3130</i> </div>			

—— Prerequisite

----- Recommended sequence

Course is also offered in Career Transitions.

COURSE DESCRIPTIONS

Course CMH1010: Family Dynamics

Students examine family structures, and roles and responsibilities, involved in meeting the demands of today's society. Students study past family and health patterns to determine how such patterns influence family life now and in the future.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH1040: Caring for Children

Students focus on accident prevention, handling emergencies, and the rights and responsibilities of the caregiver (babysitter) and the families.

Course CMH1050: Child Development

Students examine the needs and behaviours of children in various stages of development, and demonstrate management and caregiving skills applicable to each developmental stage. Students identify various community care facilities and observe how different centres meet the needs of the children and family. Students explore their interest in working with young children.

Course CMH1060: Home Care 1

Students study the roles, rights and responsibilities, communication and management skills necessary to providing home care. To further gain understanding of home care, students study the promotion and maintenance of a healthy integumentary system. Community support resources are identified.

Course CMH1080: Perspectives on Health

Students identify the determinants of good health, and examine how these determinants affect personal well-being. Students also discuss the shared roles, rights and responsibilities of health services and the changing trends in health.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CTR1210: Personal Safety (Management)

Students develop practical safety-related knowledge, skills and attitudes, and obtain certification in emergency first aid.

Course CMH2010: Adolescent Health Issues

Students explore and examine various health issues that are of interest to modern adolescent teens, and identify community resources available to teenagers.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH2030: Community Volunteerism

Students, through exploration and participation, examine and demonstrate the roles of effective community volunteers.

Course CMH2050: Day Care 1

Students investigate the roles and responsibilities of a child care worker, and develop communication and observation skills. Students also develop skills to assist in the physical, social, emotional and intellectual development of children from birth to age six.

Course CMH2060: Home Care 2 (Personal Care Services)

Students identify and demonstrate the skills necessary to provide personal care services for individuals with special needs, recognizing the impact on the individual and family members.

Course CMH2070: Sensory Challenges

Students examine sensory challenges and the impact on the individual and family dynamics, and identify available community resources and technologies. Students also have an opportunity to study communication skills for sensory challenged individuals.

Course CMH2080: Respiratory Challenges

Students study the anatomy, physiology and pathology of the respiratory system to gain an appreciation for practicing a healthy lifestyle, and to acquire the knowledge and skills necessary to deal with respiratory conditions as they affect the individual, family and friends. Students also identify community support resources.

Course CMH2090: Circulatory System

Students study the anatomy, physiology and pathology of the circulatory system to gain an appreciation for practicing a healthy lifestyle, and to acquire the knowledge and skills necessary to deal with circulatory conditions as they affect the individual, family and friends. Students also identify community support resources.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH2100: Musculoskeletal System

Students study the anatomy, physiology and pathology of the musculoskeletal system to gain an appreciation for practicing a healthy lifestyle, and to acquire the knowledge and skills necessary to deal with musculoskeletal conditions as they affect the individual, family and friends. Students also identify community support resources.

Course CMH2110: Complementary Therapies

Students examine complementary therapies, their foundations, applications, costs, ethical issues and predictions for the future.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH2120: First Aid/CPR

Students study first-aid skills, and demonstrate techniques and procedures for dealing with emergency situations.

Course CMH2130: Sports First Aid 1

Students learn different aspects of sports injuries, first-aid care and prevention of athletic injuries.

Course CMH3010: Family Issues

Students examine changes that occur within a family and the required adjustments family members must make. Cultural diversities are investigated and community resources are identified.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH3020: Parenting

Students examine parenting, current family dynamics and related issues, and enhance potential parenting skills.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH3030: Aging

Students gain an understanding of the issues involved with the aging process and the impact of such issues on the individual, the family and the community. Students identify community resources and recognize the importance of seniors as a resource to the community.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH3040: Prenatal & Postnatal Care

Students focus on the impact of pregnancy on physical, mental and social well-being, and understand the significance of prenatal, labour, delivery and postnatal care.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH3050: Day Care 2

Students continue to study the development and care of children, focusing on the importance of play and guiding behaviour.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH3060: Home Care 3 (Special Conditions)

Students continue to learn about home care as it relates to special conditions, special treatments, loss, long-term care and the palliative process.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members.

Course CMH3070: Challenged Individuals

Students recognize the diversity of experiences facing individuals who are physically and/or mentally challenged, and identify available community resources for such individuals.

Course CMH3080: Digestive System

Students study the anatomy, physiology, pathology and treatment of the digestive and elimination systems. They gain an appreciation for practicing a healthy lifestyle, and acquire the knowledge and skills necessary to deal with digestive and elimination conditions as they affect the individual, family and friends. Students also identify community support resources.

Course CMH3090: Nervous/Endocrine Systems

Students study the anatomy, physiology and pathology of the nervous/endocrine systems. They gain an appreciation for practicing a healthy lifestyle, and acquire the knowledge and skills necessary to deal with nervous/endocrine conditions as they affect the individual, family and friends. Students also identify community support resources.

Course CMH3100: Mental Health

Students study the parameters of mental well-being and the causes, signs, symptoms and treatment of mental illness. Students learn coping skills, and identify community support resources.

Course CMH3110: Advances in Medical Technology

Students focus on the social, emotional and economic impact of health technology. Related ethical issues are also examined.

Course CMH3120: First Aid/CPR for Children

Students identify a child-safe environment and recognize life-threatening emergencies or medical conditions, and demonstrate appropriate first-aid procedures.

Course CMH3130: Sports First Aid 2

Students focus on the application of knowledge, skills and techniques to enhance athletic performance, and identify common athletic injuries, therapeutic solutions and rehabilitation strategies.

Course CMH3140: Perspectives on Marriage

Students examine relationships and related issues as they apply to marital relationships, and acquire life skills that will help them now and in the future.

Note: This course includes concepts that may be particularly sensitive to students, parents or community members

SCOPE AND SEQUENCE

CONSTRUCTION TECHNOLOGIES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<p>Basic Tools & Materials★ CON1010</p> <p>Building Construction CON1070</p>	<p>Site Preparation CON2010</p> <p>Concrete Forming CON2020</p> <p>Alternative Foundations CON2030</p> <p>Framing Systems 1 (Floor & Wall) CON2040</p> <p>Roof Structures 1 (Framing & Finishing) CON2050</p> <p>Exterior Finishing (Door, Window & Siding) CON2060</p> <p>Electrical Systems CON2070</p> <p>Plumbing Systems CON2080</p> <p>Climate Control Systems CON2090</p> <p>Agri-structures CON2100</p>	<p>Concrete Work♦ (Structures & Finishes) CON3010</p> <p>Masonry Work♦ (Structures & Finishes) CON3020</p> <p>Framing Systems 2 (Floor, Wall & Ceiling) CON3210</p> <p>Stair Construction♦ CON3040</p> <p>Roof Structures 2 (Framing & Covering) CON3050</p> <p>Wall & Ceiling Finishing♦ CON3030</p> <p>Doors & Trim♦ CON3060</p> <p>Floorcovering♦ CON3070</p> <p>Energy-efficient Housing♦ CON3080</p> <p>Renovations/Restorations♦ CON3090</p> <p>Commercial Structures♦ CON3100</p> <p>Site Management♦ CON3110</p>	<p>Building Systems (Processes and Applications)</p>
<p>Project Management★♦ CON1120</p> <p>Solid Stock Construction♦ CON1130</p> <p>Turning Operations♦ CON1140</p> <p>Manufactured Materials♦ CON1160</p> <p>Mold Making & Casting♦ CON1180</p>	<p>Multiple Materials CON2120</p> <p>Furniture Making 1 (Box Construction) CON2130</p> <p>Furniture Making 2 (Frame & Panel) CON2140</p> <p>Finishing & Refinishing♦ CON2150</p> <p>Cabinetmaking 1 (Web & Face Frame) CON2160</p> <p>Cabinetmaking 2 (Door & Drawer) CON2170</p> <p>Wood Forming CON2180</p> <p>Manufacturing Systems CON2190</p> <p>Product Development♦ CON2200</p>	<p>Tool Maintenance♦ CON3120</p> <p>Furniture Making 3♦ (Leg & Rail) CON3130</p> <p>Furniture Making 4♦ (Surface Enhancement) CON3140</p> <p>Furniture Repair♦ CON3150</p> <p>Cabinetmaking 3♦ (Cabinets/Countertops) CON3160</p> <p>Cabinetmaking 4♦ (Layout & Installation) CON3170</p> <p>Production Planning CON3190</p> <p>Production Management CON3200</p>	<p>Manufacturing Systems (Processes and Applications)</p>

— Prerequisite

..... Recommended sequence

★ Course provides a strong foundation for further learning in this strand.

♦ Refer to specific courses for additional prerequisites.

MODULE DESCRIPTIONS

Module CON1010: Basic Tools & Materials

Students develop basic hand tool and production skills to transform, safely, common building materials into useful products.

Module CON1070: Building Construction

Students examine common building systems, and develop basic skills related to building a simple model or full size system/structure.

Module CON1120: Project Management

Students develop basic shop drawing and estimating skills, and apply them to build a product.

Module CON1130: Solid Stock Construction

Students develop basic hand and power tool skills to build a product made from solid wood.

Module CON1140: Turning Operations

Students use wood-turning equipment and techniques to create a faceplate and spindle turning made from solid and/or built-up stock.

Module CON1160: Manufactured Materials

Students select and use the appropriate materials and tools to build a product or structure from a wood composite or other manufactured material.

Module CON1180: Mold Making & Casting

Students apply knowledge of casting and molding materials and processes to prepare a mold and produce a casting.

Module CON2010: Site Preparation

Students develop the knowledge and skills to acquire a building permit and to locate and prepare a site for excavation and foundation work.

Module CON2020: Concrete Forming

Students develop knowledge and skills related to the preparation and construction of a concrete foundation.

Module CON2030: Alternative Foundations

Students develop basic knowledge and skills related to the design and construction of an alternative foundation system.

Module CON2040: Framing Systems 1 (Floor & Wall)

Students develop basic framing knowledge and skills associated with the construction of a floor and wall system.

Module CON2050: Roof Structures 1 (Framing & Finishing)

Students develop basic knowledge and skills associated with framing and finishing a simple roof system.

Module CON2060: Exterior Finishing (Door, Window & Siding)

Students apply and develop basic knowledge of door, window and siding systems and installation skills and procedures.

Module CON2070: Electrical Systems

Students apply electrical principles, and develop an understanding of residential electrical code requirements and installation procedures.

Module CON2080: Plumbing Systems

Students develop basic knowledge and skills to fabricate and make repairs to residential drainage, waste, vent (DWV) and water supply systems.

Module CON2090: Climate Control Systems

Students investigate common heating, ventilating and air conditioning (HVAC) systems and principles, and participate in the installation or maintenance of one of these systems.

Module CON2100: Agri-structures

Students apply construction principles and skills, and use pre-engineered designs to build a structure to be used for agricultural purposes.

Module CON2120: Multiple Materials

Students develop a product that incorporates two or more types of material in its construction.

Module CON2130: Furniture Making 1 (Box Construction)

Students develop basic joinery skills and knowledge related to case construction, by producing a box-type piece of furniture.

Module CON2140: Furniture Making 2 (Frame & Panel)

Students use solid and/or composite materials to build a frame and panel product or component.

Module CON2150: Finishing & Refinishing

Students use knowledge of finishing materials and finishing techniques to apply new and replacement finishes.

Module CON2160: Cabinetmaking 1 (Web & Face Frame)

Students apply web and face frame construction techniques, and use solid and/or manufactured materials to produce a built-in or modular cabinet.

Module CON2170: Cabinetmaking 2 (Door & Drawer)

Students use solid and composite materials to develop skills in building cabinet doors and drawers.

Module CON2180: Wood Forming

Students apply skills in mold making and wood conditioning to make a formed part or component.

Module CON2190: Manufacturing Systems

Students investigate the nature of manufacturing systems used to produce durable goods.

Module CON2200: Product Development

Students work, individually or as team members, to research, design and build a product suitable for mass production and marketing.

Module CON3010: Concrete Work (Structures & Finishes)

Students develop essential skills to form, place and finish a concrete project.

Module CON3020: Masonry Work (Structures & Finishes)

Students develop basic knowledge and skills related to masonry materials, structures and finishes.

Module CON3030: Wall & Ceiling Finishing

Students develop basic knowledge and skills to insulate, install and finish an interior wall/ceiling surface.

Module CON3040: Stair Construction

Students develop the knowledge and skills required to build a straight flight of stairs.

Module CON3050: Roof Structures 2 (Framing & Covering)

Students develop basic competencies in laying out, cutting and assembling common and hip and valley rafters in relation to specialized structures and coverings.

Module CON3060: Doors & Trim

Students apply basic finish carpentry knowledge and skills to install doors, railings and moldings.

Module CON3070: Floorcovering

Students develop skills in selecting and installing typical floor coverings used in residential, institutional and commercial buildings.

Module CON3080: Energy-Efficient Housing

Students investigate construction practices and support systems to create an energy-efficient housing design.

Module CON3090: Renovations/Restorations

Students work with a client to plan and complete a building renovation and/or restoration.

Module CON3100: Commercial Structures

Students investigate structural designs, construction techniques and work site practices related to commercial construction.

Module CON3110: Site Management

Students consider the efficient and timely delivery of a quality product. They investigate and report on site management theories and practices to produce a project management plan.

Module CON3120: Tool Maintenance

Students develop skills in preventive maintenance by routinely inspecting and servicing production tools and equipment.

Module CON3130: Furniture Making 3 (Leg & Rail)

Students use solid and/or manufactured materials and leg-and-rail or pedestal construction techniques to build a free-standing piece of furniture.

Module CON3140: Furniture Making 4 (Surface Enhancement)

Students explore and demonstrate the use of veneer, inlay, carving and/or marquetry techniques to enhance the appearance of a product or component.

Module CON3150: Furniture Repair

Students apply basic knowledge of furniture construction and materials to repair or replace existing components or coverings.

Module CON3160: Cabinetmaking 3 (Cabinet/Countertops)

Students develop the knowledge and skills required to build and install a simple cabinet/countertop complete with an appropriate backsplash and edge treatment.

Module CON3170: Cabinetmaking 4 (Layout & Installation)

Students develop a floor/wall cabinet plan and order and install a set of prebuilt cabinets.

Module CON3190: Production Planning

Students plan, individually or as team members, a production system, and create the necessary work cells and floor plan to produce a given product in a safe and efficient manner.

Module CON3200: Production Management

Students identify and enhance management skills in relation to the development and deployment of people and physical resources.

Module CON3210: Framing Systems 2 (Floor, Wall & Ceiling)

Students develop appropriate layout and assembly skills to install conventional and/or engineered framing components associated with residential and/or light commercial construction.

SCOPE AND SEQUENCE

COSMETOLOGY STUDIES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Personal Images ● <i>COS1010</i> </div>		<div style="border: 1px solid black; padding: 5px;"> Professional Practices <i>COS3010</i> </div>	Images and Practices
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair Graphics 1 <i>COS1020</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair Graphics 2 <i>COS2010</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Long Hair Graphics <i>COS3020</i> </div>	Hair and Scalp Care
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair & Scalp Care 1 <i>COS1030</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair & Scalp Care 2 <i>COS2020</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair & Scalp Care 3 <i>COS3030</i> </div>	
<div style="border: 1px solid black; padding: 5px;"> Forming & Finishing 1 <i>COS1040</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Forming & Finishing 2 <i>COS2030</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Hair & Scalp Care 4 (Client Services) <i>COS3040</i> </div>	
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Haircutting 1 <i>COS2040</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Haircutting 2 ♦ <i>COS3050</i> </div>	Haircutting
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair Care & Cutting 1 (Client Services) <i>COS2050</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Haircutting 3 ♦ (Client Services) <i>COS3060</i> </div>	
		<div style="border: 1px solid black; padding: 5px;"> Hair Care & Cutting 2 ♦ (Client Services) <i>COS3070</i> </div>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Permanent Waving 1 (The Physical Process) <i>COS1050</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Permanent Waving 2 (Cold Waving) <i>COS2060</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Permanent Waving 5 ♦ (Designer) <i>COS3080</i> </div>	Chemical Services: Permanent Waving
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Permanent Waving 3 (Heat-assisted) <i>COS2070</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Relax/Straighten Hair ♦ <i>COS3090</i> </div>	
	<div style="border: 1px solid black; padding: 5px;"> Permanent Waving 4 ♦ (Client Services) <i>COS2080</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Wave, Relax & Straighten Hair ♦ (Client Services) <i>COS3100</i> </div>	
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Colouring 1 ♦ <i>COS2090</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Colouring 2 (Permanent) ♦ <i>COS3110</i> </div>	Chemical Services: Haircolouring
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Colour Removal 1 ♦ <i>COS2100</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Colour Removal 2 ♦ <i>COS3120</i> </div>	
	<div style="border: 1px solid black; padding: 5px;"> Colouring & Removal 1 ♦ (Client Services) <i>COS2110</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Colouring & Removal 2 ♦ (Client Services) <i>COS3130</i> </div>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Skin Care 1 (Basic Practices) <i>COS1060</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Facials & Makeup 1 <i>COS2120</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Body Therapy ♦ <i>COS3140</i> </div>	Skin Care
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Facials & Makeup 2 (Client Services) <i>COS2130</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Hair Removal ♦ <i>COS3150</i> </div>	
	<div style="border: 1px solid black; padding: 5px;"> Skin Care 2 (Client Services) <i>COS2140</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Skin Care 3 (Client Services) ♦ <i>COS3160</i> </div>	

Note: There are extensive prerequisite requirements that are too complex to be depicted in this scope and sequence chart.

- Prerequisite to all introductory courses in this strand.
- ◆ Please refer to specific courses for additional prerequisites.

SCOPE AND SEQUENCE (continued)

COSMETOLOGY STUDIES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
		<div data-bbox="915 317 1224 394" style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Male Facial Grooming 1 ♦ <i>COS3170</i></div> <div data-bbox="915 411 1224 489" style="border: 1px solid black; padding: 2px;">Male Facial Grooming 2 ♦ (Client Services) <i>COS3180</i></div>	Male Facial Grooming
<div data-bbox="207 527 516 604" style="border: 1px solid black; padding: 2px;">Manicuring 1 <i>COS1070</i></div>	<div data-bbox="561 527 870 604" style="border: 1px solid black; padding: 2px; margin-bottom: 10px;">Manicuring 2 <i>COS2150</i></div> <div data-bbox="561 621 870 699" style="border: 1px solid black; padding: 2px;">Nail Art <i>COS2160</i></div> <div data-bbox="561 810 870 888" style="border: 1px solid black; padding: 2px; margin-top: 20px;">Manicuring 3 (Client Services) ♦ <i>COS2170</i></div>	<div data-bbox="915 527 1224 604" style="border: 1px solid black; padding: 2px; margin-bottom: 10px;">Nail Technology ♦ <i>COS3190</i></div> <div data-bbox="915 716 1224 793" style="border: 1px solid black; padding: 2px; margin-top: 10px;">Pedicuring ♦ <i>COS3200</i></div> <div data-bbox="915 810 1224 888" style="border: 1px solid black; padding: 2px;">Nail Care (Client Services) ♦ <i>COS3210</i></div>	Nail Care
<div data-bbox="207 1104 516 1182" style="border: 1px solid black; padding: 2px;">Theatrical Makeup 1 (Basic Principles) <i>COS1080</i></div>	<div data-bbox="561 915 870 993" style="border: 1px solid black; padding: 2px; margin-bottom: 10px;">Hairpieces & Extensions <i>COS2180</i></div> <div data-bbox="561 1104 870 1182" style="border: 1px solid black; padding: 2px;">Theatrical Makeup 2 (Planning the Images) <i>COS2190</i></div>	<div data-bbox="915 915 1224 993" style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Wigs & Toupees ♦ <i>COS3220</i></div> <div data-bbox="915 1010 1224 1087" style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Hair Goods (Client Services) ♦ <i>COS3230</i></div> <div data-bbox="915 1104 1224 1182" style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Theatrical Makeup 3 (Changing Images) <i>COS3240</i></div> <div data-bbox="915 1199 1224 1276" style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Theatrical Makeup 4 (Client Services) <i>COS3250</i></div> <div data-bbox="915 1293 1224 1371" style="border: 1px solid black; padding: 2px;">Facial & Body Adornment <i>COS3260</i></div>	Special Effects/ Services
	<div data-bbox="552 1409 860 1486" style="border: 1px solid black; padding: 2px; margin-bottom: 10px;">Historical Cosmetology <i>COS2200</i></div> <div data-bbox="552 1503 860 1581" style="border: 1px solid black; padding: 2px;">Sales & Service 1 (Principles & Practices) <i>COS2210</i></div>	<div data-bbox="915 1409 1224 1486" style="border: 1px solid black; padding: 2px; margin-bottom: 10px;">Creative Cosmetology ♦ <i>COS3270</i></div> <div data-bbox="915 1503 1224 1581" style="border: 1px solid black; padding: 2px; margin-bottom: 10px;">Sales & Service 2 (Effectiveness) <i>COS3280</i></div> <div data-bbox="915 1598 1224 1675" style="border: 1px solid black; padding: 2px;">Competition Cosmetology ♦ <i>COS3290</i></div>	Enterprise and Competition

Note: There are extensive prerequisite requirements that are too complex to be depicted in this scope and sequence chart.

