

# **—Planning Elements for Agricultural Programming serving North-Eastern (& Northern) Ontario**

Northern College – Doug Clark

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## SUMMARY

The opportunity to provide farming education in north-eastern Ontario and northern Ontario generally is challenged by the low farm density of this region. Northern Ontario has approximately 87% of Ontario's land mass (see map in Appendix B), and despite the large amounts of Canadian shield and Hudson Bay lowlands, has twice the agricultural land area potential of southern Ontario. It falls below the 80/20 Pareto rule for employment, however: there are only 2,640 people or 3.6% of the provincial employment for selected agricultural NOCs living in northern Ontario. (2011 National Household Survey)

Northern College's usual north-eastern Ontario serving area (Cochrane and Temiskaming districts) has about 775 people employed under NOC codes 0821 Managers in agriculture and 843 Agriculture and horticulture workers (almost all in 8431 General farm workers). This district represents 29% of Northern Ontario farm employment, or 1.1% of total Ontario farm employment for the selected NOCs.

An OMAFRA representative suggested the farming education market in northern Ontario might be best addressed recognizing there were two types of employment on farms with different educational needs:

- General farm workers – those employed in farm work, typically in general farm duties, but not having farm management responsibilities. An entry-level general introduction to farming one-year certificate was proposed to ready employees for general farm duties. Following Ontario credentialing practice this would likely be called something like an Agricultural Techniques Certificate.
- Farm managers (57-59% of respondents) – most commonly the owner-operator of a farm, especially in Northern Ontario. A second year of education was proposed to provide more in-depth coverage of the business aspects of managing a farm. Following Ontario credentialing practice this would likely be called something like an Agricultural Diploma.

As shown in the chart below, (see Appendix C for the full chart), review of the Farming employment breakdown provincially and for the region supported this categorization with approximately 60% managers and 40% workers provincially and in Northern Ontario, with 76% of managers self-employed (84% in N. On) and 76% of workers being employees (62% in N. On.)

	Total - Class of worker	% of Class of Worker		Employee	Self- employed
<b>ONTARIO:</b>					
<b>Total of selected NOC</b>	<b>73,690</b>	<b>100%</b>		<b>46%</b>	<b>54%</b>
<b>0821 Managers in agriculture</b>	<b>41,880</b>	<b>57%</b>		<b>24%</b>	<b>76%</b>
<b>843 Agriculture and horticulture workers</b>	<b>28,420</b>	<b>39%</b>		<b>76%</b>	<b>24%</b>
8431 General farm workers	23,445	32%		71%	29%
<b>TOTAL - ALL OF NORTHERN ONTARIO REGIONS</b>					
<b>Total of selected NOC</b>	<b>2,640</b>	<b>100%</b>		<b>33%</b>	<b>64%</b>
<b>0821 Managers in agriculture</b>	<b>1,570</b>	<b>59%</b>		<b>13%</b>	<b>84%</b>
<b>843 Agriculture and horticulture workers</b>	<b>1,050</b>	<b>40%</b>		<b>62%</b>	<b>35%</b>
8431 General farm workers	820	31%		48%	46%

There will be challenges in designing into a one year introductory program enough coverage to be of value to the general farming community, and to entice someone to take it vs. following, for instance, an agricultural trade choice. Ontario does not currently have published program standards for an Agricultural Certificate (one-year program) or Diploma (two year credential). There are however, some Ontario College of Trades identified that could have useful reference elements. The most relevant of these, an Agricultural – Dairy Herdsperson, requires 480 hours of study of which 381 hours or 79% is theory and 99 hours or 21% is practical. An ordinary Ontario college post-secondary program requires a minimum of 600 hours of study, and here mastery of the Dairy Herdsperson trade itself could occupy 80% of the program hours for a general farming introductory one-year certificate.

The initial curriculum suggestions shown in Appendix A have been based on Olds College (Olds, Alberta) existing Production Major with a few changes. They have not yet have the benefit of being reviewed by members of the northern Ontario farming community.