♦ Please refer to specific courses for additional prerequisites.

MODULE DESCRIPTIONS

Module COS1010: Personal Images

Students develop increased appreciation for the significance of personal grooming in various life situations, as well as the knowledge and skills required to perform basic grooming practices.

Module COS1020: Hair Graphics 1

Students handle hair confidently; brush, comb and part hair correctly; and create ropes, knots and two- or three-strand braids.

Module COS1030: Hair & Scalp Care 1

Students analyze and describe the structure and condition of hair and scalp, as well as identify and use basic cleansing and surface conditioning products.

Module COS1040: Forming & Finishing 1

Students wave, curl and style hair, using a variety of equipment, tools and supply items.

Module COS1050: Permanent Waving 1 (The Physical Process)

Students section, block and wind hair for a basic permanent wave, using conventional waving rods and supplies.

Module COS1060: Skin Care 1 (Basic Practices)

Students identify the basic structures and functions of the skin, analyze skin and perform basic skin care practices, including cleansing, toning, nourishing and protecting.

Module COS1070: Manicuring 1

Students identify the functions, shapes and basic structure of fingernails, conditions of hands and fingernails, and perform a plain manicure.

Module COS1080: Theatrical Makeup 1 (Basic Principles)

Students describe the purpose and scope of theatrical makeup, identify elements related to designing theatrical makeup, and use appropriate materials to perform basic theatrical makeup techniques.

Module COS2010: Hair Graphics 2

Students use photo or other images as guides to recreate a variety of ropes, braids, knots, rolls and twists to produce finished hairstyles.

Module COS2020: Hair & Scalp Care 2

Students analyze the histology and condition of hair and the relationship of hair to the scalp, and select and use appropriate hair and scalp cleansing and conditioning products.

Module COS2030: Forming & Finishing 2

Students analyze head and facial features, determine suitable hairstyles, and form and finish hairstyles.

Module COS2040: Haircutting 1

Students demonstrate safe handling of haircutting and hairthinning tools, and describe and demonstrate basic cutting methods.

Module COS2050: Hair Care & Cutting 1 (Client Services)

Students analyze a client's need for hair and scalp care and perform the necessary services.

Module COS2060: Permanent Waving 2 (Cold Waving)

Students identify types of chemicals used to permanently wave hair and the relationship between the chemical process and the physical process. Students also analyze hair and combine the two processes to perform complete cold waves.

Module COS2070: Permanent Waving 3 (Heat-assisted)

Students use appropriate physical and chemical processes and products to perform heat-assisted permanent waves, and analyze the quality of the waves.

Module COS2080: Permanent Waving 4 (Client Services)

Students analyze the condition of hair, identify and describe available types of permanent waves, and recommend and perform permanent waving services appropriate to the client's needs and wants.

Module COS2090: Colouring 1

Students describe the basic principles of colour and haircolouring, describe and perform patch/predisposition and strand tests, and prepare and apply temporary and semipermanent haircolours.

Module COS2100: Colour Removal 1

Students describe the basic principles of colour removal, levels of colour, colour removal chemicals and application procedures, and prepare and apply a variety of products to remove natural and artificial haircolour.

Module COS2110: Colouring & Removal 1 (Client Services)

Students analyze the condition of a client's hair and scalp, and prepare for and perform colouring and colour removal services.

Module COS2120: Facials & Makeup 1

Students describe the anatomy, physiology and histology of the skin and the effect of pathogenic organisms on the body. Students also analyze facial shapes and conditions, and perform facial care and corrective makeup techniques.

Module COS2130: Facials & Makeup 2 (Client Services)

Students consult with and analyze a client's skin care needs, and perform a variety of facial services, including surface cleansing and corrective makeup techniques.

Module COS2140: Skin Care 2 (Client Services)

Students consult with and analyze the client's skin care needs, and recommend and perform client-approved services, including cleansing, toning (manual and electrical massage), nourishing and protecting.

Module COS2150: Manicuring 2

Students describe the anatomy of the arm and hand, identify diseases and disorders of the hands and nails and hand and nail conditions that may be treated by a manicurist, and recommend and perform services for treatable conditions.

Module COS2160: Nail Art

Students describe nail art techniques used to enhance the appearance of fingernails, as well as design and produce simple nail art.

Module COS2170: Manicuring 3 (Client Services)

Students analyze hands and nails to determine manicure needs and the presence of treatable and nontreatable conditions, as well as select and perform appropriate manicure and related services.

Module COS2180: Hairpieces & Extensions

Students describe the purpose of hairpieces and extensions and types of hair and fibres used in constructing hair goods, and analyze and service hair goods.

Module COS2190: Theatrical Makeup 2 (Planning the Images)

Students design, select and apply makeup to create images of selected characters and to enhance personal appearances for theatrical purposes.

Module COS2200: Historical Cosmetology

Students, in addition to recreating historical hairstyles and facial images, describe the historical trends in hairstyles and makeup, and the relationship between historical changes in cosmetology to other changes in society.

Module COS2210: Sales & Service 1 (Principles & Practices)

Students describe and demonstrate basic principles of selling and service in the various sectors of the cosmetology industry.

Module COS3010: Professional Practices

Students describe the sectors of the cosmetology industry, as well as current and projected trends, needs, career opportunities, trade ethics and qualifications required for entry into each sector.

Module COS3020: Long Hair Graphics

Students design and produce symmetrical and asymmetrical hairstyles to create long hair graphics.

Module COS3030: Hair & Scalp Care 3

Students analyze the condition of the hair and scalp, make treatment decisions and recommendations, and clean and condition the hair and scalp, using available technology.

Module COS3040: Hair & Scalp Care 4 (Client Services)

Students analyze a client's hair and scalp, make treatment decisions and recommend services, and perform client-approved hair and scalp care services to a client's satisfaction.

Module COS3050: Haircutting 2

Students demonstrate the ability to design and follow cutting patterns, and safely use haircutting and thinning shears, razors and electric clippers.

Module COS3060: Haircutting 3 (Client Services)

Students analyze hair, scalp, face, haircuts and styles, recommend hairstyles, prepare clients and perform haircutting services.

Module COS3070: Hair Care & Cutting 2 (Client Services)

Students consult with the client to determine services desired, analyze a client's hair and scalp, face and facial features, and recommend and perform client-approved services and treatments to create finished hairstyles.

Module COS3080: Permanent Waving 5 (Designer)

Students identify and describe designer techniques, processes and implements used to permanently wave hair, complete a chemical process for each designer technique, and describe the advantages and disadvantages of each technique.

Module COS3090: Relax/Straighten Hair

Students describe the purposes and products available to physically and chemically relax and straighten hair, and identify, describe and practice safe relaxing and straightening techniques.

Module COS3100: Wave, Relax & Straighten Hair (Client Services)

Students analyze a client's hair and scalp, and recommend appropriate waving, relaxing and straightening services.

Module COS3110: Colouring 2 (Permanent)

Students describe the purposes and principles of permanent haircolouring, identify permanent colouring products, their active ingredients and their effects on the hair and possible effects on the body, and demonstrate skin and strand testing and retouch and whole head colour applications.

Module COS3120: Colour Removal 2

Students analyze the condition of the hair and scalp and the nature of colour in/on hair, and prepare and apply various colour removal products to regrowths and whole heads of hair.

Module COS3130: Colouring & Removal 2 (Client Services)

Students analyze the condition of a client's hair and scalp, consult with the client, and recommend, prepare for, and perform colouring and colour removal services.

Module COS3140: Body Therapy

Students apply available technology to provide therapies (heat, electrical and light), apply principles and practices of body therapy, and apply skin care products to body surfaces.

Module COS3150: Hair Removal

Students describe temporary and permanent hair removal methods, classify each method as a physical, chemical or electrical procedure, and identify and describe safety and sanitary practices for each procedure.

Module COS3160: Skin Care 3 (Client Services)

Students analyze a client's skin and determine skin care needs, consult with the client, and recommend, prepare for, and perform approved skin care services.

Module COS3170: Male Facial Grooming 1

Students describe principles and demonstrate practices for male facial grooming, including basic skin care, shaving, moustache/beard shaping, trimming and waxing, and nasal and aural hair removal.

Module COS3180: Male Facial Grooming 2 (Client Services)

Students analyze a client's face to determine facial grooming needs, consult with the client, and recommend and perform male facial grooming services, as required.

Module COS3190: Nail Technology

Students describe causes of nail breakage and damage, demonstrate techniques used to repair damaged nails and apply artificial nails, and describe effects of artificial/sculptured nails on natural nails.

Module COS3200: Pedicuring

Students describe relationships between a manicure and pedicure, and identify and demonstrate a pedicuring procedure, including foot massage.

Module COS3210: Nail Care (Client Services)

Students analyze client's hands, feet and nails and determine manicure/pedicure needs, consult with the client and recommend services and products to enhance the condition and appearance of nails, and use available technology to perform manicures/pedicures and related services.

Module COS3220: Wigs & Toupees

Students identify the purpose of wigs and toupees, and factors affecting the quality of wigs and toupees, and demonstrate safe and sanitary procedures used to clean, colour, cut, fit, repair and style wigs and toupees, as well as take head measurements and samples.

Module COS3230: Hair Goods (Client Services)

Students analyze hair goods, make decisions relating to services needed, perform client-approved services to hair goods, and take a client's head measurements in preparation for ordering a custom-made hair good.

Module COS3240: Theatrical Makeup 3 (Changing Images)

Students identify materials and describe procedures used to construct and apply two- and three-dimensional makeup and prostheses, analyze images of characters and design, and plan and apply theatrical makeup to recreate images of characters.

Module COS3250: Theatrical Makeup 4 (Client Services)

Students provide a client or client group with the theatrical makeup services to create images that are appropriate to different lighting and portrayal conditions.

Module COS3260: Facial & Body Adornment

Students identify adornments available to enhance or change appearances, describe effects of different adornments, demonstrate safe and sanitary service procedures, and explore alternative forms of body adornment.

Module COS3270: Creative Cosmetology

Students describe current cosmetology-related fashions, fads and trends, and apply design principles to create skin, hair and nail stylings that may become fads or trends.

Module COS3280: Sales & Service 2

Students distinguish between sales and service techniques that encourage positive client responses and those that evoke negative responses, demonstrate effective sales and service techniques, and identify and demonstrate duties performed by salon receptionists.

Module COS3290: Competition Cosmetology

Students identify opportunities to participate in competitions relating to cosmetology, describe the qualities needed to be competitive and the judging systems used at various levels of competitions, and demonstrate ability to be competitive in one or more areas of cosmetology.

RECOMMENDED LINKAGE MODULES IN THE CONTEXT OF COSMETOLOGY STUDIES

See Section H (Linkages/Transitions) for further details on the following modules.

Module DES1020: The Design Process

Students identify the elements of design and basic design processes and creates and/or change body images with the aid of cosmetics and other related materials. See Design Studies Guide to Standards and Implementation.

Module ENT1010: Challenge & Opportunity

Students apply strategies and develop competencies associated with being enterprising and innovative, describe the process and parts of a venture plan, and assess a variety of venture opportunities related to cosmetology. See Enterprise and Innovation Guide to Standards and Implementation.

Module ENT1020: Planning a Venture

Students demonstrate qualities that initiate change, and selects, plans and assess a cosmetology-related venture. See Enterprise and Innovation Guide to Standards and Implementation.

Module ENT2010: Analyzing Ventures

Students describe methods for analyzing and evaluating ventures, examine criteria important to a venture's success in a cosmetology-related area, conduct market research and analyzes data, and use data to assess ventures. See Enterprise and Innovation Guide to Standards and Implementation.

Module ENT2040: Implementing the Venture

Students determine the start-up requirements for a cosmetology-related venture, establish management procedures required to start the venture, and demonstrate leadership qualities in implementing the venture. See Enterprise and Innovation Guide to Standards and Implementation.

Module ENT3010: Managing the Venture

Students manage the cosmetology-related venture by establishing a variety of management procedures, examine critical risks and develop contingency procedures, and monitor the venture plan and revise as necessary. See Enterprise and Innovation Guide to Standards and Implementation.

SCOPE AND SEQUENCE

DESIGN STUDIES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<p>Sketch, Draw & Model <i>DES1010</i></p> <p>The Design Process <i>DES1020</i></p> <p>2-D Design Fundamentals <i>DES1030</i></p> <p>3-D Design Fundamentals <i>DES1040</i></p>	<p>2-D Design Applications <i>DES2010</i></p> <p>3-D Design Applications <i>DES2020</i></p>	<p>2-D Design Studio 1 <i>DES3010</i></p> <p>2-D Design Studio 2 <i>DES3020</i></p> <p>2-D Design Studio 3 <i>DES3030</i></p> <p>3-D Design Studio 1 <i>DES3040</i></p> <p>3-D Design Studio 2 <i>DES3050</i></p> <p>3-D Design Studio 3 <i>DES3060</i></p> <p>Living Environment Studio 1 <i>DES3070</i></p> <p>Living Environment Studio 2 <i>DES3080</i></p> <p>Living Environment Studio 3 <i>DES3090</i></p>	<p>Design Skills, Processes and Applications</p>
<p>CAD Fundamentals (Computer-aided Design) <i>DES1050</i></p> <p>Drafting/Design Fundamentals <i>DES1060</i></p>	<p>CAD Applications (Computer-aided Design) <i>DES2030</i></p> <p>Drafting/Design Applications <i>DES2040</i></p> <p>Technical Drawing Applications <i>DES2050</i></p>	<p>CAD Modelling Studio (Computer-aided Design) <i>DES3100</i></p> <p>Drafting/Design Studio 1 <i>DES3110</i></p> <p>Drafting/Design Studio 2 <i>DES3120</i></p> <p>Drafting/Design Studio 3 <i>DES3130</i></p> <p>Technical Drawing Studio 1 <i>DES3140</i></p> <p>Technical Drawing Studio 2 <i>DES3150</i></p> <p>Technical Drawing Studio 3 <i>DES3160</i></p>	<p>Drafting for Design and Technical Drawing Skills</p>
	<p>The Evolution of Design <i>DES2060</i></p>	<p>Visualizing the Future <i>DES3170</i></p> <p>The Design Profession <i>DES3180</i></p> <p>Portfolio Presentation <i>DES3190</i></p>	<p>Business/Issues/History</p>

—— Prerequisite

----- Recommended sequence

MODULE DESCRIPTIONS

Module DES1010: Sketch, Draw & Model

Students are introduced to observational sketching and drawing, and modelling, and to a selection of materials and tools and their uses. Students also develop skills that can be used and enhanced in further design activity.

Module DES1020: The Design Process

Students begin this process-based activity by developing an understanding of the problem through research. They then develop possible solutions, working through them to arrive at a final, appropriate solution.

Module DES1030: 2-D Design Fundamentals

Students develop skills and techniques appropriate to two-dimensional design by engaging in a variety of activities in various contexts. Techniques may include drawing, layout, use of tools and equipment appropriate for two-dimensional design, cutting, joining, measuring and use of notations.

Module DES1040: 3-D Design Fundamentals

Students develop skills and techniques appropriate to three-dimensional design, by engaging in a variety of activities in various contexts. Techniques may include drawing, modelling, use of tools and equipment appropriate to three-dimensional design, cutting, joining, measuring and use of notations.

Module DES1050: CAD Fundamentals (Computer-aided Design)

Students develop basic knowledge and skills in computer-aided design (CAD).

Module DES1060: Drafting/Design Fundamentals

Students develop basic knowledge, skills and techniques to draft appropriate drawings for visualizing and illustrating simple design problems.

Module DES2010: 2-D Design Applications

Students apply the design process and other knowledge, skills and processes learned at the introductory level to two-dimensional design projects. Projects in this module typically deal with communication problems and issues. Students take greater responsibility for managing their learning and learn to work cooperatively with others.

Module DES2020: 3-D Design Applications

Students apply the design process and other knowledge, skills and processes learned at the introductory level to three-dimensional design projects. Projects in this module typically deal with problems and issues related to product design. Students take greater responsibility for managing their learning and learn to work cooperatively with others.

Module DES2030: CAD Applications (Computer-aided Design)

Students apply their previous learnings, and add knowledge, skills and techniques associated with computer-aided design (CAD) to the context of new design-related tasks.

Module DES2040: Drafting/Design Applications

Students learn skills in assembly, section and/or auxiliary drawing. They further develop the knowledge, skills and techniques; e.g., pictorial drawings, multiview drawings, surface developments (flat patterns), and by applying them in the context of more complex design projects.

Module DES2050: Technical Drawing Applications

Students develop accurate multiview drawings from previously produced sketches, and learn the common understandings, conventions and language associated with technical drawing.

Module DES2060: The Evolution of Design

Students develop a historical framework for the importance and relevance of design within a cultural context, by examining past and contemporary examples of designed artifacts.

Module DES3010: 2-D Design Studio 1

Students apply theories, skills and techniques of organization of the visual image onto the two-dimensional format, to resolve complex design problems. Emphasis is placed on exploring form, composition and aesthetics of communication design solutions.

Module DES3020: 2-D Design Studio 2

Students investigate the impact, importance and influence of two-dimensional design within a cultural context and the social responsibility of the designer, and apply this information when resolving complex communication design problems.

Module DES3030: 2-D Design Studio 3

Students explore the production processes of two-dimensional design and the role of the designer as an organizer of appropriate materials, processes and systems. This understanding is applied in the resolution of complex two-dimensional design problems.

Module DES3040: 3-D Design Studio 1

Students deal with such aspects as shaping, massing, proportion, scale, contrast, colour, texture and finish within the context of complex three-dimensional design projects.

Module DES3050: 3-D Design Studio 2

Students are introduced to human factors, principles and considerations; e.g., ergonomics, semantics and semiotics.

Module DES3060: 3-D Design Studio 3

Students expand their knowledge of materials, technologies and production/processes employed to shape and join materials and assemble products. Students will become familiar with principles of manufacturing, and materials, technologies and processes appropriate to manufacturing a product in various production quantities.

Module DES3070: Living Environment Studio 1

Students learn to develop appropriate architectural, environmental or interior design solutions for specific human needs. Students also learn to use design methodology and teamwork in the development of such solutions.

Module DES3080: Living Environment Studio 2

Students learn to consider form and space when developing specific architectural, environmental or interior design solutions specific to human and/or environmental needs. They assess solutions on the basis of functional and aesthetic considerations and appropriateness within the human environment. Materials and production processes may be considered at this stage though not necessarily resolved. When designing at the micro level, students consider the ergonomic aspects of design.

Module DES3090: Living Environment Studio 3

Students develop design solutions specific to architectural, environmental or interior design and learn about using and/or specifying appropriate materials and production processes.