## DELIVERY MODEL RECOMMENDATIONS

Any successful agricultural program would have to:

- Rely on a distance shared theory + local practical skills delivery model
  - Efficient model for rural / small CAAT technology delivery - shared theory taught to a combined group of students from dispersed areas PLUS hands-on labs / farm experience
  - Northern has experience with collaborative delivery of this sort already: currently are partnering with Lambton College in Sarnia to teach a 2-year diploma in highly specialized drinking water and wastewater systems operations program to modest-sized geographically distributed cohorts. Identical on-site labs and skill reinforcement activities, and similar field trips augment the theory. Despite a lot of specialized vocational content, 86% of courses have shared efficiencies between colleges, or between existing programs at each college.
  - The model breaks through the rural/small college "Catch 22" dilemma: Students are attracted to a particular college's programming based on program quality, which usually involves having specialized courses tailored to a line of work, yet modest enrolment at smaller colleges creates pressures for common - hence more generic - courses shared across a number of programs for cost efficiencies.
  - The efficiencies of shared theory course delivery savings, helps offset the costs of offering on-farm practical skills and local invigilation to smaller student cohorts
  - Work in partnership with other Ontario colleges to provide coverage in areas not served by Ridgeway.
  - Explore ONCAT / eCampus Ontario funding to support student transfer and mobility, and to create distance learning curriculum
  - Assumes students have broadband Internet access
- Rely on use of existing farm facilities, not college-owned, in order to keep program costs for experiential learning manageable.
  - Must plan for and communicate student travel costs
- Rely on regional agricultural community support to its regional community college partner
  - We expect support will be provided for placements and use of farms for teaching (for reasonable stipend) given farms have a need for employees.
- Program promotion
  - Via high school dual credits -- develop a pool of students aware of and interested in a farming career by including 1 course in each of the Fall and Winter semesters of the first year Farm Work Techniques Certificate that could be offered as part of the secondary school programming to count as both a high school and college credit. Ontario has existing program structures to support this through the School College Work Initiative: Dual Credit – SCWI; and through the Specialist High Skills Major SHSM program which can support an Agritech focus. This would build farming community support for the post-secondary program, widening the funnel of those with interest in a career in farming, and in the program.

# APPENDIX A – A \*FIRST LOOK\* DRAFT CURRICULUM

FIRST YEAR (FARM WORKER FOCUS); SECOND YEAR (MANAGERIAL FOCUS)

Patterned on Olds (Alberta) existing program, with course relocations shown in grey & green, and new dual credit high-school & college courses shown in Orange. But needs review / overhaul for Ontario regional farming context (mixture of beef and dairy; different crops emphasis etc.)