Module DES3100: CAD Modelling Studio (Computer-aided Design)

Students solve design problems, using advanced computer-aided design (CAD) methods, advanced commands, three-dimensional modelling techniques, rendering, shading and animation techniques.

Module DES3110: Drafting/Design Studio 1

Students concentrate on various drawing and drafting types to illustrate design concepts and solutions, including freehand drawings, illustrative views, isometric drawings, perspective drawings, axiometric drawings, surface developments (flat pattern). This is a skill-building module with the emphasis on line drawing.

Module DES3120: Drafting/Design Studio 2

Students develop complex explanatory drawings from base (line) drawings, that may include exploded views, cut-aways, revolutions, sectional, and shadow and reflection construction. This is a skill-building module with the emphasis on explanatory line drawings.

Module DES3130: Drafting/Design Studio 3

Students apply rendering techniques to line drawings (base or developed), concentrating on light, colour and various media; e.g., coloured pencils, marker pens, water colours, computer rendered. Presentation techniques are used to compose high quality illustrations to communicate design solution, such as rendered drawings, context backgrounds, collage and montage techniques, titles, text.

Module DES3140: Technical Drawing Studio 1

Students produce sections, elevations and auxiliary drawings, and build upon their learnings from the intermediate level. Students may use previously produced sketches and multiview drawings as a basis for further work.

Module DES3150: Technical Drawing Studio 2

Students identify and specify details of various product components with a focus on representations of developments; e.g., sheet metal flashing, clothing patterns, and on intersections; e.g., the intersection of two heating ducts.

Module DES3160: Technical Drawing Studio 3

Students diagram and illustrate the design specifications for a product, structure and/or process as a basis for fabrication, manufacturing and/or construction. They complete a set of working drawings for a self-generated or teacher-specified designed item.

Module DES3170: Visualizing the Future

Students explore new possibilities in design, including the role of the designer and the challenges that are faced by the designers.

Module DES3180: The Design Profession

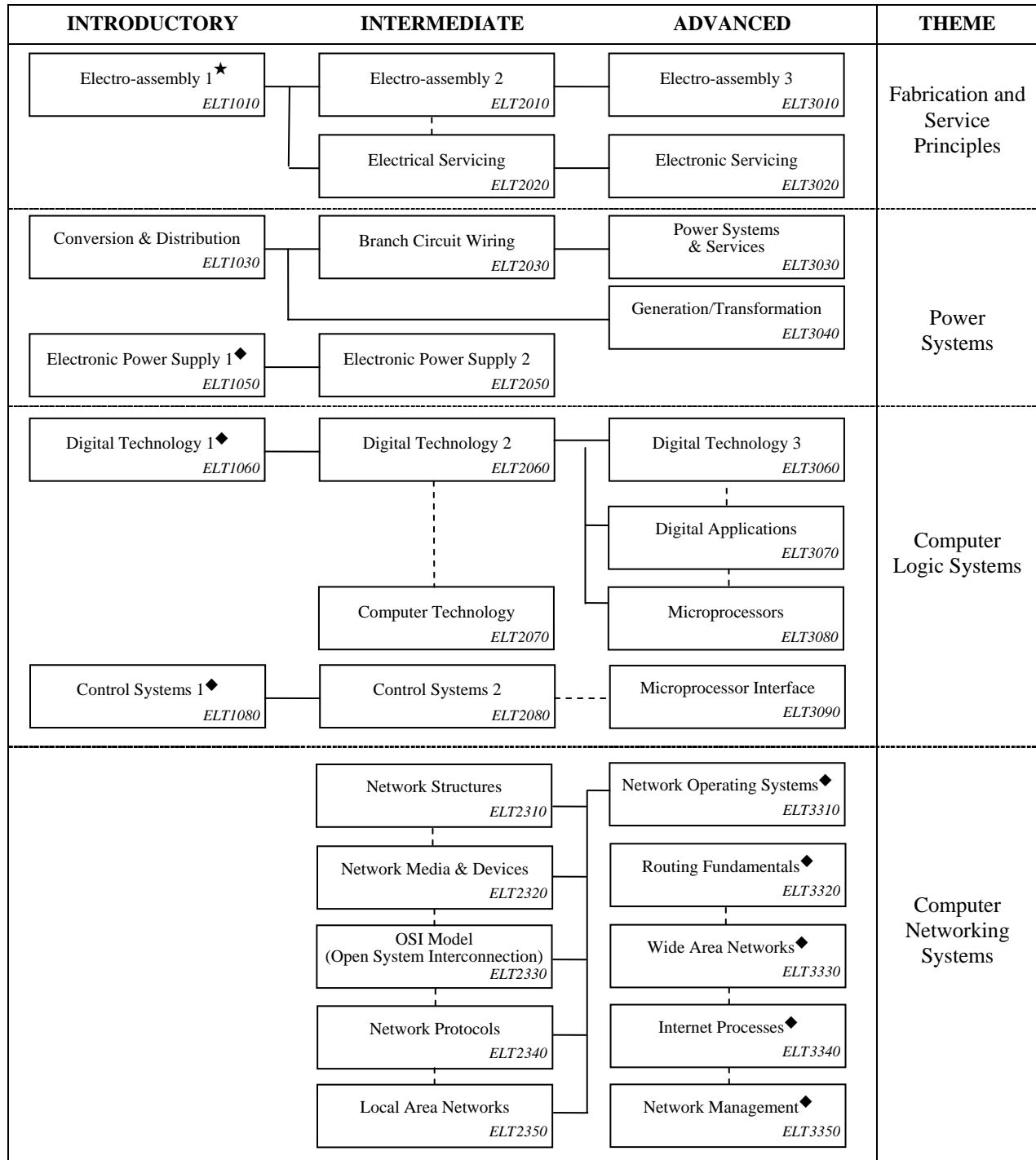
Students develop an understanding of the business aspect of the design profession, including educational qualifications, opportunities in design and some of the issues and challenges designers face. Ethical, legal and social issues may also be explored.

Module DES3190: Portfolio Presentation

Students prepare a presentation portfolio for a specific purpose, such as entry into the workplace or a post-secondary institution.

SCOPE AND SEQUENCE

ELECTRO-TECHNOLOGIES



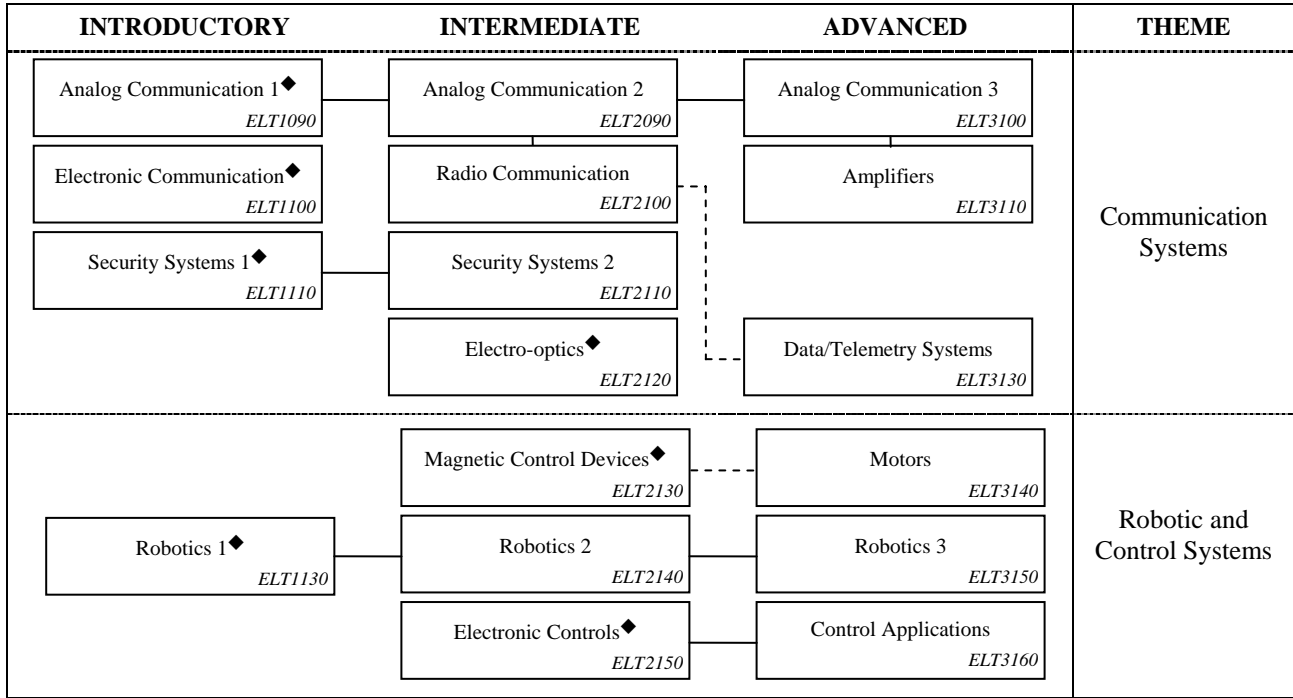
—— Prerequisite - - - - Recommended sequence

★ Course provides a strong foundation for further learning in this strand.

♦ Refer to specific courses for additional prerequisites.

SCOPE AND SEQUENCE (continued)

ELECTRO-TECHNOLOGIES



—— Prerequisite - - - - Recommended sequence

★ Course provides a strong foundation for further learning in this strand.

♦ Refer to specific courses for additional prerequisites.

COURSE DESCRIPTIONS

Course ELT1010: Electro-assembly 1

Students apply basic fabricating and servicing techniques to construct and test electronic and electromagnetic devices and cables.

Course ELT1030: Conversion & Distribution

Students experiment and work with principles of electrical energy conversion and distribution.

Course ELT1050: Electronic Power Supply 1

Students construct different types of alternating and direct current power supplies, and demonstrate their application in electrical/electronic systems.

Course ELT1060: Digital Technology 1

Students construct and demonstrate logic systems and their unique functions.

Course ELT1080: Control Systems 1

Students construct process control systems, demonstrate their basic operation, and demonstrate procedures for testing them.

Course ELT1090: Analog Communication 1

Students install and demonstrate the fundamentals of various consumer audio integrated systems.

Course ELT1100: Electronic Communication

Students demonstrate the fundamentals of video systems, and describe their uses.

Course ELT1110: Security Systems 1

Students install and demonstrate the fundamentals of sensors, control units and warning devices used in security systems.

Course ELT1130: Robotics 1

Students apply the fundamentals of robotic systems and basic robotic functions.

Course ELT2010: Electro-assembly 2

Students apply electro-assembly technology to manufacture circuit boards.

Course ELT2020: Electrical Servicing

Students demonstrate the fundamental concepts of repairing, servicing and maintaining electrical and electronic equipment.

Course ELT2030: Branch Circuit Wiring

Students demonstrate the fundamentals of branch circuit wiring used in residential/commercial buildings.

Course ELT2050: Electronic Power Supply 2

Students construct and demonstrate the fundamentals of electronic power supply technology.

Course ELT2060: Digital Technology 2

Students demonstrate knowledge of digital principles, by using small-scale transistor–transistor logic (TTL) and complementary metal oxide semiconductor (CMOS) integrated technology.

Course ELT2070: Computer Technology

Students develop the knowledge and skills required to install and configure a disc operating system and to set up a computer network.

Course ELT2080: Control Systems 2

Students demonstrate how process control technology is used in real-world applications.

Course ELT2090: Analog Communication 2

Students demonstrate the fundamental concepts of electronic analog communication systems.

Course ELT2100: Radio Communication

Students demonstrate the fundamental concepts of electromagnetic communication systems.

Course ELT2110: Security Systems 2

Students demonstrate the fundamentals of security technology used in homes, businesses and transportation systems.

Course ELT2120: Electro-optics

Students demonstrate basic knowledge of lasers and other light wave communication applications in various electronic systems.

Course ELT2130: Magnetic Control Devices

Students demonstrate the fundamentals of electromagnetic control devices.

Course ELT2140: Robotics 2

Students demonstrate the fundamental concepts of sensor devices and control systems, by building an electronic circuit to control a direct wire or mobile robot.

Course ELT2150: Electronic Controls

Students demonstrate the fundamentals of ladder/relay logic programming, and demonstrate how the program's logic controller system operates.

Course ELT2310: Network Structures

Students acquire an understanding of network infrastructure and assess the advantages and disadvantages of different types of networks. They also develop knowledge of data transmission principles in a computer network and compare features of different network topologies and transmission methods.

Course ELT2320: Network Media & Devices

Students develop an understanding of different connectivity strategies for linking computers and other devices in a local area network (LAN). They acquire knowledge of industry standards for network cables and gain practical experience through installing cabling, connectors and other hardware components.

Course ELT2330: OSI Model (Open System Interconnection)

Students develop knowledge of the Open System Interconnection (OSI) reference model and its use as a conceptual framework for analyzing network communication tasks. They examine OSI reference model characteristics, the functions of each of its seven layers, and how data moves between layers of the reference model when computers establish a network connection.

Course ELT2340: Network Protocols

Students acquire basic knowledge of upper-layer protocol suites that permit the networking of computers. They examine reasons for the extensive use of the Transmission Control Protocol/Internet Protocol (TCP/IP) in computer networks, and develop knowledge and skills relevant to installing, configuring and maintaining a TCP/IP client on a network.

Course ELT2350: Local Area Networks

Students extend their understanding of technologies used in a local area network (LAN) and examine specifications for an Ethernet LAN. They develop knowledge of a general strategy for network design and apply the strategy to design, implement and troubleshoot a small LAN.

Course ELT3010: Electro-assembly 3

Students apply photographic processes to construct a printed circuit for an electronic project.

Course ELT3020: Electronic Servicing

Students develop and apply basic processes and skills to service and repair consumer-based electronic products.

Course ELT3030: Power Systems & Services

Students construct, operate, analyze and evaluate various single-phase and three-phase power systems and services.

Course ELT3040: Generation/Transformation

Students operate, experiment with and analyze alternators and transformers used in power generation and distribution.

Course ELT3060: Digital Technology 3

Students demonstrate knowledge of digital principles by using medium-scale transistor-transistor logic (TTL) and complementary metal oxide semiconductor (CMOS) integrated technology.

Course ELT3070: Digital Applications

Students experiment with large-scale and very large-scale integrated circuits, and demonstrate their applications to practical situations.

Course ELT3080: Microprocessors

Students compare the internal architecture of microprocessors and program them, using instruction sets.

Course ELT3090: Microprocessor Interface

Students demonstrate how to interface microprocessors/microcontrollers with real-world applications.

Course ELT3100: Analog Communication 3

Students demonstrate the principal concepts of electronic analog communication systems.

Course ELT3110: Amplifiers

Students demonstrate knowledge of various types and classes of amplifiers.

Course ELT3130: Data/Telemetry Systems

Students demonstrate the fundamentals of various data/telemetry systems, and demonstrate their applications to the real world.

Course ELT3140: Motors

Students demonstrate knowledge of electric motor operation and loading characteristics.

Course ELT3150: Robotics 3

Students demonstrate remote/autonomous control systems, by constructing circuits to control robotic behaviour.

Course ELT3160: Control Applications

Students demonstrate the fundamentals of programmed controls, and demonstrate how sensing devices are integrated to control output devices.

Course ELT3310: Network Operating Systems

Students examine the features, advantages and disadvantages of major network operating systems, and the criteria involved in selecting network operating systems that are appropriate in specific networking environments. They develop knowledge and skills required to install and configure different network and client operating systems, and develop a strategy for troubleshooting problems resulting from the installation of operating system software.

Course ELT 3320: Routing Fundamentals

Students extend their knowledge of wide area networks (WANs) by examining the process by which information is routed through an internetwork. They examine the major functions and components of a router, develop knowledge of common routing protocols, and gain practical experience in basic router configuration.

Course ELT3330: Wide Area Networks

Students develop basic knowledge of the technologies employed in a wide area network (WAN) and of how a WAN may be used to connect local area networks (LANs) at different locations. They gain practical experience in using WAN technologies to establish remote network access, and they analyze emerging WAN technologies with respect to impact on global networking.

Course ELT3340: Internet Processes

Students apply their knowledge of wide area network (WAN) technologies to an Internet environment. Course content focuses on the significance and utility of Internet Protocol (IP) addressing schemes in Internet communication and on the function of WAN protocols and services in providing Internet access. Students develop knowledge of internetworking career paths and related educational opportunities.

Course ELT3350: Network Management

Students acquire knowledge of internal and external risks to a network and develop strategies for protecting network data and securing a network. They also develop and apply a general strategy for troubleshooting network problems and acquire knowledge of the basic roles and responsibilities associated with network maintenance and support.

SCOPE AND SEQUENCE

ENERGY AND MINES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
Overview of Alberta Geology ★ <i>ENM1010</i>	Managing Alberta's Resources <i>ENM2010</i>	Energy & the Environment <i>ENM3010</i>	Social and Cultural Perspectives
Nonrenewable Resources <i>ENM1020</i> Renewable Resources <i>ENM1050</i> Consumer Products & Services <i>ENM1060</i>	Conventional Oil/Gas 1 (Resource Exploration) <i>ENM2020</i> Oil Sands/Heavy Oil/Coal 1 (Resource Exploration) <i>ENM2030</i> Metals/Nonmetals 1 (Resource Exploration) <i>ENM2040</i> Renewable Energy Technology <i>ENM2050</i> Refining Hydrocarbons <i>ENM2060</i> Refining Rocks & Minerals <i>ENM2070</i> Supply & Distribution <i>ENM2080</i> Energy Designs/Systems 1 (Basic Principles) <i>ENM2090</i> Environmental Safety <i>ENM2100</i>	Conventional Oil/Gas 2 (Recovery & Production) <i>ENM3020</i> Oil Sands/Heavy Oil/Coal 2 (Recovery & Production) <i>ENM3030</i> Metals/Nonmetals 2 (Recovery & Production) <i>ENM3040</i> Sustainable Energy (The Power & Potential) <i>ENM3050</i> Petrochemicals <i>ENM3060</i> Industrial Materials (Primary Manufacturing) <i>ENM3070</i> Market Basics & Trends <i>ENM3080</i> Energy Designs/Systems 2 (Practical Applications) <i>ENM3090</i> Integrated Resource Management (Balancing Needs) <i>ENM3100</i>	Technology and Applications
Fundamentals of Recycling <i>ENM1090</i> Conservation Challenge <i>ENM1100</i>	Energy Designs/Systems 1 (Basic Principles) <i>ENM2090</i> Environmental Safety <i>ENM2100</i>	Energy Designs/Systems 2 (Practical Applications) <i>ENM3090</i> Integrated Resource Management (Balancing Needs) <i>ENM3100</i>	Management and Conservation

— Prerequisite - - - - - Recommended sequence
 ★ Module provides a strong foundation for further learning in this strand.

MODULE DESCRIPTIONS

Module ENM1010: Overview of Alberta Geology

Students describe the nature and origin of Alberta's energy and mineral resources, explain their significance in society, and identify related career opportunities.

Module ENM1020: Nonrenewable Resources

Students examine general applications of exploration, recovery and production, refining, and reclamation technologies within a nonrenewable energy or mineral industry; and they identify related career opportunities. Potential areas of investigation include conventional crude oil, oil sands, natural gas, coal, nuclear fuels, metallic minerals, nonmetallic minerals and structural materials.

Module ENM1050: Renewable Resources

Students demonstrate applications of one or more renewable energy technologies, examine the contributions of each to sustainable energy development, and identify related career opportunities. Potential areas of investigation include solar, hydro, wind, tidal, biomass and geothermal energy, as well as energy generated from waste.

Module ENM1060: Consumer Products & Services

Students examine the basic techniques involved in developing consumer products and/or services within an energy or mineral industry, and they identify related career opportunities.

Module ENM1090: Fundamentals of Recycling

Students examine opportunities to recycle natural and manufactured materials, and they present the results of research on one or more recycling systems.

Module ENM1100: Conservation Challenge

Students examine relationships between energy and mineral development and the environment, and they propose individual and shared actions that foster environmental stewardship.

Module ENM2010: Managing Alberta's Resources

Students research agencies and structures used to manage the development of Alberta's energy and mineral resources.

Module ENM2020: Conventional Oil/Gas 1 (Resource Exploration)

Students examine specific exploration techniques and technologies within the context of Alberta's conventional oil and/or gas deposits, and they describe related career opportunities.

Module ENM2030: Oil Sands/Heavy Oil/Coal 1 (Resource Exploration)

Students examine specific exploration techniques and technologies within the context of Alberta's oil sands, heavy oil or coal deposits, and they describe related career opportunities.

Module ENM2040: Metals/Nonmetals 1 (Resource Exploration)

Students examine specific exploration techniques and technologies within the context of a metallic and/or nonmetallic mineral deposit, and they describe related career opportunities.

Module ENM2050: Renewable Energy Technology

Students define and explain the need for sustainable energy development, research one or more renewable energy technologies; e.g., hydro, wind, solar, tidal, biomass, geothermal, nuclear, hydrogen, ethanol, blended fuel, fuel cell, and construct a model of a renewable energy system.

Module ENM2060: Refining Hydrocarbons

Students examine the principles and technologies involved in processing natural gas, refining crude oil, upgrading heavy oils and bitumen, or processing coal. Students also describe related career opportunities.

Module ENM2070: Refining Rocks & Minerals

Students examine the principles and processes involved in refining an industrial (nonmetallic) mineral or a metallic mineral, and they describe related career opportunities.

Module ENM2080: Supply & Distribution

Students research marketing and distribution networks within an energy or mineral industry; examine regulatory structures and policies that influence supply of a commodity, product or service; and describe related career opportunities.

Module ENM2090: Energy Designs/Systems 1 (Basic Principles)

Students investigate the basic principles of energy conservation and efficiency and relate them to energy designs and systems used in the residential, commercial or transportation sector.

Module ENM2100: Environmental Safety

Students identify environmental hazards that result from activities within an energy or mineral industry, and describe specific environmental monitoring and management practices adopted by the industry.

Module ENM3010: Energy & the Environment

Students assess the social, economic and environmental benefits and costs of resource development, and demonstrate personal and shared actions that foster energy conservation and environmental stewardship.

Module ENM3020: Conventional Oil/Gas 2 (Recovery & Production)

Students examine specific recovery and production techniques within the context of a conventional oil and/or gas industry, and they explain related career opportunities.

Module ENM3030: Oil Sands/Heavy Oil/Coal 2 (Recovery & Production)

Students examine specific recovery and production techniques within the context of Alberta's oil sands, heavy oil or coal deposits; and they explain related career opportunities.

Module ENM3040: Metals/Nonmetals 2 (Recovery & Production)

Students examine specific recovery and production techniques within the context of a metallic and/or nonmetallic mineral deposit, and they explain related career opportunities.

Module ENM3050: Sustainable Energy (The Power & Potential)

Students examine opportunities for planning renewable energy development and conserving conventional energy for its ideal use.

Module ENM3060: Petrochemicals

Students investigate the conversion of hydrocarbons into consumer products within a petrochemical industry, and they explain related career opportunities.

Module ENM3070: Industrial Materials (Primary Manufacturing)

Students investigate technologies used to convert petroleum and mineral resources into industrial (stock) materials used in secondary manufacturing processes, and they explain related career opportunities.

Module ENM3080: Market Basics & Trends

Students explain the basic principles involved in marketing an energy or mineral resource, and analyze trends in the development and marketing of energy or mineral products.

Module ENM3090: Energy Designs/Systems 2 (Practical Applications)

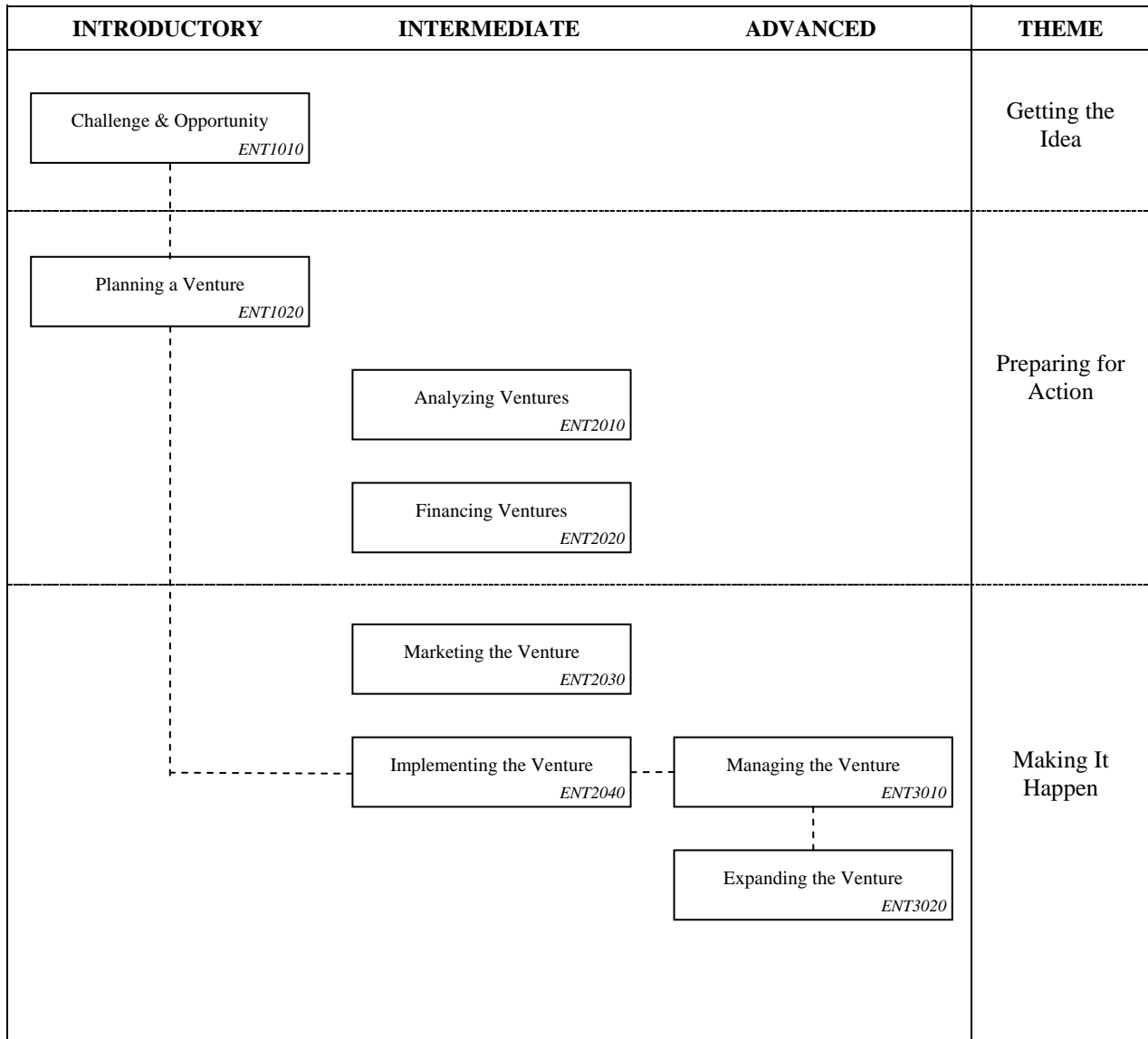
Students analyze energy-saving technologies and systems and design a residential/commercial structure or transportation technology that demonstrates the principles of energy conservation and efficiency.

Module ENM3100: Integrated Resource Management (Balancing Needs)

Students develop and present an integrated plan for sustainable resource development that incorporates supply side and demand side resource management.

SCOPE AND SEQUENCE

ENTERPRISE AND INNOVATION



----- Recommended sequence

MODULE DESCRIPTIONS

Module ENT1010: Challenge & Opportunity

Students identify, compare and assess a variety of venture opportunities and ideas, and investigate career paths and possibilities where enterprise and innovation are particularly important.

Module ENT1020: Planning a Venture

Students learn and apply the “venture planning process,” while planning a venture.

Module ENT2010: Analyzing Ventures

Students gather and analyze data to make informed decisions about the feasibility of ventures.

Module ENT2020: Financing Ventures

Students compare various sources of financing, and choose the method that is best for financing the venture.

Module ENT2030: Marketing the Venture

Students appraise various marketing strategies, and formulate a marketing strategy for a venture.

Module ENT2040: Implementing the Venture

Students implement and assess a venture.

Module ENT3010: Managing the Venture

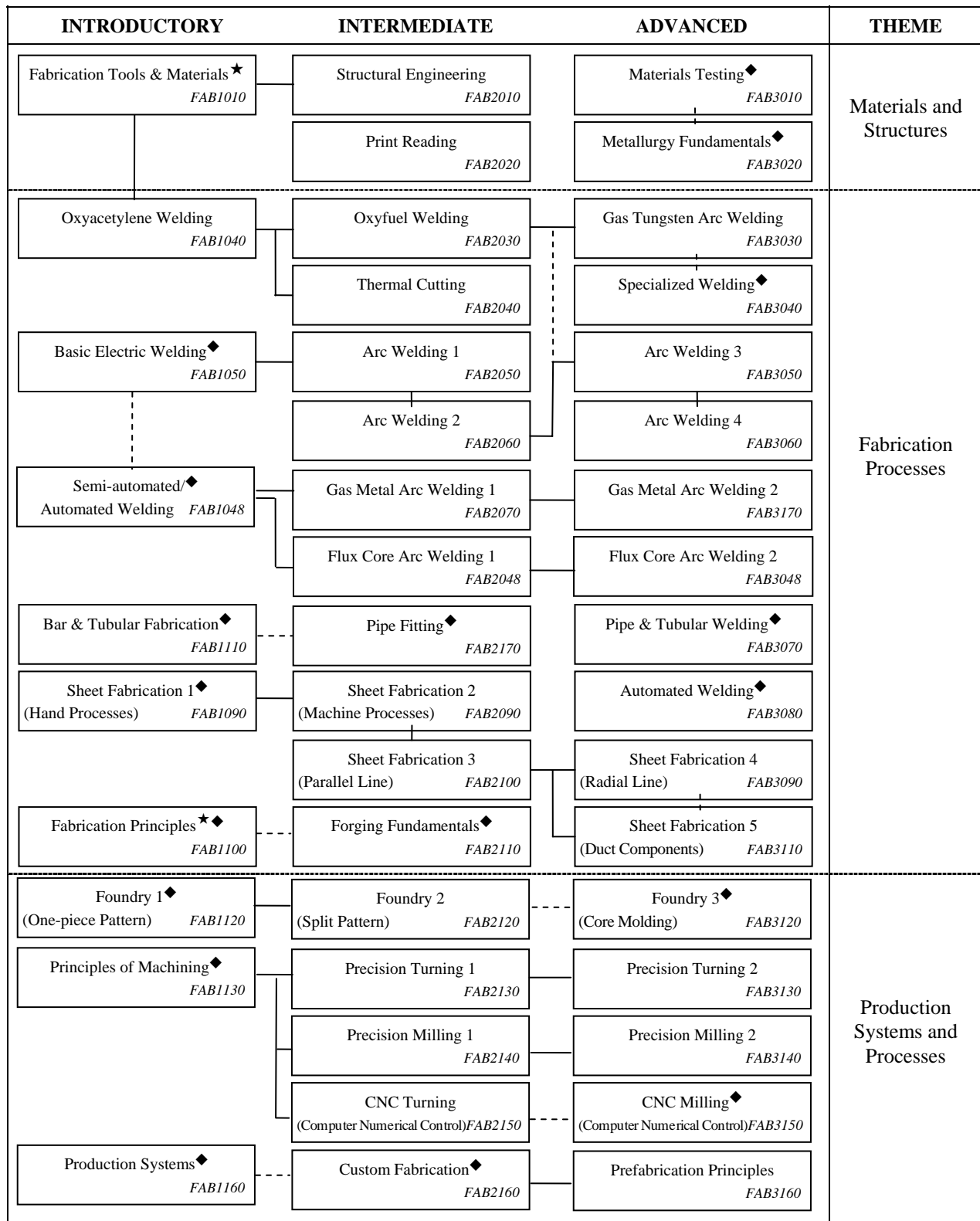
Students develop management procedures for a venture.

Module ENT3020: Expanding the Venture

Students explore and assess the elements of success in expanding a venture.

SCOPE AND SEQUENCE

FABRICATION STUDIES



— Prerequisite

----- Recommended sequence

★ Course provides a strong foundation for further learning in this strand.

◆ Refer to specific course for additional prerequisites.

COURSE DESCRIPTIONS

Course FAB1010: Fabrication Tools & Materials

Students develop knowledge and skills in the use of basic hand tools and materials used in fabrication processes, and safely transform common metals into useful products.

Course FAB1040: Oxyacetylene Welding

Students develop basic skills in the safe handling and operation of oxyacetylene equipment.

Course FAB1048: Semi-Automated/Automated Welding

Students develop basic knowledge and skills related to the use of gas metal arc welding (GMAW) and flux core arc welding (FCAW) processes in both personal use and commercial applications. They also develop introductory knowledge of submerged arc welding (SAW) processes.

Course FAB1050: Basic Electric Welding

Students develop basic skills related to safe use and operation of one or more common electric welding processes.

Course FAB1090: Sheet Fabrication 1 (Hand Processes)

Students use basic tools, materials and processes to fabricate sheet materials into finished products, models or prototypes.

Course FAB1100: Fabrication Principles

Students investigate and apply fundamental principles of fabrication to build an artifact or structure from common structural materials.

Course FAB1110: Bar & Tubular Fabrication

Students use cutting, bending and fastening processes to create a variety of products from bar and tubular stock.

Course FAB1120: Foundry 1 (One-piece Pattern)

Students develop the basic skills required to produce a simple one-piece pattern, a sand mold and a finished casting.

Course FAB1130: Principles of Machining

Students develop basic hand and machine tool knowledge, skills and techniques to mechanically remove materials.

Course FAB1160: Production Systems

Students investigate and compare the principles of production operation and the characteristics of a number of production systems.

Course FAB2010: Structural Engineering

Students investigate the nature of forces and structural materials, and apply their findings to design and fabrication activities.

Course FAB2020: Print Reading

Students develop basic skills in reading and interpreting working drawings to prepare a bill of materials and sequence of operations.

Course FAB2030: Oxyfuel Welding

Students develop basic skills in the safe and efficient use of oxyfuel equipment and supplies to braze and fusion weld.

Course FAB2040: Thermal Cutting

Students develop basic skills to use, safely and efficiently, thermal cutting equipment and supplies.

Course FAB2048: Flux Core Arc Welding 1

Students develop an understanding of the advantages and disadvantages of flux core arc welding (FCAW) processes, and they gain experience using FCAW processes by performing flat, horizontal and vertical fillet welds and flat groove welds.

Course FAB2050: Arc Welding 1

Students develop basic knowledge, skills and attitudes related to the operation and use of shielded metal arc welding (SMAW) equipment and accessories to make a variety of welds in the flat position.

Course FAB2060: Arc Welding 2

Students identify appropriate electrodes, visually assessing a weld, and making the necessary adjustments to improve weld quality while developing horizontal position welding skills.

Course FAB2070: Gas Metal Arc Welding 1

Students develop an understanding of the advantages and disadvantages of gas metal arc welding (GMAW) processes, and they gain experience using GMAW processes by performing flat, horizontal and vertical fillet welds and flat groove welds.

Course FAB2090: Sheet Fabrication 2 (Machine Processes)

Students use basic layout, cutting, bending and fastening operations to transform common types of sheet metals into consumer products.

Course FAB2100: Sheet Fabrication 3 (Parallel Line)

Students expand sheet metal skills related to pattern making, seam constructing and edge treating.

Course FAB2110: Forging Fundamentals

Students determine the effects of heating and striking metal to change its shape and internal structure, using forging techniques.

Course FAB2120: Foundry 2 (Split Pattern)

Students expand their pattern making and foundry skills to produce split pattern molds and finished castings.

Course FAB2130: Precision Turning 1

Students develop basic turning skills to size, shape and finish common machineable metals and plastics.

Course FAB2140: Precision Milling 1

Students develop basic milling skills to shape and finish common machineable metals and plastics.

Course FAB2150: CNC Turning (Computer Numerical Control)

Students develop skills in computer assisted design (CAD) and computer numerical control (CNC) programming to manufacture a product on a CNC lathe.

Course FAB2160: Custom Fabrication

Students work independently, or in a cooperative learning environment, to plan and construct a product/structure that meets a specific client's needs.

Course FAB2170: Pipe Fitting

Students learn about the uses of pipes, basic piping principles and fabrication skills.

Course FAB3010: Materials Testing

Students are introduced to the principles of materials testing, and to the development and evaluation of a mechanical materials test.

Course FAB3020: Metallurgy Fundamentals

Students develop fundamental understandings and skills related to metallurgy, and apply these skills to fabrication processes.

Course FAB3030: Gas Tungsten Arc Welding

Students develop basic knowledge and skills related to the use of gas tungsten arc welding (GTAW) equipment and supplies to weld mild steel in the flat and horizontal positions.

Course FAB3040: Specialized Welding

Students develop specific skills associated with advanced welding techniques to join and repair metals other than low carbon steel.

Course FAB3048: Flux Core Arc Welding 2

Students develop skills to evaluate and improve the quality of flux core arc weldings, and they extend their flux core arc welding (FCAW) skills by performing horizontal and vertical groove welds.

Course FAB3050: Arc Welding 3

Students learn the role of codes and standards in the welding trade, as well as test welds and develop vertical position welding skills.

Course FAB3060: Arc Welding 4

Students apply and extend positional welding skills, by using a variety of common electrodes and thickness of materials.

Course FAB3070: Pipe & Tubular Welding

Students develop specific skills related to pipe layout, preparation of pipe/tube joints and welding techniques.

Course FAB3080: Automated Welding

Students investigate and describe the operation of various manual, semi-automated and automated welding processes and systems used in fabrication industries.

Course FAB3090: Sheet Fabrication 4 (Radial Line)

Students develop specialized skills in cylindrical and conical pattern development and seam construction of ferrous and nonferrous sheet metals.

Course FAB3110: Sheet Fabrication 5 (Duct Components)

Students apply and develop specialized skills in duct component pattern making and fabrication techniques.

Course FAB3120: Foundry 3 (Core Molding)

Students investigate and apply advanced foundry processes to produce a hollow casting, using a sand and core mold.

Course FAB3130: Precision Turning 2

Students develop specialized lathe skills for thread cutting and taper turning techniques.

Course FAB3140: Precision Milling 2

Students develop specialized skills to use vertical and/or horizontal milling machines.

Course FAB3150: CNC Milling (Computer Numerical Control)

Students develop skills in computer numerical control (CNC) programming to manufacture a three-dimensional product.