Oct. 20, 2017

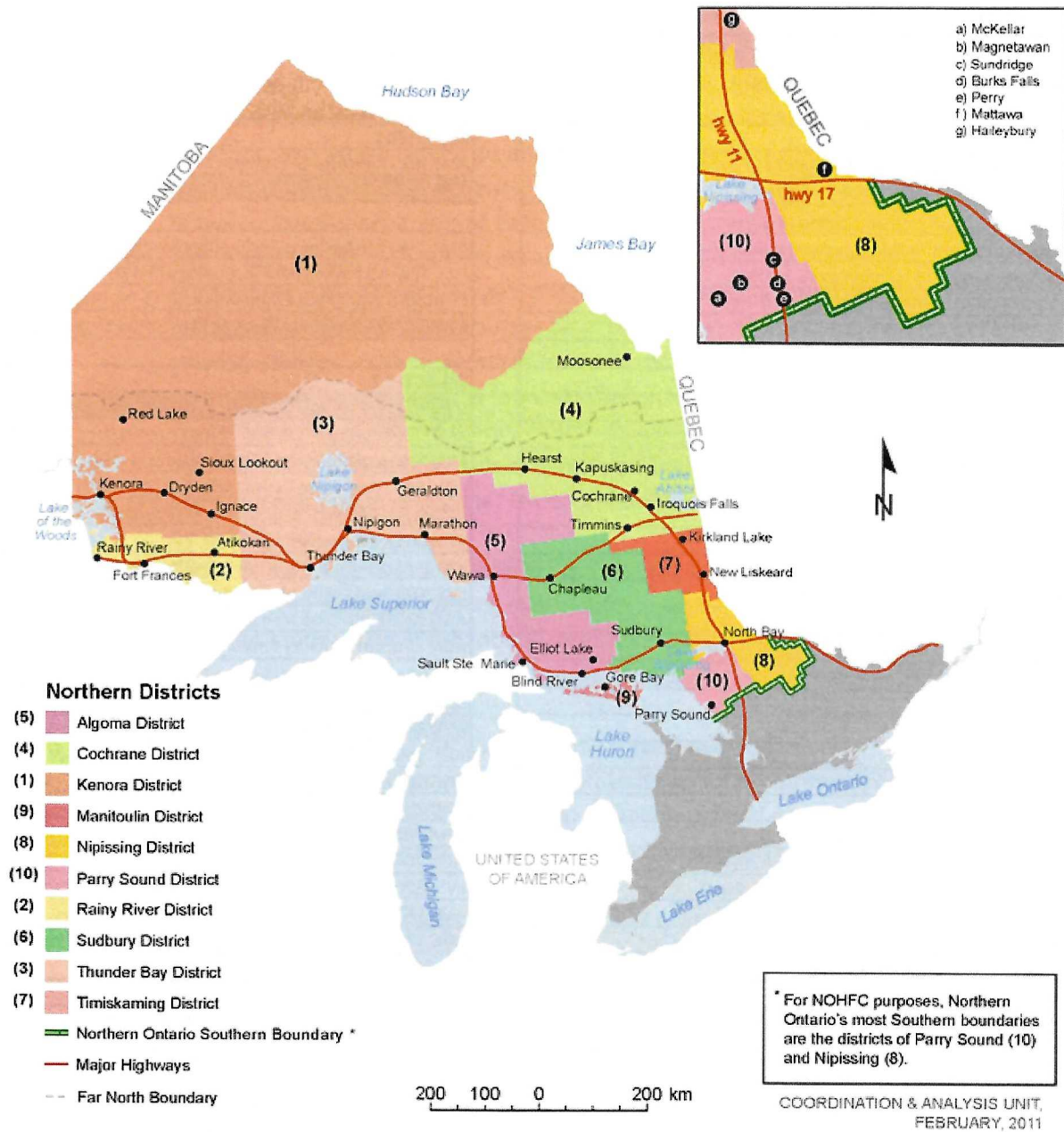
<b>Existing OLDS College Production Major</b>
Summary
<b>SEMESTER 1</b>
AMT 1035 Agricultural Business Management Principles (3-0-0 Hrs)
AMT 1335 Agribusiness Accounting (3-3-0 Hrs)
AGN 1240 Principles Of Crop Production (3-3-0 Hrs)
AMT 1360 Agribusiness Technology Applications (0-4.5-0 Hrs)
MEC 1050 Machinery And Technology (3-3-0 Hrs)
COM 1020 Workplace Communication (3-0-0 Hrs)
<b>SEMESTER 2</b>
MKG 1021 Marketing Principles (3-0-0 Hrs)
AMT 1360 Agribusiness Technology Applications (0-4.5-0 Hrs)
MEC 1050 Machinery And Technology (3-3-0 Hrs)
COM 1020 Workplace Communication (3-0-0 Hrs)
<b>SEMESTER 2 Approved Electives:</b>
LVS 2370 Livestock Nutrition (3-3-0 hrs)
LVS 2070 Beef Cattle Management (3-0-0 hrs)
AGN 2240 Field Crop Management (3-3-0 hrs)
AGN 1540 Introductory Pest Management (3-2-0 hrs)
<b>SEMESTER 3</b>
AGN 2540
AMT 2020
AMT 2035
<b>SEMESTER 3 - Approved Electives (choose 2):</b>
AGN 2640 Principles of Soils and Crop Nutrition (3-2-0 hrs)
LVS 2570 Livestock Breeding Strategies (3-1.5-0 hrs)
LVS 2470 Livestock Health and Disease (3-3-0 hrs)
MEC 2060 Precision Cropping Systems (3-0-0 hrs)
<b>SEMESTER 4</b>
COM 1030 Workplace Professionalism (3-0-0 Hrs)
MEC 1490 Farmstead Management (3-3-0 Hrs)
AGN 2740 Environmental Farm Management (3-1.5-0 Hrs)
AMT 2630 Agribusiness Planning And Management (3-2-0 Hrs)
<b>SEMESTER 4 Approved Electives (Need 3):</b>
LVS 2370 Livestock Nutrition (3-3-0 hrs)
LVS 2070 Beef Cattle Management (3-0-0 hrs)
AGN 2240 Field Crop Management (3-3-0 hrs)
AGN 1540 Introductory Pest Management (3-2-0 hrs)