Course FAB3160: Prefabrication Principles

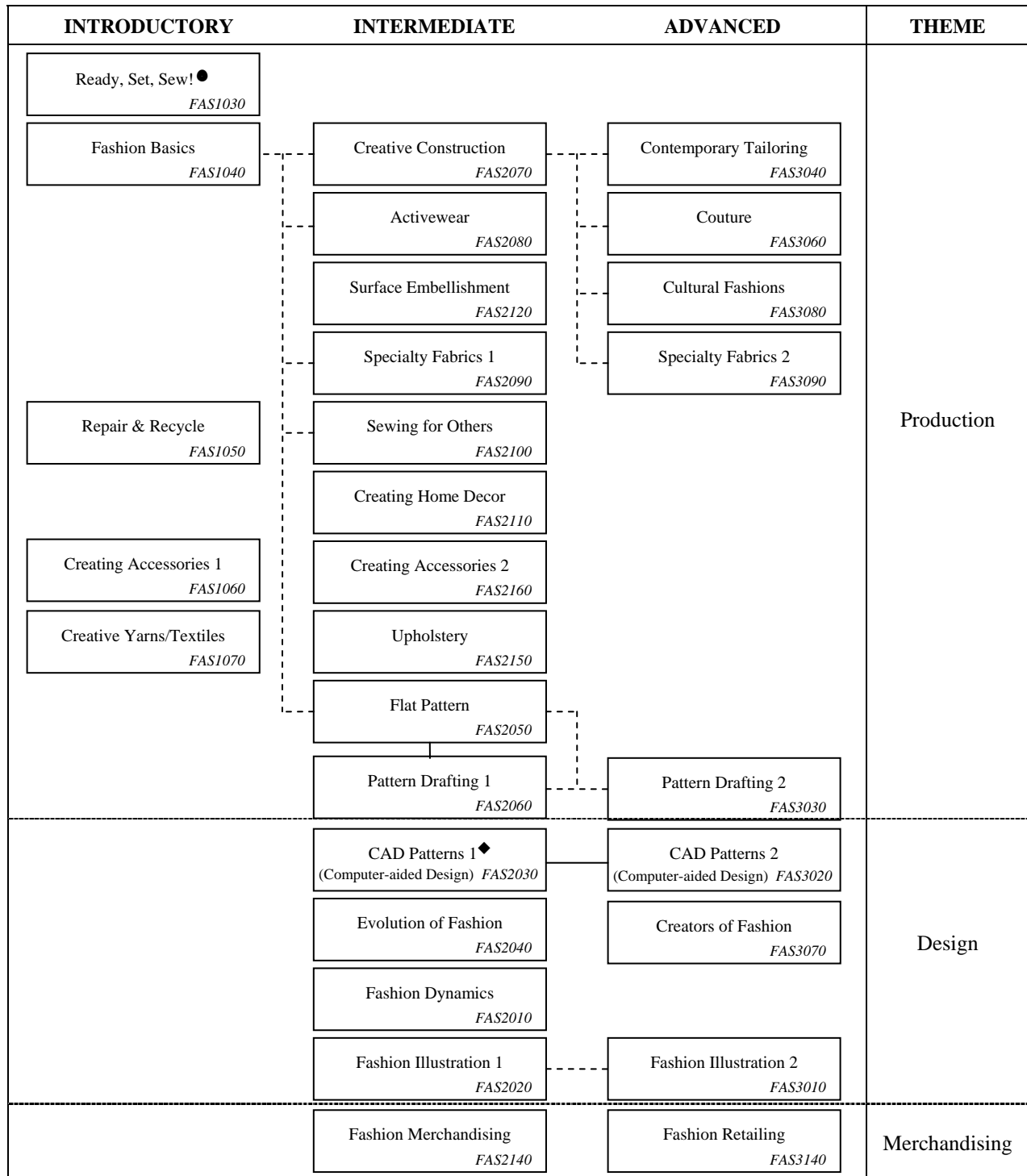
Students work in a cooperative learning environment to plan and construct a prefabricated product/structure to meet the specific needs of a client.

Course FAB3170: Gas Metal Arc Welding 2

Students develop skills to evaluate and improve the quality of gas metal arc weldings, and they extend their gas metal arc welding (GMAW) skills by performing horizontal and vertical groove welds.

SCOPE AND SEQUENCE

FASHION STUDIES



—— Prerequisite

----- Recommended sequence

● Prerequisite to all modules within the Production Theme, with the possible exceptions of FAS1070, FAS2120, FAS2150, FAS2160.

♦ Refer to specific modules for additional prerequisites

MODULE DESCRIPTIONS

Module FAS1030: Ready, Set, Sew!

Students learn how to safely use and care for sewing and pressing equipment, and apply these skills in project assembly.

Module FAS1040: Fashion Basics

Students learn how to determine pattern size, choose a suitable pattern and fabric, make pattern alterations, and prepare the fabric and pattern for layout. Students apply these skills to the assembly of a simple garment.

Module FAS1050: Repair and Recycle

Students learn to restore or recycle garments by repairing, customizing, redesigning or embellishing the garment. Students use these techniques to update a wardrobe or create something new from something old.

Module FAS1060: Creating Accessories 1

Students use basic sewing skills and techniques to construct a home or personal accessory.

Module FAS1070: Creative Yarns/Textiles

Students learn about various yarn or textile arts/crafts, and apply these skills to project construction.

Module FAS2010: Fashion Dynamics

Students learn to recognize and apply the elements and principles of design to wardrobe planning.

Module FAS2020: Fashion Illustration 1

Students discover the world of fashion illustration. They learn to sketch a croquis, incorporating simple gestures, and apply these skills to create fashion illustrations.

Module FAS2030: CAD Patterns 1

Students develop and apply knowledge, skills and techniques necessary to operate a personal computer to design and draft patterns for fashion items.

Module FAS2040: Evolution of Fashion

Students discover the historical influences on fashion, and relate past fashions to present-day styles.

Module FAS2050: Flat Pattern

Students change a basic skirt or pants pattern into a design of choice, using flat pattern designing techniques, and testing the design by sewing in muslin.

Module FAS2060: Pattern Drafting 1

Students use body measurements to draft a basic skirt or pant. They demonstrate drafting techniques needed to create the desired look, and test the draft by sewing in muslin.

Module FAS2070: Creative Construction

Students apply techniques and knowledge of patterns and fabrics to complete a project.

Module FAS2080: Activewear

Students learn how to make unique, attractive and serviceable activewear.

Module FAS2090: Specialty Fabrics 1

Students research, experiment with and produce a project, using a specialty fabric.

Module FAS2100: Sewing for Others

Students sew something for someone else. A client may have special requests that may require special measuring, designing, fitting, sewing techniques and/or resources.

Module FAS2110: Creating Home Decor

Students apply design and sewing techniques to create a home decor fashion.

Module FAS2120: Surface Embellishment

Students use the skills from this module to embellish a wardrobe or home decor.

Module FAS2140: Fashion Merchandising

Students learn policies and techniques used by retail operations to sell fashion.

Module FAS2150: Upholstery

Students innovate and create, or remove and re-cover, an upholstery item.

Module FAS2160: Creating Accessories 2

Students study accessories related to fashion, and produce a fashion accessory. Possibilities include belts, gloves, neckwear, footwear, jewellery and bags.

Module FAS3010: Fashion Illustration 2

Students create a fashion line, by using technical or impressionistic techniques.

Module FAS3020: CAD Patterns 2

Students, with limited direction, use a personal computer and appropriate software to design and draft patterns for fashion items.

Module FAS3030: Pattern Drafting 2

Students use body measurements to draft a basic bodice and sleeve, demonstrate drafting techniques needed to create the desired look, and test the draft by sewing in muslin.

Module FAS3040: Contemporary Tailoring

Students create a jacket or coat, using contemporary tailoring techniques.

Module FAS3060: Couture

Students study past couturiers to create their own haute couture fashions.

Module FAS3070: Creators of Fashion

Students discover the world of fashion designers.

Module FAS3080: Cultural Fashions

Students research and learn about the fashions of other cultures.

Module FAS3090: Specialty Fabrics 2

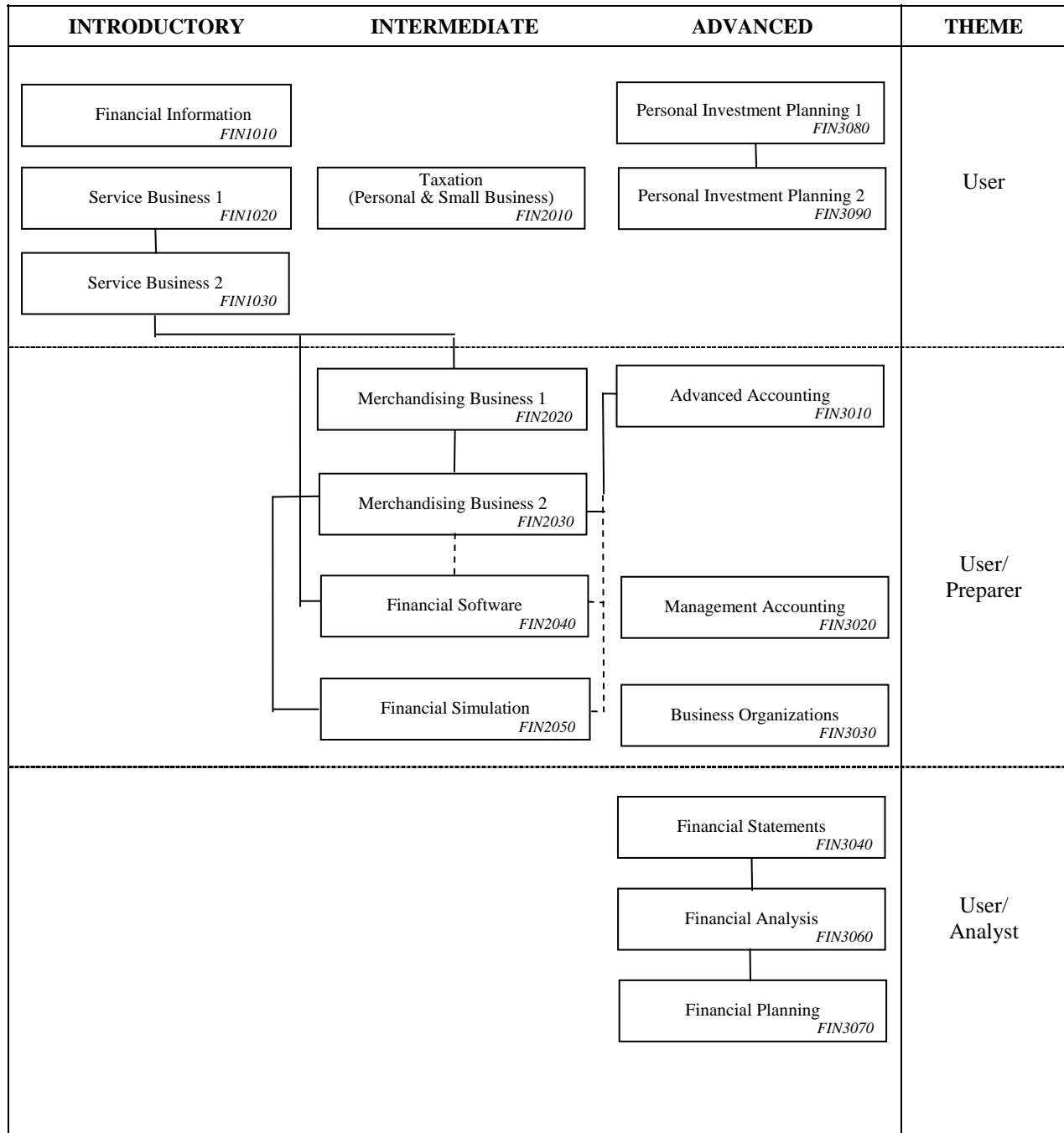
Students learn about the characteristics and techniques for preparing, sewing and caring for an advanced specialty fabric. Subsequently, they create and construct a distinctive project.

Module FAS3140: Fashion Retailing

Students analyze fashion retail terms, operations and trends.

SCOPE AND SEQUENCE

FINANCIAL MANAGEMENT



—— Prerequisite

----- Recommended sequence

COURSE DESCRIPTIONS

Course FIN1010: Financial Information

Students explore such concepts as ethics, the economic environment, acquiring and using financial resources, and the effects of government legislation on the finances of an individual and a small business.

Course FIN1020: Service Business 1

Students are introduced to the accounting cycle. They establish a set of books and record business transactions. Students are also introduced to terminology unique to financial accounting.

Course FIN1030: Service Business 2

Students complete the accounting cycle begun in FIN1020 Service Business 1, and prepare financial statements and a budget. Students also develop an awareness of the many career challenges and opportunities to be found in the financial management field.

Course FIN2010: Taxation (Personal & Small Business)

Students examine the Canadian income tax system through the preparation of a variety of personal and small business income tax returns.

Course FIN2020: Merchandising Business 1

Students apply specialized financial accounting procedures associated with the buying and selling of goods in a retail system.

Course FIN2030: Merchandising Business 2

Students complete the accounting cycle established in FIN2020 Merchandising Business 1, prepare financial statements, and establish and operate a payroll system.

Course FIN2040: Financial Software

Students learn how to use an accounting software package that is used in business.

Course FIN2050: Financial Simulation

Students apply accounting principles to realistic business situations, using manual and/or computer simulations based on the records of a proprietorship and/or a partnership.

Course FIN3010: Advanced Accounting

Students apply advanced accounting procedures—including capital assets and uncollectible accounts—used by a variety of businesses. Students also prepare adjustments, using the accrual method of accounting, and examine manufacturing or departmental accounting.

Course FIN3020: Management Accounting

Students explain management accounting, which involves optimizing capital assets for maximum return on investments. Students also examine various internal systems used to safeguard business assets.

Course FIN3030: Business Organizations

Students examine the accounting procedures related to proprietorships, partnerships, corporations and other entities. Students determine the effect the different forms of business ownership have on the equity section of the balance sheet.

Course FIN3040: Financial Statements

Students examine the content and structure of financial statements, and prepare customized financial statements for a variety of businesses.

Course FIN3060: Financial Analysis

Students use formulas and ratios to evaluate the financial status of business organizations, interpret data, report results and recommend change based on the analysis.

Course FIN3070: Financial Planning

Students explain the value of financial planning for a business. They explore the impact of economic trends, changing world markets and tax implications, all of which must be considered when preparing financial forecasts. The concept of market research is also discussed.

Course FIN3080: Personal Investment Planning 1

Students are introduced to the capital market and the available securities to choose from when building a personal investment portfolio. Students research and analyze a variety of securities, including equities, fixed income and mutual funds.

Course FIN3090: Personal Investment Planning 2

Students expand their knowledge of investing by analyzing the financial statements of a variety of

Career and Technology Studies

companies, interviewing and critiquing an investment advisor, and creating investment portfolios using the steps of intelligent investing for short-term and long-term goals.

SCOPE AND SEQUENCE

FOODS

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Food Basics* <i>FOD1010</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Food & Nutrition Basics <i>FOD2010</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Nutrition & the Athlete <i>FOD2020</i> </div> <div style="border: 1px solid black; padding: 5px;"> Food Decisions & Health <i>FOD2030</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Food for the Life Cycle <i>FOD3010</i> </div> <div style="border: 1px solid black; padding: 5px;"> Nutrition & Digestion <i>FOD3020</i> </div>	Nutrition
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Baking Basics <i>FOD1020</i> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Snacks & Appetizers <i>FOD1030</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Cake & Pastry <i>FOD2040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Yeast Breads & Rolls <i>FOD2050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Milk Products & Eggs <i>FOD2060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Stocks, Soups & Sauces <i>FOD2070</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Vegetables/Fruits/Grains <i>FOD2080</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Creative Cold Foods <i>FOD2090</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Basic Meat Cookery <i>FOD2100</i> </div> <div style="border: 1px solid black; padding: 5px;"> Fish & Poultry <i>FOD2110</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Creative Baking <i>FOD3030</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Advanced Yeast Products <i>FOD3040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Advanced Soups & Sauces <i>FOD3050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Food Presentation <i>FOD3060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Short Order Cooking <i>FOD3070</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Advanced Meat Cookery <i>FOD3080</i> </div> <div style="border: 1px solid black; padding: 5px;"> Basic Meat Cutting <i>FOD3090</i> </div>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Meal Planning 1 <i>FOD1040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Fast & Convenience Foods <i>FOD1050</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Meal Planning 2 <i>FOD2120</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Vegetarian Cuisine <i>FOD2130</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Rush Hour Cuisine <i>FOD2140</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Food Safety & Sanitation <i>FOD2150</i> </div> <div style="border: 1px solid black; padding: 5px;"> Food Venture <i>FOD2160</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Entertaining with Food <i>FOD3100</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Food Processing <i>FOD3110</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Food Evolution/Innovation <i>FOD3120</i> </div> <div style="border: 1px solid black; padding: 5px;"> The Food Entrepreneur <i>FOD3130</i> </div>	Management
<div style="border: 1px solid black; padding: 5px;"> Canadian Heritage Foods <i>FOD1060</i> </div>	<div style="border: 1px solid black; padding: 5px;"> International Cuisine 1 <i>FOD2170</i> </div>	<div style="border: 1px solid black; padding: 5px;"> International Cuisine 2 <i>FOD3140</i> </div>	

—— Prerequisite Recommended sequence

* Prerequisite to most modules in this strand.

MODULE DESCRIPTIONS

Module FOD1010: Food Basics

Students learn to make wise food choices and to understand recipes, equipment, care in handling food, and the importance of safe and efficient work habits.

Module FOD1020: Baking Basics

Students develop an understanding of basic baking ingredients, by combining them in a variety of ways to make cookies, cakes, muffins and biscuits.

Module FOD1030: Snacks & Appetizers

Students apply the importance of snacking to the way we eat, by making nutritious, as well as delicious, snacks and appetizers.

Module FOD1040: Meal Planning 1

Students begin to develop an understanding of eating and meal requirements through the creative planning, preparing and serving of food.

Module FOD1050: Fast & 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.

Module FOD1060: Canadian Heritage Foods

Students become aware of how food in Canada today reflects the country's history and origins, by examining food patterns and customs, and by analyzing and preparing ethnic foods.

Module FOD2010: Food & Nutrition Basics

Students learn which foods are crucial to wellness; how such foods affect current performance and future health; and discover how to choose and prepare nutritious, tasty foods.

Module FOD2020: Nutrition & the Athlete

Students learn to prepare foods that help athletes to meet their training and performance nutritional needs.

Module FOD2030: Food Decisions & Health

Students learn how to balance the energy equation, using strategies for food intake analysis, and by preparing appropriate foods that help the body be the best it can.

Module FOD2040: Cake & Pastry

Students expand their knowledge and skills in the production of a variety of cakes and pastries.

Module FOD2050: Yeast Breads & Rolls

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

Module FOD2060: Milk Products & Eggs

Students develop skills with milk products and eggs, and compare the various products available, what they contribute to cooked foods and how they are best used.

Module FOD2070: Stocks, Soups & Sauces

Students combine stocks with various thickening agents to produce basic stocks, hearty soups and foundation sauces.

Module FOD2080: Vegetables/Fruits/Grains

Students learn about the wide range of vegetable, fruit and grain products available, and how to retain their nutritional value and quality through a variety of cooking methods.

Module FOD2090: Creative Cold Foods

Students learn to combine nutrition and creativity in the preparation of salads and sandwiches.

Module FOD2100: Basic Meat Cookery

Students learn to differentiate between cuts of meat, and apply this to tenderizing and cooking methods.

Module FOD2110: Fish & Poultry

Students learn the nutritional value of fish and poultry and how to select, handle and prepare them.

Module FOD2120: Meal Planning 2

Students learn strategies for planning and creating satisfying meals that accommodate busy schedules or strained budgets.

Module FOD2130: Vegetarian Cuisine

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

Module FOD2140: Rush Hour Cuisine

Students learn unique and quick ways to create nutritious and delicious dishes, using simple ingredients and prepared and convenience foods.

Module FOD2150: Food Safety & Sanitation

Students learn about food-borne illnesses and the importance of food safety and sanitation training for anyone handling food in personal, as well as commercial, applications.

Module FOD2160: Food Venture

Students develop entrepreneurial skills through the planning and creation of a food venture.

Module FOD2170: International Cuisine 1

Students discover other cultures by exploring their cuisine. They learn a variety of international cooking techniques, and use specialized tools to prepare food for a typical day or for a cultural event.

Module FOD3010: Food for the Life Cycle

Students describe how life cycle needs change, and demonstrate how to meet the challenges of each stage, through preparation techniques and the adapting of foods to satisfy all ages.

Module FOD3020: Nutrition & Digestion

Students learn about nutrition and how the body processes food, by appraising current nutritional theories/issues and dietary needs.

Module FOD3030: Creative Baking

Students learn about specialty cakes and pastry products, by selecting and creating various specialty cakes, pastries, desserts and a major baked project, such as a gingerbread house or a wedding cake.

Module FOD3040: Advanced Yeast Products

Students further their skills in the handling of yeast doughs through the preparation of braided breads, fancy dinner rolls, doughnuts, croissants and danishes. Consistency in product quality is emphasized.