<b>Proposed 2 Year NC Diploma</b>
Summary
<b>SEMESTER 1</b>
AMT 1035 Agricultural Business Management Principles (3-0-0 Hrs)
AMT 1360 Agribusiness Technology Applications (0-4.5-0 Hrs)
MEC 1050 Machinery And Technology (3-3-0 Hrs)
COM 1020 Workplace Communication (3-0-0 Hrs)
INTRO TO FARMING I - (Open to High Schools - dual credit)
<b>SEMESTER 2</b>
AMT 1360 Agribusiness Technology Applications (0-4.5-0 Hrs)
MEC 1050 Machinery And Technology (3-3-0 Hrs)
COM 1020 Workplace Communication (3-0-0 Hrs)
INTRO TO FARMING II - (Open to High Schools - dual credit)
<b>SEMESTER 2 Approved Electives:</b>
LVS 2370 Livestock Nutrition (3-3-0 hrs)
LVS 2070 Beef Cattle Management (3-0-0 hrs)
AGN 2240 Field Crop Management (3-3-0 hrs)
AGN 1540 Introductory Pest Management (3-2-0 hrs)
<b>SEMESTER 3</b>
AMT 1335 Agribusiness Accounting (3-3-0 Hrs)
AGN 2540
AMT 2020
AMT 2035
<b>SEMESTER 3 - Approved Electives (choose 2):</b>
AGN 2640 Principles of Soils and Crop Nutrition (3-2-0 hrs)
LVS 2570 Livestock Breeding Strategies (3-1.5-0 hrs)
LVS 2470 Livestock Health and Disease (3-3-0 hrs)
MEC 2060 Precision Cropping Systems (3-0-0 hrs)
<b>SEMESTER 4</b>
COM 1030 Workplace Professionalism (3-0-0 Hrs)
MEC 1490 Farmstead Management (3-3-0 Hrs)
AGN 2740 Environmental Farm Management (3-1.5-0 Hrs)
AMT 2630 Agribusiness Planning And Management (3-2-0 Hrs)
MKG 1021 Marketing Principles (3-0-0 Hrs)
<b>SEMESTER 4 Approved Electives (Need 3):</b>
LVS 2370 Livestock Nutrition (3-3-0 hrs)
LVS 2070 Beef Cattle Management (3-0-0 hrs)
AGN 2240 Field Crop Management (3-3-0 hrs)
AGN 1540 Introductory Pest Management (3-2-0 hrs)

# Appendix B - Map of Northern Ontario Districts

<http://nohfc.ca/en/about-us/northern-ontario-districts>

Northern Ontario districts (shown in colour) represent approximately 87% of Ontario's land mass



# Appendix C - 2011 Farming Employment in Northern Ontario 3.6% of Ontario's Total

## 2011 Farming employment in Northern Ontario

Source: 2011 National Household Survey: Data tables

Occupation - National Occupational Classification (NOC) 2011

(Total - Age Groups & Sex)	Total - Class of worker	% of Class of Worker	% of N. Ontario	Employee	Self-employed	Self-employed	Unpaid family worker	Sq. Km	DENSITY: Sq.Km / Ag. Employment
<b>ONTARIO:</b>								908,699	12.3
<b>Total of selected NOC</b>	<b>73,690</b>	<b>100%</b>							
<b>0821 Managers in agriculture</b>	<b>41,880</b>	<b>57%</b>		<b>10,210</b>	<b>31,665</b>	<b>30,215</b>	<b>1,450</b>		
8252 Agricultural service contractors, farm supervisors and specialized livestock workers	3,390	5%		1,860	1,530	1,460	70		
<b>843 Agriculture and horticulture workers</b>	<b>28,420</b>	<b>39%</b>		<b>21,510</b>	<b>6,905</b>	<b>4,510</b>	<b>2,395</b>		
8431 General farm workers	23,445	32%		16,750	6,690	4,320	2,370		
8432 Nursery and greenhouse workers	4,975	7%		4,760	210	185	25		
<b>TOTAL - ALL OF NORTHERN ONTARIO REGIONS</b>								<b>834,986</b>	<b>316.3</b>
<b>Total of selected NOC</b>	<b>2,640</b>	<b>100%</b>							
<b>0821 Managers in agriculture</b>	<b>1570</b>	<b>59%</b>		<b>210</b>	<b>1315</b>	<b>1250</b>	<b>0</b>		
8252 Agricultural service contractors, farm supervisors and specialized livestock workers	20	1%		0	0	0	0		
<b>843 Agriculture and horticulture workers</b>	<b>1050</b>	<b>40%</b>		<b>655</b>	<b>370</b>	<b>235</b>	<b>35</b>		
8431 General farm workers	820	31%		395	375	235	35		
8432 Nursery and greenhouse workers	180	7%		155	0	0	0		
<b>% OF PROV. TOTAL - ALL OF NORTHERN ONTARIO REGIONS</b>								<b>92%</b>	
<b>Total of selected NOC</b>	<b>3.6%</b>								
<b>0821 Managers in agriculture</b>	<b>3.7%</b>			<b>2.1%</b>	<b>4.2%</b>	<b>4.1%</b>	<b>0.0%</b>		
8252 Agricultural service contractors, farm supervisors and specialized livestock workers	0.6%			0.0%	0.0%	0.0%	0.0%		
<b>843 Agriculture and horticulture workers</b>	<b>3.7%</b>			<b>3.0%</b>	<b>5.4%</b>	<b>5.2%</b>	<b>1.5%</b>		
8431 General farm workers	3.5%			2.4%	5.6%	5.4%	1.5%		
8432 Nursery and greenhouse workers	3.6%			3.3%	0.0%	0.0%	0.0%		
<b>SUB-TOTAL: N.E. ON. - TEMISKAMING + COCHRANE DISTRICTS</b>								<b>154,500</b>	<b>199.4</b>
<b>Total of selected NOC</b>	<b>775</b>	<b>100%</b>	<b>29%</b>					<b>19%</b>	
<b>0821 Managers in agriculture</b>	<b>380</b>	<b>49%</b>	<b>24%</b>	<b>35</b>	<b>330</b>	<b>325</b>	<b>0</b>		
8252 Agricultural service contractors, farm supervisors and specialized livestock workers	20	3%	100%	0	0	0	0		
<b>843 Agriculture and horticulture workers</b>	<b>375</b>	<b>48%</b>	<b>36%</b>	<b>235</b>	<b>140</b>	<b>115</b>	<b>0</b>		
8431 General farm workers	280	36%	34%	140	140	115	0		
8432 Nursery and greenhouse workers	65	8%	36%	65	0	0	0		
<b>TOTAL - South-Central N. ON - NIPISSING, SUDBURY &amp; ALGOMA REGIONS</b>								<b>154,068</b>	<b>124.2</b>
<b>Total of selected NOC</b>	<b>1,240</b>	<b>100%</b>	<b>47%</b>					<b>18%</b>	
<b>0821 Managers in agriculture</b>	<b>780</b>	<b>63%</b>	<b>50%</b>	<b>140</b>	<b>635</b>	<b>585</b>	<b>0</b>		
8252 Agricultural service contractors, farm supervisors and specialized livestock workers	0	0%	0%	0	0	0	0		
<b>843 Agriculture and horticulture workers</b>	<b>460</b>	<b>37%</b>	<b>44%</b>	<b>295</b>	<b>140</b>	<b>80</b>	<b>35</b>		
8431 General farm workers	380	31%	46%	200	145	80	35		
8432 Nursery and greenhouse workers	65	5%	36%	50	0	0	0		
<b>TOTAL - N.W. ONTARIO</b>								<b>526,418</b>	<b>842.3</b>
<b>Total of selected NOC</b>	<b>625</b>	<b>100%</b>	<b>24%</b>					<b>63%</b>	
<b>0821 Managers in agriculture</b>	<b>410</b>	<b>66%</b>	<b>26%</b>	<b>35</b>	<b>350</b>	<b>340</b>	<b>0</b>		
8252 Agricultural service contractors, farm supervisors and specialized livestock workers	0	0%	0%	0	0	0	0		
<b>843 Agriculture and horticulture workers</b>	<b>215</b>	<b>34%</b>	<b>20%</b>	<b>125</b>	<b>90</b>	<b>40</b>	<b>0</b>		
8431 General farm workers	160	26%	20%	55	90	40	0		
8432 Nursery and greenhouse workers	50	8%	28%	40	0	0	0		