Module FOD3050: Advanced Soups & Sauces

Students learn the techniques and ingredients of classic cuisine through the preparation of traditional soups and sauces, and by adapting them for the trend toward lighter eating and nouveau cuisine.

Module FOD3060: Food Presentation

Students develop creativity and flair while learning the techniques of tempting and artistic food presentation.

Module FOD3070: Short Order Cooking

Students develop foundation skills in the preparation and principles underlying short order cookery.

Module FOD3080: Advanced Meat Cookery

Students develop further awareness of the different types of meats available, and of meat cookery, through the preparation of a variety of meat dishes.

Module FOD3090: Basic Meat Cutting

Students gain skills in meat cutting that may be a stepping-stone to a career in the retail or wholesale meat cutting industry.

Module FOD3100 Entertaining with Food

Students plan and prepare food for an event, and develop organizational skills that may be used in the hospitality industry, at home or in entrepreneurial endeavours.

Module FOD3110: Food Processing

Students explore how technology affects our food supply, by using a variety of methods to process fresh foods.

Module FOD3120: Food Evolution/Innovation

Students explore how food has changed and what foods may be eaten in the future, prepare a wide variety of foods, and learn how they evolved.

Module FOD3130: The Food Entrepreneur

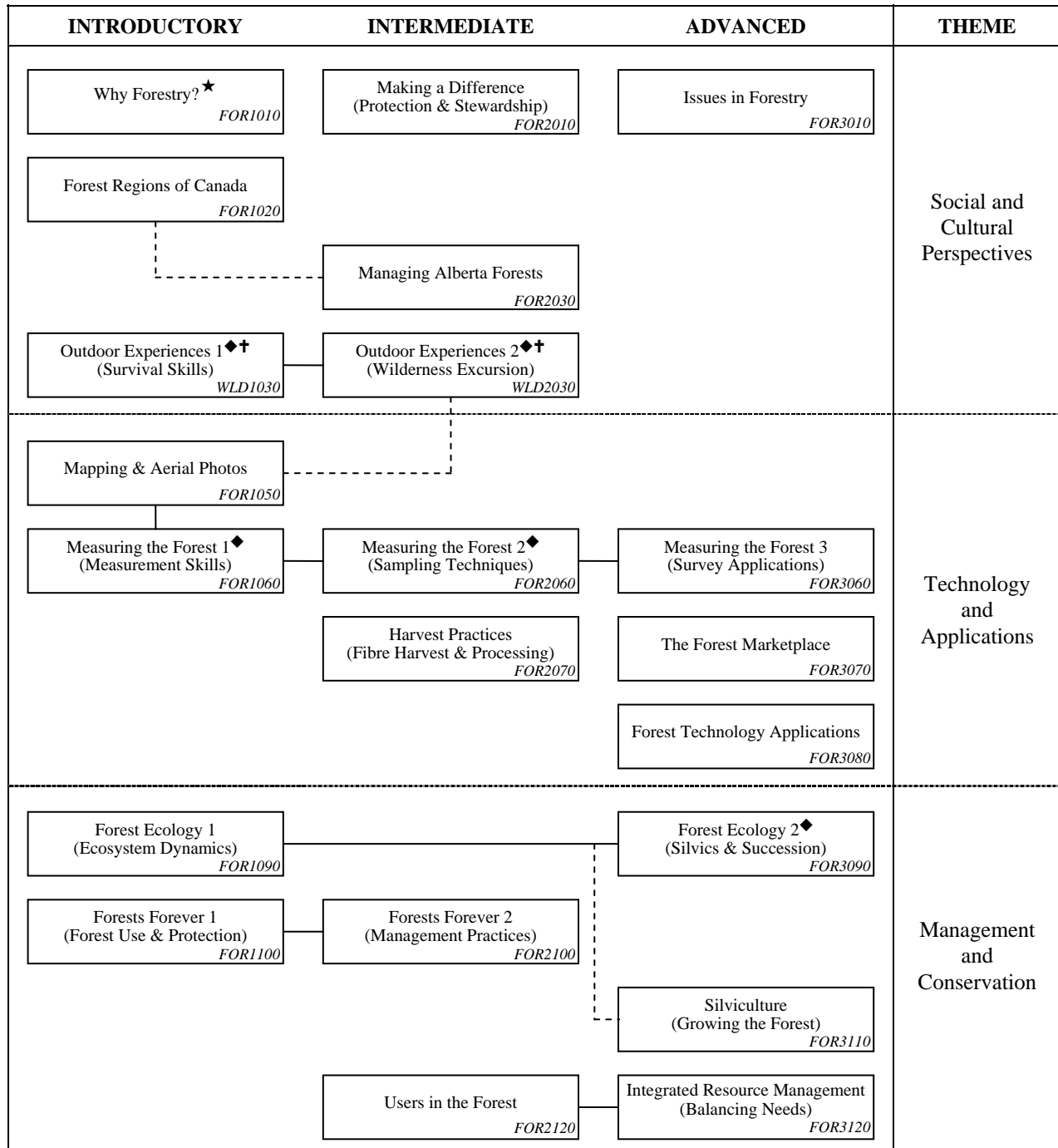
Students plan, test and market a food product or products.

Module FOD3140: International Cuisine 2

Students explore, in depth, the cuisine of another country in order to appreciate the richness of its history and culture. They discover its foods, experience traditional cooking methods, and learn about food customs.

SCOPE AND SEQUENCE

FORESTRY



—— Prerequisite - - - - Recommended sequence

★ Course provides a strong foundation for further learning in this strand.
 ◆ Refer to specific courses for additional prerequisites.
 † Course is also offered in Wildlife.

COURSE DESCRIPTIONS

Course FOR1010: Why Forestry?

Students explain the social, economic and environmental significance of forests, describe the impact of individuals on forests, and identify career opportunities in forestry.

Course FOR1020: Forest Regions of Canada

Students identify factors that determine the distribution of forests, as well as research forest regions of Canada with an emphasis on specific species and forest associations found in Alberta.

Course WLD1030: Outdoor Experiences 1 (Survival Skills)

Students demonstrate the basic skills required for responsible participation in a range of outdoor activities.

Course FOR1050: Mapping & Aerial Photos

Students interpret information from different types of maps and aerial photographs used in the forestry industry.

Course FOR1060: Measuring the Forest 1 (Measurement Skills)

Students demonstrate basic forest measurement skills, and apply these skills to sample fibre values in a forested region.

Course FOR1090: Forest Ecology 1 (Ecosystem Dynamics)

Students investigate forest ecosystems, and explain the structure and functioning of trees.

Course FOR1100: Forests Forever 1 (Forest Use & Protection)

Students describe past and present uses of Canada's forests, and explain how research and technology assist in forest management.

Course FOR2010: Making a Difference (Protection & Stewardship)

Students analyze the impact of attitudes, actions and lifestyles on forests, and propose individual and shared actions that foster environmental stewardship.

Course FOR2030: Managing Alberta Forests

Students research agencies and structures used to manage forested lands in Alberta.

Course WLD2030: Outdoor Experiences 2 (Wilderness Excursion)

Students plan, prepare for and conduct an extended outdoor wilderness trip.

Course FOR2060: Measuring the Forest 2 (Sampling Techniques)

Students research current forest inventory practices, and demonstrate appropriate strategies for sampling the fibre and nonfibre value of forests.

Course FOR2070: Harvest Practices (Fibre Harvest & Processing)

Students research the steps involved in harvesting and processing the forest fibre resource.

Course FOR2100: Forests Forever 2 (Management Practices)

Students explain Alberta's forest management goals, and describe the current management practices used to address these goals.

Course FOR2120: Users in the Forest

Students identify different forest users, and explain the planning principles used to develop an integrated resource management plan.

Course FOR3010: Issues in Forestry

Students analyze current local and global issues in forest management, and demonstrate individual and shared actions that foster environmental stewardship.

Course FOR3060: Measuring the Forest 3 (Survey Applications)

Students explain management applications of data collected from a forest survey, and examine the role of technology in current forest inventory practices.

Course FOR3070: The Forest Marketplace

Students describe the range of consumer products and services derived from Canada's forests, and research the production and marketing of these forest products.

Course FOR3080: Forest Technology Applications

Students examine research and technological applications in the forest industry, and examine changing career opportunities in the forestry sector.

Course FOR3090: Forest Ecology 2 (Silvics & Succession)

Students investigate the interrelationships among soil, water, air, trees and the environment, and explain how forests change over time as a result of these interrelationships.

Course FOR3110: Silviculture (Growing the Forest)

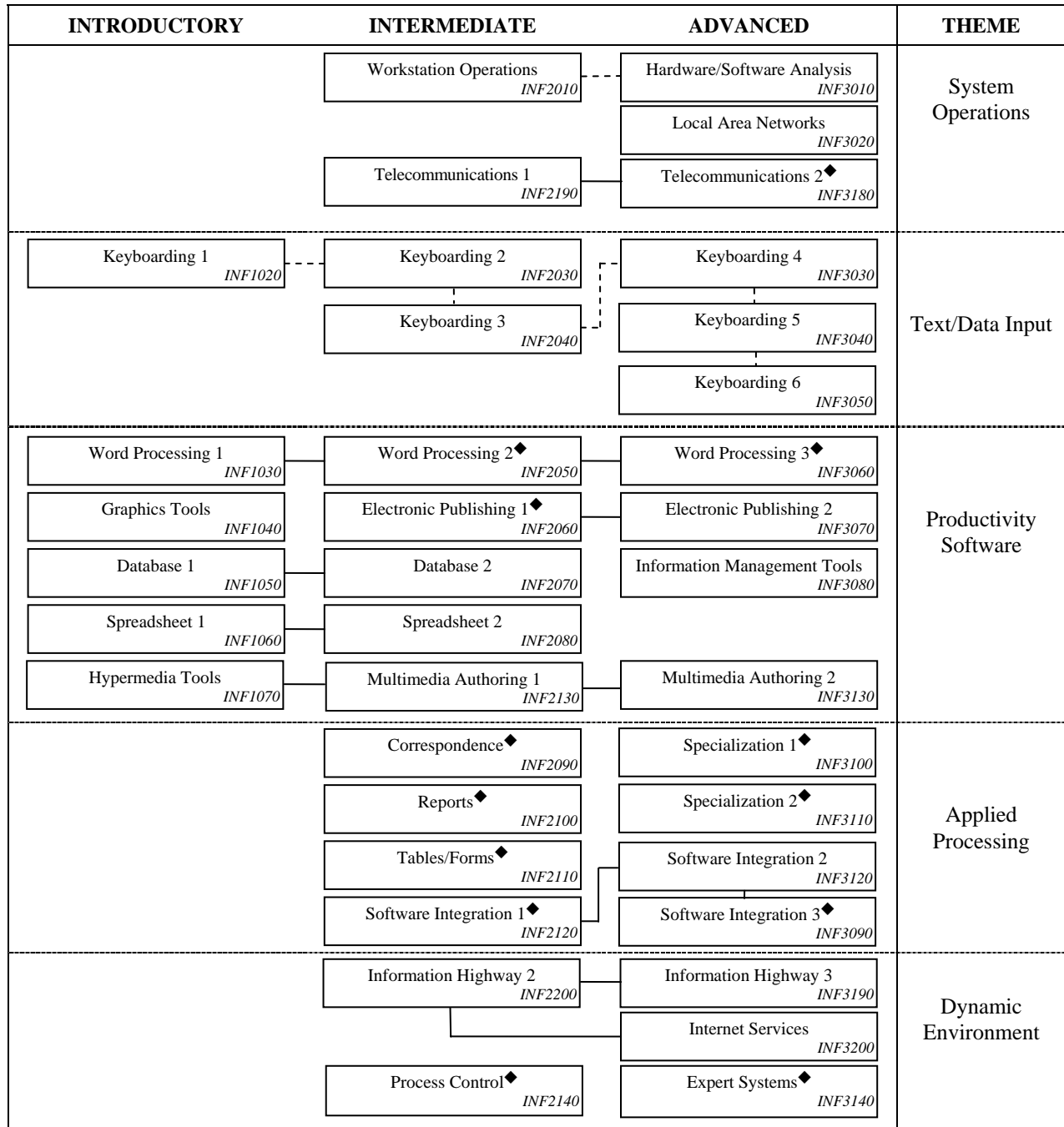
Students demonstrate knowledge of the techniques used to establish, grow and harvest tree crops.

Course FOR3120: Integrated Resource Management (Balancing Needs)

Students develop and present an integrated plan for sustainable development of the forest resource.

SCOPE AND SEQUENCE

INFORMATION PROCESSING

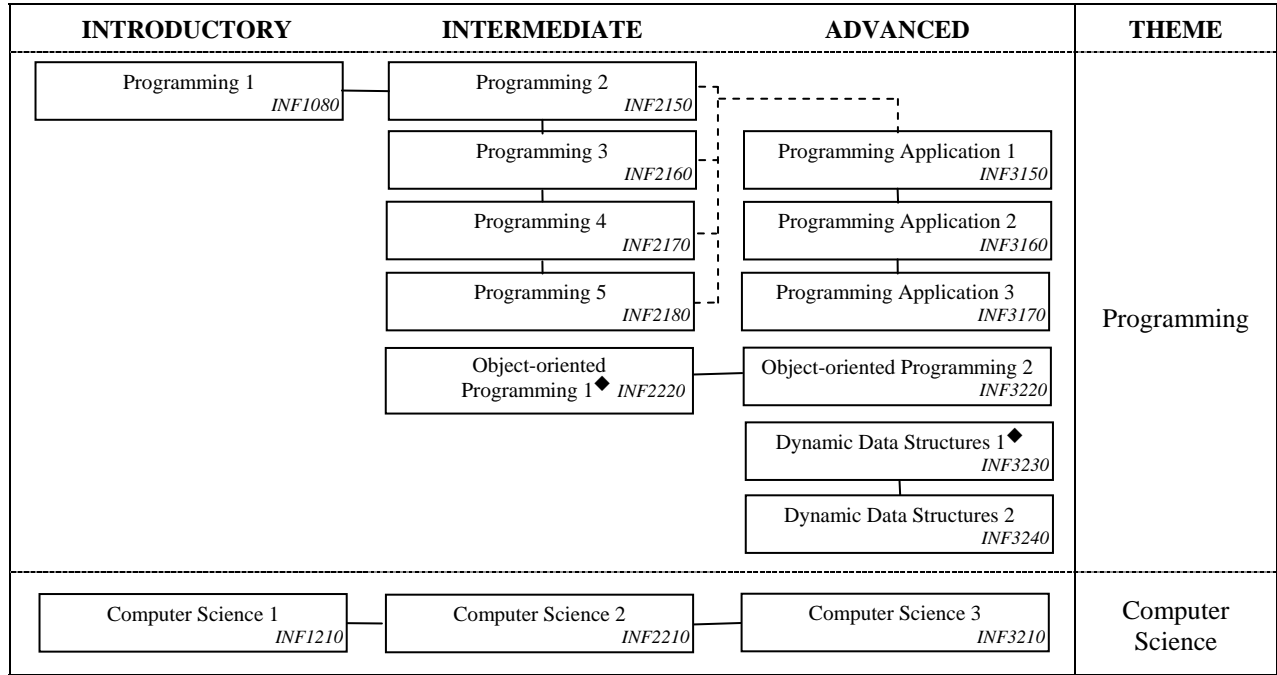


(continued)

— Prerequisite - - - - Recommended sequence
 ♦ Refer to specific courses for additional prerequisites.

SCOPE AND SEQUENCE (continued)

INFORMATION PROCESSING



—— Prerequisite - - - - - Recommended sequence

♦ Refer to specific courses for additional prerequisites.

COURSE DESCRIPTIONS

Course INF1020: Keyboarding 1

Students develop accurate touch keystroking of text and data appropriate to personal use and the application of efficient workstation procedures.

Course INF1030: Word Processing 1

Students develop skill in using basic commands and functions in word processing software, including document editing, and the formatting and printing of reports, correspondence and tables suitable for personal use applications.

Course INF1040: Graphics Tools

Students learn the basic commands and functions of computer graphics software, including bitmapped graphics (paint program) and vector graphics (draw program). Students also develop basic skills in manipulating existing graphics, as well as in producing their own graphics.

Course INF1050: Database 1

Students are introduced to the basic commands and functions of database software, and demonstrate how this software can be used as a personal tool in data and information management.

Course INF1060: Spreadsheet 1

Students have an opportunity to use basic functions and commands in spreadsheet software for general data manipulation and personal record keeping.

Course INF1070: Hypermedia Tools

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

Course INF1080: Programming 1

Students are introduced to computer programming languages and a structured programming environment, and they construct algorithms and code instructions to solve identified problems.

Course INF1210: Computer Science 1

Students are introduced to the nature, approaches and areas of interest of computer science and its relationship to areas, such as computer engineering and information technology. Students explore concepts associated with hardware, software and processes at an introductory level. There is an emphasis on sequential and structured programming approaches.

Course INF2010: Workstation Operations

Students learn computer workstation operations, including computer architecture, peripherals, configurations, operating system environments and platforms, utility software, diagnostic and protection software, hard drive file updating and maintenance, support resource application and troubleshooting activities.

Course INF2030: Keyboarding 2

Students enhance their personal use keyboarding competencies by increasing the rate of accurate touch keystroking of the alphabetic, numeric and selected punctuation keys.

Course INF2040: Keyboarding 3

Students enhance their keyboarding competencies, by increasing the rate of accurate touch keystroking of alphabetic, numeric and all punctuation keys to support personal use and limited, entry-level, workplace opportunities.

Course INF2050: Word Processing 2

Students expand their skills in using word processing software commands and functions to produce mailable reports and correspondence, including letters, memorandums and tables, all from rough draft copy.

Course INF2060: Electronic Publishing 1

Students develop skill, using electronic/desktop publishing software to create a variety of camera-ready documents.

Course INF2070: Database 2

Students use all the commands and functions of electronic database software that support effective and efficient database applications.

Course INF2080: Spreadsheet 2

Students demonstrate advanced level spreadsheet commands and functions to calculate and manipulate data and to prepare appropriate reports and printouts in text and graphic format.

Course INF2090: Correspondence

Students expand their rate of document production as they prepare various forms of correspondence in mailable form, using word processing software.

Course INF2100: Reports

Students expand their rate of production as they prepare various reports and manuscripts in mailable form.

Course INF2110: Tables/Forms

Students expand their rate of document production as they prepare various tables/forms in mailable form.

Course INF2120: Software Integration 1

Students develop document production skills requiring the integration of data, text and graphics.

Course INF2130: Multimedia Authoring 1

Students are introduced to multimedia software and provided with an opportunity to develop basic authoring competence, by accessing and integrating software resident text, video and audio clips.

Course INF2140: Process Control

Students develop skills in robotics/simulation software control by creating, modifying and using programs that incorporate computer-controlled movements and events in robotics/simulation activities and applications.

Course INF2150: Programming 2

Students increase their programming skills, by designing and generating programming code to handle decision making and repetitive processes.

Course INF2160: Programming 3

Students increase their programming skills, by using subprogram structures.

Course INF2170: Programming 4

Students increase their programming skills, by developing and using derived data types.

Course INF2180: Programming 5

Students increase their programming skills, by developing and using recursive, sorting and merging algorithms.

Course INF2190 Telecommunications 1

Students learn how to select and use various wired and wireless telecommunication systems. By using the Internet, they investigate how communication principles, bandwidth, telecommunication infrastructure and wave spectrum affects telecommunication systems.

Course INF2200: Information Highway 2

Students learn how to produce a web page for the Internet.

Course INF2210: Computer Science 2

Students extend their knowledge of the discipline of computer science by exploring the modular paradigm and its impact on algorithm development and implementation (programming). Students also add to their understanding by exploring the stylized von Neumann computer system at the machine level, and by examining the impact of computer science and computer technology on society.