# OLDS College Agricultural Management - Production Major (60 credits required)

Course Codes, Descriptions, Course Hours (2018-19 Curriculum)

Course Code	Course Name	Course Description	Course Credits
<b>TERM 1</b>			<b>(Total Credits:15)</b>
AGN1240	Principles of Crop Production (3-3-0 hrs)	This course takes a systems approach to Western Canadian agricultural crop production. Topics in land preparation, crop selection, crop establishment, and harvesting will be discussed in conjunction with basic soil characteristics and plant morphology. Identification of major Canadian crops and their product end use will also prepare the student for further studies in Agronomy.	3
AMT1035	Agricultural Business Management Principles (3-0-0 hrs)	The learner develops fundamental concepts of business management within the context of agriculture. These basic tools will provide the foundation for sound business decisions as they relate to all aspects and functional areas of the organization. Micro and Macro economic theory will be learned and applied as they relate to the agricultural industry.	3
AMT1040	Survey of Agribusiness (3-0-0 hrs)	This is an introductory course on the nature of agricultural business from both a local and an international perspective. The learner explores the global policy framework as well as national laws and programs which support agricultural enterprise. Selected sectors of the industry are then investigated with these perspectives in mind.	3
AMT1335	Agribusiness Accounting (3-3-0 hrs)	The learner generates financial records and statements, using generally accepted accounting principles, for agribusinesses. Industry software is used and attention to unique industry issues is emphasized.	3
LVS1370	Principles of Animal Agriculture (3-3-0 hrs)	In this introductory course, students examine fundamental principles of physiology, nutrition and animal health as well as participating in "hands-on" labs. This course also studies global production demographics, production trends and current issues affecting livestock industries.	3
<b>TERM 2</b>			<b>(Total Credits: 12)</b>
AMT1360	Agribusiness Technology Applications (0-4.5-0 hrs)	This course is an overview of selected agri-business technological tools and software. Students apply and evaluate selected business technology and software applications.	3
COM1020	Workplace Communication (3-0-0 hrs)	In this course students develop writing and presentation skills. Students will apply rules of grammar, spelling, punctuation and mechanics in the development of letters, email and short reports. Students will demonstrate strategies and techniques for creating informative and persuasive presentations.	3
MEC1050	Machinery and Technology (3-3-0 hrs)	This course is a general overview of the farm machinery and technology used in Western Canada. Students will become familiar with the uses and purposes of tractors and combines as well as tillage, seeding, spraying and forage equipment. Precision Farming principles and components will also be studied.	3
MKG1021	Marketing Principles (3-0-0 hrs)	This course develops an understanding of marketing concepts, principles and practices. Topics examined include the influence of environment factors on the marketing process, marketing strategy development, marketing mix formulation and adjustment for pricing, promoting and distributing appropriate products and services to selected markets.	3
ELECTIVE: Choose 1 course from Term 2 Approved electives list below.			<b>(Total Credits:3)</b>
<b>TERM 2 Approved Electives:</b>			<b>(Total Credits:3)</b>
AGN1540	Introductory Pest Management (3-2-0 hrs)	Students will study the principles of pest management in agricultural cropping systems. They will learn the basic concepts of integrated pest management and principles guiding the safe use of pesticides. Learners will also focus on the identification of selected weeds, diseases and insects of field crops in western Canada. <b>Pre-requisite: AGN-1240 or</b> <b>Pre-requisite: PLS-1010 and</b> <b>Pre-requisite: SOI-1000</b>	3
AGN2240	Field Crop Management (3-3-0 hrs)	Students will explore advanced topics in field crop management. These will include plant growth and development under various environmental conditions, crop genetic improvement through plant breeding, Canadian agricultural production systems, harvesting, storage and quality evaluation of crops, and processing of crops for food and industrial by-products. Identification of Western Canadian field crops will be emphasized. <b>Pre-requisite: AGN - 1240</b>	3
LVS2040	Beef Cattle Management (3-0-0 hrs)	This course deals with beef production from the birth to slaughter. The objective will be to prepare students to manage a cow/calf herd throughout the yearly cycle. Various options for marketing their calves including retained ownership will be investigated. Feedlot management principles will also be evaluated so participants will have an understanding of the whole value chain. Students will participate in calving rotations and feeding rotations. It is <b>recommended</b> students take the following elective courses before or while taking LVS 2070: LVS 2470 Livestock Health and Disease LVS 2370 Livestock Nutrition LVS 2570 Livestock Breeding Strategies	3
LVS2370	Livestock Nutrition (3-3-0 hrs)	2370 This course applies the principles of nutrition to livestock. It includes a discussion of nutrients, nutrient requirements, sources of nutrients and their cost. It also includes meeting the nutrient requirements of various livestock species through ration balancing. <b>Pre-requisite: LV-1370</b>	3
<b>TERM 3</b>			<b>(Total Credits:9)</b>
AGN2540	Range and Forage Crop Management (3-3-0 hrs)	This course focusses on the multifaceted forage crop and range management industry; identification, use and management of native and agronomic species in perennial ecosystems will be emphasized. Practical skills including utilizing plant keys, plant inventories, assessment of plant health, habitat and herbivore management are reviewed. A collection of native and agronomic plant species will be compiled into a manual for future reference. <b>Pre-requisite: AGN-1240</b>	3
AMT2020	Advanced Product Marketing (3-0-0 hrs)	This is an advanced course on marketing as it relates to profitable pricing decisions using breakeven information. There will be an opportunity to focus on a commodity of choice as it relates to the Canadian Grading System, strategic commodity sales and the creation of promotional materials. The development and presentation of an in depth marketing plan will demonstrate the importance of strategically pricing both inputs and outputs within an agricultural business. <b>Pre-requisite: AMT-1035 and AMT-1360</b>	3



## Olds College Agricultural Management - Production Major (60 credits required)

Course Codes, Descriptions, Course Hours (2018-19 Curriculum)