Course INF2220: Object-oriented Programming 1

Students are introduced to object-based programming (OBP) and object-oriented programming (OOP). They develop algorithms, using introductory object-oriented design techniques, and use they algorithms to write introductory object-based and object-oriented programs.

Course INF3010: Hardware/Software Analysis

Students analyze, compare and evaluate hardware/software based on user requirements.

Course INF3020: Local Area Networks

Students learn about local area network (LAN) computer systems, including hardware and peripheral configurations, interface protocols and data transmission characteristics.

Course INF3030: Keyboarding 4

Students develop their text and data keyboarding skills to entry-level occupational expectations.

Course INF3040: Keyboarding 5

Students increase their occupational-level keyboarding competence of text, data and function/service keys, using straight copy and edited material.

Course INF3050: Keyboarding 6

Students enhance their occupational-level keyboarding competence of all keystroke functions, using unedited, edited and straight copy material.

Course INF3060: Word Processing 3

Students develop occupational-level competence in the use of word processing software commands and functions to produce mailable reports, correspondence and tables, including the importing and merging of text, data and graphics.

Course INF3070: Electronic Publishing 2

Students use the functions and commands of electronic/desktop publishing software as they integrate text composing, editing, typesetting, graphics generation and page layout functions to create customized, professional, quality documents.

Course INF3080: Information Management Tools

Students develop competence in using information management systems software, such as project management, schedules and planners for either personal or workplace applications.

Course INF3090: Software Integration 3

Students develop high production rates as they process documents from unedited and unformatted copy, using numerous functions/commands to create, revise, format and print a wide range of mailable copy.

Course INF3100: Specialization 1

Students specialize in document preparation, terminology application and associated office routine expectations in a specific focus area, such as a medical, legal, petroleum, real estate, insurance, travel/tourism, forestry or agricultural environment.

Course INF3110: Specialization 2

Students develop workplace competence in a specific focus area, such as medical, legal, petroleum, real estate, insurance, travel/tourism, forestry or agricultural environment, by creating and completing appropriate documents that employ specialized communication skills and conform to workplace expectations and time constraints.

Course INF3120: Software Integration 2

Students expand their document production skills to workplace standards. Documents could require the importing and integration of word processing, spreadsheet, graphics and database files.

Course INF3130: Multimedia Authoring 2

Students learn to use a multimedia file or multimedia authoring software based on digitized input of text, video and audio clips.

Course INF3140: Expert Systems

Students acquire knowledge of expert systems, such as artificial intelligence and virtual reality. They gain competence, by developing or modifying programs that incorporate computer-controlled environments and multimedia interactive activities and applications.

Module INF3160: Programming Application 2

Students create a program, using a second programming language.

Module INF3170: Programming Application 3

Students enhance a program, using a second programming language.

Module INF3180 Telecommunications 2

Students demonstrate knowledge of telecommunications systems by designing a new system. They use the Internet in researching and developing their design and for comparing and contrasting various telecommunications initiatives. Students analyze the effect this is having on the individual and society.

Module INF3190 Information Highway 3

Students develop and maintain an Internet/intranet web site that makes use of advanced features.

Module INF3200 Internet Services

Students expand their skills from Information Highway 2, by learning how to operate, maintain and build an Internet/intranet site that may include computer bulletin boards, forums, electronic mail, Internet list servers, and/or moderated newsgroups. Proper use of hardware, software and liaison with users and clients is emphasized.

Course INF3210: Computer Science 3

Students extend their knowledge of the core concepts of the discipline of computer science by exploring more advanced aspects of the modular programming paradigm and by beginning their examination of the object-oriented programming paradigm. Students also add to their understanding by manipulating a Turing machine and by analyzing the nature of the emerging information society.

Course INF3220: Object-oriented Programming 2

Students extend their knowledge of object-oriented programming (OOP) concepts. They increase their expertise in object-oriented design and programming by developing algorithms and programs that use templated classes, containment and inheritance to promote reusability.

Course INF3230: Dynamic Data Structures 1

Students are formally introduced to dynamic data structures in general and to linked lists in particular.

Course INF3240: Dynamic Data Structures 2

Students add to their understanding of dynamic data structures by developing introductory algorithms and programs that use stacks, queues and trees.

SCOPE AND SEQUENCE

LEGAL STUDIES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> You & the Law 1★ (as a Consumer and as a Family Member) <i>LGS1010</i> </div> <div style="border: 1px solid black; padding: 5px;"> You & the Law 2★ (in Society and in the Workplace) <i>LGS1020</i> </div>			Personal Context
	<div style="border: 1px dashed black; padding: 5px; margin-bottom: 5px;"> Family Law <i>LGS2010</i> </div> <div style="border: 1px dashed black; padding: 5px; margin-bottom: 5px;"> Labour Law <i>LGS2020</i> </div> <div style="border: 1px dashed black; padding: 5px; margin-bottom: 5px;"> Environmental Law <i>LGS2030</i> </div> <div style="border: 1px dashed black; padding: 5px;"> Law & the Traveller <i>LGS2050</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Consumer & Property Law <i>LGS3010</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Dispute Resolution <i>LGS3020</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Negligence <i>LGS3040</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Law & Small Business <i>LGS3050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Controversy & Change <i>LGS3060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Landmark Decisions <i>LGS3070</i> </div> <div style="border: 1px solid black; padding: 5px;"> Criminal Law <i>LGS3080</i> </div>	Societal Context

—— Prerequisite

- - - - - Recommended sequence

★ Module provides a strong foundation for further learning in this strand.

MODULE DESCRIPTIONS

Module LGS1010: You & the Law 1 (as a Consumer and as a Family Member)

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

Module LGS1020: You & the Law 2 (in Society and in the Workplace)

Students identify laws that affect people in the workplace, and examine elements of criminal and civil laws that the average citizen should know about.

Module LGS2010: Family Law

Students examine a broad range of legal issues relating to personal relationships.

Module LGS2020: Labour Law

Students learn about unions and collective bargaining, contracts of employment, employment insurance, workers' compensation and women in the workplace. Challenging issues and law-related careers are also considered.

Module LGS2030: Environmental Law

Students identify laws related to the environment and describe how new environmental information affects the law. Students also examine, through case studies, the role of groups and individuals in bringing about changes in environmental law.

Module LGS2050: Law & the Traveller

Students identify and describe the issues and legal considerations that may arise when individuals travel domestically and internationally.

Module LGS3010: Consumer & Property Law

Students identify laws relating to renting personal and real property, purchasing a home, making investments and building or renovating a home. Students describe methods for protecting the consumer, challenging issues and law-related careers.

Module LGS3020: Dispute Resolution

Students demonstrate and apply such methods as negotiation, mediation, arbitration and adjudication used to resolve disputes. Students also identify career opportunities and challenging issues related to the dispute resolution methods.

Module LGS3040: Negligence

Students use case studies and scenarios to explore the legal meaning of negligence and legal action relating to negligence.

Module LGS3050: Law & Small Business

Students learn about laws relating to starting a business, running a business and ending a business. Students also explore challenging issues that affect small business and law-related careers.

Module LGS3060: Controversy & Change

Students explore how controversial issues evoke responses that may bring about changes in the law, and describe a wide variety of strategies that may be used for changing the law.

Module LGS3070: Landmark Decisions

Students analyze, in detail, "landmark decisions" and their subsequent influence on the political, social and economic environment.

Module LGS3080: Criminal Law

Students examine the criminal justice system, including the criminal process and the roles and responsibilities of the participants. Students also explore challenging issues and law-related careers.

SCOPE AND SEQUENCE

LOGISTICS

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
Logistics [~]			Introduction to Logistics
Warehouse & Distribute 1 <i>LOG1020</i>	Warehouse & Distribute 2 <i>LOG2010</i>	Warehouse & Distribute 3 <i>LOG3010</i>	Warehousing and Distribution
Traffic & Transport 1 <i>LOG1030</i>	Traffic & Transport 2 <i>LOG2020</i>	Traffic & Transport 3 <i>LOG3020</i>	Traffic and Transportation
Purchasing 1 <i>LOG1040</i>	Purchasing 2 <i>LOG2030</i>	Purchasing 3 <i>LOG3030</i>	Purchasing
	Inventory Management 1 <i>LOG2040</i>	Inventory Management 2 <i>LOG3040</i>	Inventory Management and Control

—— Prerequisite

----- Recommended sequence

[~] Prerequisite to all modules in this strand.

MODULE DESCRIPTIONS

Module LOG1010: Logistics

Students identify logistics as a sector in Canada's economy, by describing related subsectors, users and providers of logistics services. Students also identify current and emerging career paths in logistics.

Module LOG1020: Warehouse & Distribute 1

Students explore warehousing and distribution systems as subsectors of logistics and participate in warehousing, materials handling systems, stock placement and documentation activities.

Module LOG1030: Traffic and Transport 1

Students distinguish among modes, vehicles and vessels involved in transportation, identify the advantages and disadvantages of single mode and intermodal usages, and demonstrate basic skills relating to map reading, technology, handling equipment and handling dangerous goods.

Module LOG1040: Purchasing 1

Students identify the role of purchasing, distinguish between public and private purchasing activities, perform expediting activities, and provide service to internal and external customers.

Module LOG2010: Warehouse & Distribute 2

Students examine types of warehousing and develop basic skills in packaging, packing, documentation and materials handling. Students also explore bonding principles and practices and career opportunities within the warehousing and distribution sector.

Module LOG2020: Traffic & Transport 2

Students develop basic skills in tracking, route planning, scheduling, load planning and other competencies related to handling outgoing shipments, including documentation, customs (import and export), weather and climate conditions, and strategies for preventive maintenance in traffic and transportation.

Module LOG2030: Purchasing 2

Students develop an understanding of the principles of locus of control, economies of scale, risk management, surface and hidden costs, tendering and procurement. Students also perform purchasing activities and address related factors, including budgets and inflation, within an organization's decision-making structure.

Module LOG2040: Inventory Management 1

Students identify the role of inventory management and control, and participate in and demonstrate basic abilities to manage and control inventory.

Module LOG3010: Warehouse & Distribute 3

Students develop an understanding and competencies relating to stock movement and placement procedures, product tracking and the use of automated warehouse systems. Students also develop competencies in labelling, containerizing and palletizing items.

Module LOG3020: Traffic & Transport 3

Students explore transport regulations and licencing, and develop competency in planning a route and developing contingency plans.

Module LOG3030: Purchasing 3

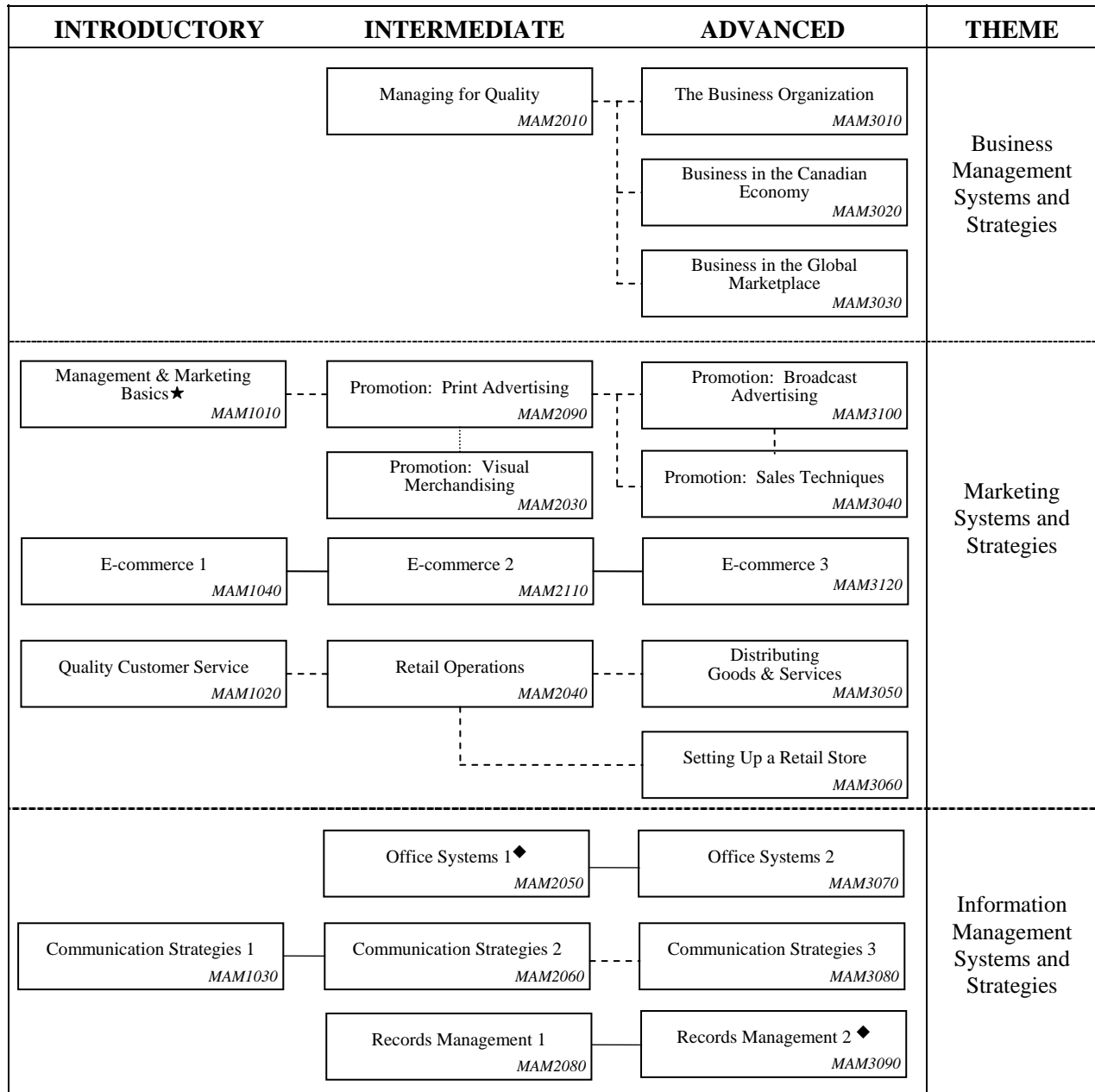
Students develop knowledge about contract and business law, supplier quality assurance and performance management. Students also develop negotiation skills and an appreciation for the importance of professional ethics.

Module LOG3040: Inventory Management 2

Students demonstrate competencies relating to product movement and replenishment strategies, budgeting, internal controls and asset recovery.

SCOPE AND SEQUENCE

MANAGEMENT AND MARKETING



——— Prerequisite - - - - - Recommended sequence
 ★ Course provides a strong foundation for further learning in this strand.
 ◆ Refer to specific courses for additional prerequisites.

COURSE DESCRIPTIONS

Course MAM1010: Management & Marketing Basics

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

Course MAM1020: Quality Customer Service

Students identify and describe the target customer and the selling floor, including sales and nonsales activities.

Course MAM1030: Communication Strategies 1

Students improve oral and written business communications skills necessary for efficient and effective management of information. The focus is on business writing strategies and composing at the computer when preparing memorandums, e-mail messages and business letters.

Course MAM1040: E-commerce 1

Students will investigate the concept of e-commerce as a marketing strategy and design an e-commerce Web site to sell products/services.

Course MAM2010: Managing for Quality

Students demonstrate basic managerial skills, by assuming roles and responsibilities of management to coordinate available resources to achieve quality results.

Course MAM2030: Promotion: Visual Merchandising

Students identify different types of visual merchandising, and describe how to construct attention-getting displays and how to evaluate visual merchandising.

Course MAM2040: Retail Operations

Students identify retail operations that are typically performed off the selling floor, away from customers.

Course MAM2050: Office Systems 1

Students identify and describe strategies and procedures in the office environment and managing processes and protocols related to electronic equipment, written communication transmittal and business travelling arrangements.

Course MAM2060: Communication Strategies 2

Students improve their basic oral and written communications strategies necessary to efficient and effective management of information. The focus is on technical writing strategies and composing at the computer when preparing informal business reports and proposals.

Course MAM2080: Records Management 1

Students demonstrate basic records management skills for a manual records system, emphasizing alphabetic coding procedures.

Course MAM2090: Promotion: Print Advertising

Students are introduced to communication channels, delivery strategies and advertising media that can be used to inform potential customers about products and services available in the marketplace.

Course MAM2110: E-commerce 2

Students will enhance their understanding of e-commerce as a marketing strategy and design an e-commerce Web site with special effects and additional content to attract customers and increase their satisfaction.

Course 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.

Course MAM3020: Business in the Canadian Economy

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

Course MAM3030: Business in the Global Marketplace

Students identify the opportunities and challenges that confront business people in establishing a global business operation.

Course MAM3040: Promotion: Sales Techniques

Students learn techniques for successful selling.

Course MAM3050: Distributing Goods and Services

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

Course MAM3060: Setting Up a Retail Store

Students develop retail store images, examine potential locations and design store layouts. Students should be given hands-on experience by researching a location for an actual retailing opportunity and design a layout for this retail store. This module focuses on students owning a retail business and learning the necessary steps for success.

Course MAM3070: Office Systems 2

Students demonstrate effective office environment strategies and processes, use electronic office equipment, and manage processes related to electronic communications and business meetings.

Course MAM3080: Communication Strategies 3

Students continue to improve basic oral and written communications strategies necessary to efficient and effective management of information. Focus is on technical writing strategies and composing at the computer when preparing formal business reports and proposals.

Course MAM3090: Records Management 2

Students describe the advantages of an automated records system. Numeric, subject and geographic coding are emphasized.

Course MAM3100: Promotion: Broadcast Advertising

Students are introduced to broadcast communication channels, delivery strategies and advertising media that can be used to inform potential customers about products and services available in the marketplace.

Course MAM3120: E-commerce 3

Students will investigate strategies to gather customer information and design e-commerce Web sites that take advantage of technological advances.

SCOPE AND SEQUENCE

MECHANICS

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
Modes & Mechanisms <i>MEC1010</i>	Vehicle Detailing <i>MEC2010</i>	Buying & Selling Vehicles <i>MEC3010</i>	Vehicle Design and Ownership
Vehicle Service & Care <i>MEC1020</i>	Vehicle Maintenance <i>MEC2020</i>	Vehicle Value Appraisal <i>MEC3020</i>	
Engine Fundamentals <i>MEC1040</i>	Lubrication & Cooling <i>MEC2030</i>	Engine Diagnosis ♦ <i>MEC3030</i>	Propulsion Systems
	Fuel & Exhaust Systems <i>MEC2040</i>	Engine Tune-up <i>MEC3040</i>	
	Alternative Fuel Engines <i>MEC2050</i>	Engine Replacement ♦ <i>MEC3050</i>	
	Ignition Systems <i>MEC2060</i>	Engine Reconditioning 1 <i>MEC3060</i>	
	Emission Controls <i>MEC2070</i>	Engine Reconditioning 2 ♦ <i>MEC3070</i>	
		Alternative Energy Systems ♦ <i>MEC3080</i>	
Electrical Fundamentals <i>MEC1090</i>	Electrical Components <i>MEC2090</i>	Computer Systems ♦ <i>MEC3090</i>	Guidance and Control Systems
Pneumatics & Hydraulics <i>MEC1110</i>	Power Assist Accessories <i>MEC2100</i>	Safety Systems <i>MEC3100</i>	
	Braking Systems <i>MEC2110</i>	Climate Control ♦ <i>MEC3110</i>	
	Hydraulic Accessories <i>MEC2120</i>	Power Assisting <i>MEC3120</i>	
Mechanical Systems <i>MEC1130</i>	Drive Trains <i>MEC2130</i>	Automatic Transmissions ♦ <i>MEC3130</i>	
	Transmissions/Transaxles <i>MEC2140</i>	Drive Train Repair <i>MEC3140</i>	
Ride & Control Systems <i>MEC1150</i>	Suspension Systems <i>MEC2150</i>	Wheel Alignment <i>MEC3150</i>	Suspension and Structural Systems
Structures & Materials <i>MEC1160</i>	Steering Systems <i>MEC2160</i>	Body Repair Estimation ♦ <i>MEC3160</i>	
Metal Forming & Finishing <i>MEC1170</i>	Metal Repair & Finishing <i>MEC2170</i>	Damage Analysis <i>MEC3170</i>	
	Trim Replacement <i>MEC2180</i>	Damage Repair 1 ♦ <i>MEC3180</i>	
Surface Preparation 1 <i>MEC1190</i>	Surface Preparation 2 <i>MEC2190</i>	Damage Repair 2 <i>MEC3190</i>	
	Refinishing 1 <i>MEC2200</i>	Refinishing 2 <i>MEC3200</i>	
	Touch-up & Finishing <i>MEC2210</i>	Plastic & Fibreglass ♦ <i>MEC3210</i>	
	Interior Repairs ♦ <i>MEC2220</i>	Glass Replacement ♦ <i>MEC3220</i>	
		Refinishing 3 ♦ <i>MEC3230</i>	

—— Prerequisite Recommended sequence

♦ Refer to specific modules for additional prerequisites.

MODULE DESCRIPTIONS

Module MEC1010: Modes & Mechanism

Students research, design, build and test a model of a transportation vehicle, using a simple power source, common materials and tools.

Module MEC1020: Vehicle Service & Care

Students develop knowledge, skills and attitudes to care for and service a motor vehicle.

Module MEC1040: Engine Fundamentals

Students investigate and describe operating principles, construction and applications of engines.

Module MEC1090: Electrical Fundamentals

Students identify and describe the operating principles and applications of electricity.

Module MEC1110: Pneumatics & Hydraulics

Students identify and describe the operating principles and applications of pneumatic and hydraulic systems.

Module MEC1130: Mechanical Systems

Students identify and describe the operating principles and applications of mechanisms used to transmit and control mechanical energy.

Module MEC1150: Ride & Control Systems

Students develop a basic knowledge of ride and control systems associated with vehicles.

Module MEC1160: Structures & Materials

Students identify the types of materials and components used in vehicle construction.

Module MEC1170: Metal Forming & Finishing

Students repair and re-form damaged metal panels.

Module MEC1190: Surface Preparation 1

Students assess the state of a painted surface, and use appropriate restoration procedures.

Module MEC2010: Vehicle Detailing

Students develop the skills required to restore and enhance the exterior finishes of a vehicle.

Module MEC2020: Vehicle Maintenance

Students perform the basic service requirements necessary to ensure adequate maintenance of a motor vehicle.

Module MEC2030: Lubrication & Cooling

Students diagnose, maintain and service the lubrication and cooling systems of a typical four-cycle gasoline engine.

Module MEC2040: Fuel & Exhaust Systems

Students diagnose, maintain and service the fuel and exhaust system of a typical four-cycle gasoline engine.

Module MEC2050: Alternative Fuel Engines

Students determine alternate fuels used to power motor vehicles.

Module MEC2060: Ignition Systems

Students identify the basic components and parts of ignition systems used on internal combustion engines, and service and repair an ignition system.

Module MEC2070: Emission Controls

Students describe the importance of controlling emissions and the technology applied to vehicles to meet prescribed standards.

Module MEC2090: Electrical Components

Students identify and describe the basic use and testing of the electrical components of a typical motor vehicle.

Module MEC2100: Power Assist Accessories

Students identify and explain the function of components and parts of power assist accessories.

Module MEC2110: Braking Systems

Students develop the necessary knowledge, skills and attitudes to diagnose, service and maintain a braking system according to accepted trade practices.

Module MEC2120: Hydraulic Accessories

Students develop a basic knowledge of hydraulic components, applications and servicing techniques.

Module MEC2130: Drive Trains

Students identify the purpose, describe the operation and perform the servicing of a vehicle drive train.

Module MEC2140: Transmissions/Transaxles

Students perform inspection service and repair procedures on manual transmissions, transaxles and clutch assemblies.

Module MEC2150: Suspension Systems

Students develop the knowledge, skills and attitudes necessary to service and maintain vehicle suspension systems.

Module MEC2160: Steering Systems

Students develop the knowledge, skills and attitudes necessary to maintain a steering system.

Module MEC2170: Metal Repair & Finishing

Students analyze and repair metal damage.

Module MEC2180: Trim Replacement

Students demonstrate the removal and repair of trim parts, with an emphasis on removal and installation without damage.

Module MEC2190: Surface Preparation 2

Students perform advanced surface preparations.

Module MEC2200: Refinishing 1

Students demonstrate metal surface refinishing procedures.

Module MEC2210: Touch-up & Finishing

Students determine and use the appropriate materials, tools and processes for minor surface repairs.

Module MEC2220: Interior Repairs

Students search for and use the appropriate products and techniques to maintain vehicle interior surface materials.

Module MEC3010: Buying & Selling Vehicles

Students develop the skills required to make an informed purchase or sale of a vehicle.

Module MEC3020: Vehicle Value Appraisal

Students demonstrate the procedures used by industry to estimate the cost of a repair and the market value of a vehicle.

Module MEC3030: Engine Diagnosis

Students learn to diagnose the condition of an engine for worn or damaged parts and/or improper adjustments.

Module MEC3040: Engine Tune-up

Students diagnose, service and repair engine, fuel, ignition, charging and starting systems.

Module MEC3050: Engine Replacement

Students remove and install an engine in a chassis.

Module MEC3060: Engine Reconditioning 1

Students determine the need for service, and perform the required service, on the cylinder head and related components of an engine.

Module MEC3070: Engine Reconditioning 2

Students determine the need for service, and perform service, on a cylinder block assembly and related components of an engine.

Module MEC3080: Alternative Energy Systems

Students describe why vehicle manufacturers continue to build the crank-piston internal combustion gasoline engine. Students also identify and describe future engine designs.

Module MEC3090: Computer Systems

Students provide an overview of the applications of computer management systems used in modern vehicles.

Module MEC3100: Safety Systems

Students describe how safety systems can be tested, diagnosed, replaced or repaired.

Module MEC3110: Climate Control

Students expand their knowledge of the purpose, operation and servicing of standard heating and air conditioning systems.

Module MEC3120: Power Assisting

Students further develop their knowledge of the purpose, operation, service and repair of pneumatic, hydraulic and electric power assist devices.

Module MEC3130: Automatic Transmissions

Students develop knowledge of automatic transmissions and transaxles, and skills in diagnosing and executing minor automatic transmission and transaxle repair requirements.

Module MEC3140: Drive Train Repair

Students perform overhauls on clutch, transmission and differential assemblies.

Module MEC3150: Wheel Alignment

Students develop the knowledge, skills and attitudes necessary for repairing and aligning various vehicle steering systems.

Module MEC3160: Body Repair Estimation

Students apply knowledge in estimating, including close attention to detail in determining the cost of a repair.

Module MEC3170: Damage Analysis

Students identify and examine physical damage caused by collisions, and learn cost estimating procedures.

Module MEC3180: Damage Repair 1

Students examine the methods used to complete a repair involving removing, replacing and aligning of body parts.

Module MEC3190: Damage Repair 2

Students examine methods used to complete a collision repair involving unibody parts replacement and frame correction.

Module MEC3200: Refinishing 2

Students demonstrate finishing skills and techniques related to the preparation and application of metallic paints.

Module MEC3210: Plastic & Fibreglass

Students determine the types of plastic and fibreglass materials required for repairs, and perform appropriate repair procedures.

Module MEC3220: Glass Replacement

Students demonstrate knowledge, skills and practice related to vehicle glass installation and adjustment.

Module MEC3230: Refinishing 3

Students demonstrate knowledge and skills of advanced finishing techniques, including custom painting, mixing, tinting, colour and texture matching.

SCOPE AND SEQUENCE

TOURISM STUDIES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div data-bbox="204 327 501 394" style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">The Tourism Industry <i>TOU1010</i></div> <div data-bbox="204 415 501 483" style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">People & Places <i>TOU1020</i></div> <div data-bbox="204 504 501 571" style="border: 1px solid black; padding: 5px;">Quality Guest Service <i>TOU1030</i></div>	<div data-bbox="555 327 852 394" style="border: 1px solid black; padding: 5px; text-align: center;">Tourism Events <i>TOU2010</i></div>		Nature of the Industry
<div data-bbox="204 642 501 709" style="border: 1px solid black; padding: 5px; text-align: center;">The Food Sector <i>TOU1040</i></div>	<div data-bbox="555 642 852 709" style="border: 1px solid black; padding: 5px; text-align: center;">Food Functions <i>TOU2040</i></div>	<div data-bbox="912 642 1209 709" style="border: 1px solid black; padding: 5px; text-align: center;">Food Service Operations <i>TOU3030</i></div>	Food
<div data-bbox="204 768 501 835" style="border: 1px solid black; padding: 5px; text-align: center;">The Accommodation Sector <i>TOU1050</i></div>	<div data-bbox="555 768 852 835" style="border: 1px solid black; padding: 5px; text-align: center;">Meetings & Conferences <i>TOU2050</i></div>	<div data-bbox="912 768 1209 835" style="border: 1px solid black; padding: 5px; text-align: center;">Hotel/Motel Operations <i>TOU3040</i></div> <div data-bbox="912 856 1209 924" style="border: 1px solid black; padding: 5px; text-align: center;">Alternative Accommodations <i>TOU3050</i></div>	Accommodation
<div data-bbox="204 972 501 1039" style="border: 1px solid black; padding: 5px; text-align: center;">The Travel Sector <i>TOU1060</i></div>	<div data-bbox="555 972 852 1039" style="border: 1px solid black; padding: 5px; text-align: center;">Tourism Destinations 1 <i>TOU2060</i></div> <div data-bbox="555 1056 852 1123" style="border: 1px solid black; padding: 5px; text-align: center;">Tourism Destinations 2 <i>TOU2070</i></div> <div data-bbox="555 1140 852 1207" style="border: 1px solid black; padding: 5px; text-align: center;">Travel Planning <i>TOU2080</i></div>	<div data-bbox="912 972 1209 1039" style="border: 1px solid black; padding: 5px; text-align: center;">Travel Agency Operations <i>TOU3060</i></div> <div data-bbox="912 1056 1209 1123" style="border: 1px solid black; padding: 5px; text-align: center;">Reservations & Ticketing <i>TOU3070</i></div> <div data-bbox="912 1140 1209 1207" style="border: 1px solid black; padding: 5px; text-align: center;">Air Transportation <i>TOU3080</i></div> <div data-bbox="912 1224 1209 1291" style="border: 1px solid black; padding: 5px; text-align: center;">Surface Transportation <i>TOU3090</i></div>	Travel
<div data-bbox="204 1350 501 1417" style="border: 1px solid black; padding: 5px; text-align: center;">The Attractions Sector <i>TOU1070</i></div>	<div data-bbox="555 1434 852 1501" style="border: 1px solid black; padding: 5px; text-align: center;">Tourism Interpretation 1 <i>TOU2090</i></div> <div data-bbox="555 1518 852 1585" style="border: 1px solid black; padding: 5px; text-align: center;">Tourism Interpretation 2 <i>TOU2100</i></div>	<div data-bbox="912 1350 1209 1417" style="border: 1px solid black; padding: 5px; text-align: center;">Attractions Operations <i>TOU3100</i></div> <div data-bbox="912 1434 1209 1501" style="border: 1px solid black; padding: 5px; text-align: center;">Adventure & Ecotourism <i>TOU3110</i></div>	Attractions

—— Prerequisite

----- Recommended sequence

MODULE DESCRIPTIONS

Module TOU1010: The Tourism Industry

Students analyze the organizational structure of the tourism industry at local and provincial levels, and investigate employment opportunities in tourism.

Module TOU1020: People & Places

Students design strategies for maintaining and enhancing the well-being of tourists, including individuals and groups, such as families. Students also design strategies for preserving the cultural and environmental heritage of a tourism area.

Module TOU1030: Quality Guest Service

Students demonstrate the knowledge, skills and attitudes of quality guest service, including hospitality, effective communication and workplace safety.

Module TOU1040: The Food Sector

Students evaluate food service establishments, explain basic food-handling principles, demonstrate satisfactory food service skills and adapt service standards to meet the needs of guests.

Module TOU1050: The Accommodation Sector

Students research accommodation options available, discuss basic principles of the accommodations industry, and develop service strategies for handling individual guest requirements.

Module TOU1060: The Travel Sector

Students research a variety of travel services, demonstrate basic travel information and promotion skills, and investigate career opportunities in providing travel information.

Module TOU1070: The Attractions Sector

Students analyze and compare the natural, cultural and recreational attractions available in Alberta, develop strategies to maintain the well-being of guests, and investigate employment opportunities in the attractions sector.

Module TOU2010: Tourism Events

Students plan, organize, facilitate and evaluate a tourism event in the school or community.

Module TOU2040: Food Functions

Students demonstrate the knowledge and skills of serving food for a food function that they have planned in order to meet the needs of a client.

Module TOU2050: Meetings & Conferences

Students develop a meeting plan, facilitate and evaluate the success of the meeting plan, and investigate career opportunities in meeting and conference planning.

Module TOU2060: Tourism Destinations 1

Students demonstrate knowledge of world tourism geography, by presenting travel information about North America and at least one other world region.

Module TOU2070: Tourism Destinations 2

Students demonstrate knowledge of world tourism geography, by presenting travel information about at least four major tourism regions of the world.

Module TOU2080: Travel Planning

Students create and evaluate an Alberta tour package and an international travel package, including itinerary, tour and attractions information, and traveller information.

Module TOU2090: Tourism Interpretation 1

Students evaluate the different types of interpretive media and demonstrate the basic skills of an information attendant, by conducting an interpretation program for a tourism activity.

Module TOU2100: Tourism Interpretation 2

Students create, implement and evaluate interpretation programs for conducted and nonconducted activities. Students also demonstrate the skills of an effective leader in a conducted activity.

Module TOU3030: Food Service Operations

Students relate trends and issues in food service to industry activity, design food service strategies, and present a marketing or venture plan for a food service business.

Module TOU3040: Hotel/Motel Operations

Students demonstrate correct check-in and check-out procedures, research the organization of a large hotel, analyze hotel marketing strategies, and present a marketing plan for a hotel department.

Module TOU3050: Alternative Accommodations

Students research and discuss issues related to alternative accommodations, develop a service strategy and standards, and present a marketing or venture plan for an alternative accommodation business.

Module TOU3060: Travel Agency Operations

Students research the operation of a travel agency and the role and work activities of a travel agent. Students also present a marketing plan for a travel agency.

Module TOU3070: Reservations & Ticketing

Students process travel reservations, using a computer reservation system, develop an itinerary, and provide the traveller with information related to the itinerary/destination.

Module TOU3080: Air Transportation

Students research and report on the organization and operation of a major airline. Students also present a marketing plan for an airline.

Module TOU3090: Surface Transportation

Students research the business operations and career opportunities of the rail, motor coach, auto and cruise travel industries. Students also present a variety of marketing strategies for a transportation industry.

Module TOU3100: Attractions Operations

Students analyze the economic, social, cultural and environmental impact of attractions operations. Students also present a marketing plan for an attractions development.

Module TOU3110: Adventure & Ecotourism

Students analyze the economic, social and environmental factors that influence the development plan for an adventure or ecotourism venture. Students also compare management issues for different types of recreation areas

SCOPE AND SEQUENCE

WILDLIFE

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> What Is Wildlife?★ <i>WLD1010</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Natural History of Wildlife <i>WLD1020</i> </div> <div style="border: 1px solid black; padding: 5px;"> Outdoor Experiences 1◆ (Survival Skills) <i>WLD1030</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Measuring the Value (Diversity of Wildlife Values) <i>WLD2020</i> </div> <div style="border: 1px solid black; padding: 5px;"> Outdoor Experiences 2◆ (Wilderness Excursion) <i>WLD2030</i> </div>	<div style="border: 1px solid black; padding: 5px;"> Making a Difference (Protection & Stewardship) <i>WLD3020</i> </div>	Social and Cultural Perspectives
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Wildlife Spaces & Species <i>WLD2040</i> </div> <div style="border: 1px solid black; padding: 5px;"> Wildlife Research <i>WLD3040</i> </div>			
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Taking Responsibility (People, Culture & Wildlife) <i>WLD1050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Hunting & Game Management 1 (Ethics/Game Identification) <i>WLD1070</i> </div> <div style="border: 1px solid black; padding: 5px;"> Angling & Fish Management <i>WLD1080</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Interactions (Wildlife & Society) <i>WLD2060</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Hunting & Game Management 2 (Field Techniques/Regulations) <i>WLD2070</i> </div> <div style="border: 1px solid black; padding: 5px;"> Issues in Wildlife 1 (Research & Analysis) <i>WLD2090</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Wildlife Management 1 (Basic Principles) <i>WLD3050</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Wildlife Management 2 (Applications) <i>WLD3060</i> </div> <div style="border: 1px solid black; padding: 5px;"> Issues in Wildlife 2 (Negotiation & Debate) <i>WLD3090</i> </div>	Management and Conservation

—— Prerequisite

----- Recommended sequence

★ Module provides a strong foundation for further learning in this strand.

◆ Refer to specific modules for additional prerequisites.

MODULE DESCRIPTIONS

Module WLD1010: What is Wildlife?

Students demonstrate knowledge of wildlife and ecosystems, and examine the need to manage and conserve wildlife.

Module WLD1020: Natural History of Wildlife

Students investigate the diversity of Canadian wildlife in terms of structure, behaviour and habitat, and compare Alberta wildlife with wildlife in other parts of the world.

Module WLD1030: Outdoor Experiences 1 (Survival Skills)

Students demonstrate the basic skills required for responsible participation in a range of outdoor activities.

Module WLD1050: Taking Responsibility (People, Culture & Wildlife)

Students explain the significance of wildlife in society, examine relationships among humans and wildlife, and research potential career opportunities in wildlife-related fields.

Module WLD1070: Hunting & Game Management 1 (Ethics/Game Identification)

Students explain the role of regulated hunting in game management, identify Alberta's game animals, and demonstrate knowledge and skills that ensure safe and comfortable experiences in the outdoors.

Module WLD1080: Angling & Fish Management

Students explain the role of recreational fishing in the management and conservation of fish resources, and demonstrate knowledge of the responsible practices required for fishing or related outdoor activities.

Module WLD2020: Measuring the Value (Diversity of Wildlife Values)

Students assess the significance of wildlife in society, analyze relationships between humans and wildlife, and research career opportunities in wildlife-related fields.

Module WLD2030: Outdoor Experiences 2 (Wilderness Excursion)

Students plan, prepare for and conduct an extended outdoor wilderness trip.

Module WLD2040: Wildlife Spaces & Species

Students present the results of research on wildlife spaces and species in Alberta and other parts of the world, and compare different strategies used in wildlife management.

Module WLD2060: Interactions (Wildlife & Society)

Students explain how human populations interact with wildlife, and describe management strategies that enable wildlife and society to coexist.

Module WLD2070: Hunting & Game Management 2 (Field Techniques/Regulations)

Students demonstrate knowledge of the basic parts and safe handling of bows, arrows and firearms, and explain the legal responsibilities of the sports person.

Module WLD2090: Issues in Wildlife 1 (Research & Analysis)

Students examine a range of Canadian and global wildlife issues, and present the results of research on one or more issues concerning wildlife in Canada.

Module WLD3020: Making a Difference (Protection & Stewardship)

Students explain how human populations and wildlife affect each other, describe management strategies that enable humans and wildlife to coexist, and demonstrate individual and shared actions that foster environmental stewardship.

Module WLD3040: Wildlife Research

Students explain applications of the wildlife research process, and conduct experimental research on a wildlife space or species.

Module WLD3050: Wildlife Management 1 (Basic Principles)

Students describe the functions and processes of wildlife management, and identify issues that may affect the development of a wildlife management plan.

**Module WLD3060: Wildlife Management 2
(Applications)**

Students develop and present a plan for managing a wildlife space or species.

**Module WLD3090: Issues in Wildlife 2
(Negotiation & Debate)**

Students examine the complexity of wildlife issues affecting Alberta and the rest of the world, and demonstrate individual and shared actions that foster sustainable management of wildlife.