Course Code	Course Name	Course Description	Course Credits
AMT2035	Agribusiness Financial Management (3-0-0 hrs)	This is a course on business management practices and processes for decision making. The impact of money management on business performance is examined through the application of selected budgeting processes and business risk assessments. <b>Pre-requisite: AMT-1335</b>	3
ELECTIVE(S): Choose 2 courses from Term 3 Approved electives list below.			
<b>TERM 3 Approved Electives:</b>			<b>(Total Credits: 6)</b>
AGN2640	Principles of Soils and Crop Nutrition (3-2-0 hrs)	This course provides the learner with the principles of soil characteristics, soil fertility and fertilizer application. The learner will study chemical and physical soil properties, essential plant nutrients, soil testing, fertilizer types and application methods. Soil sampling techniques, interpretation of soil test reports, and development of fertilizer blends will be performed. <b>Pre-requisite: AGN-1240</b>	3
LVS2470	Livestock Health and Disease (3-3-0 hrs)	Students are instructed regarding basic concepts of livestock diseases including their causes, clinical signs, treatment and prevention. This course is intended for the Agricultural Management program. <b>Pre-requisite: LVS-1370</b>	3
LVS2570	Livestock Breeding Strategies (0-4-0 hrs)	This course will emphasize reproduction and genetic strategies with the objective to meet the goals for your breeding stock. Students will have the opportunity to concentrate on species of personal interest; as such there will be a requirement for significant self study and report writing. Participation in activities on the Olds College farm and trips to local livestock enterprises will be expected. <b>Pre-requisite: LVS-1370</b>	3
MEC2060	Precision Cropping Systems (3-0-0 hrs)	In this course selected electronic monitors and controllers used on tractors, seeders, sprayers and combines will be studied. Students will also become more familiar with equipment and software used in Precision Farming practices. <b>Pre-requisite: MEC-1050</b>	3
<b>TERM 4</b>			<b>(Total Credits: 6)</b>
AGN2740	Environmental Farm Management (3-1.5-0 hrs)	Agricultural production is held to increasingly high environmental standards. The challenges and opportunities for agriculture will be examined, particularly those management practices that relate to soil, water, air quality, and wildlife. A term project requires students to make an assessment of a farm operation and develop a practical management plan to improve farm sustainability. <b>Pre-requisite: AGN-1240</b>	3
AMT2630	Agribusiness Planning and Management (3-2-0 hrs)	This course allows the learner to integrate concepts from other agricultural management courses in the preparation and presentation of a business plan related to an agri-business or agri-value venture. <b>Pre-requisite: AMT-1035 and AMT-1335 and MKG-1021</b>	3
COM1030	Workplace Professionalism (3-0-0 hrs)	This course introduces students to strategies and techniques for managing self, interacting with others, advancing careers and making ethical decisions. Students develop action plans for professional success, create career documents to demonstrate strengths, skills and abilities and utilize an industry-specific case study to examine ethical issues.	3
MEC1490	Farmstead Management (3-3-0 hrs)	This course is a general overview of farmstead planning, structures and utility systems. Students study floor planning, building materials, foundations, framing types, technical drawings, environmental controls, electrical and gas, water and sewage systems. Safety, maintenance, relevant codes and environmental planning issues are also studied.	3
ELECTIVE: Choose 1 course from Term 4 Approved electives list below.			
<b>TERM 4 Approved Electives:</b>			<b>(Total Credits: 3)</b>
AGN1540	Introductory Pest Management (3-2-0 hrs)	Students will study the principles of pest management in agricultural cropping systems. They will learn the basic concepts of integrated pest management and principles guiding the safe use of pesticides. Learners will also focus on the identification of selected weeds, diseases and insects of field crops in western Canada. <b>Pre-requisite: AGN-1240 or PLS-1010 and SOI-1000</b>	3
AGN2240	Field Crop Management (3-3-0 hrs)	Students will explore advanced topics in field crop management. These will include plant growth and development under various environmental conditions, crop genetic improvement through plant breeding, Canadian agricultural production systems, harvesting, storage and quality evaluation of crops, and processing of crops for food and industrial by-products. Identification of Western Canadian field crops will be emphasized. It is recommended students take elective course AGN 1540 Introductory Pest Management before or while taking AGN 2240 Field Crop Management. <b>Pre-requisite: AGN-1240</b>	3
LVS2070	Beef Cattle Management (3-0-0 hrs)	This course deals with beef production from the birth to slaughter. The objective will be to prepare students to manage a cow/calf herd throughout the yearly cycle. Various options for marketing their calves including retained ownership will be investigated. Feedlot management principles will also be evaluated so participants will have an understanding of the whole value chain. Students will participate in calving rotations and feeding rotations. It is recommended students take the following elective courses before or while taking LVS 2070: LVS 2470 Livestock Health and Disease LVS 2370 Livestock Nutrition LVS 2570 Livestock Breeding Strategies	3
LVS2370	Livestock Nutrition (3-3-0 hrs)	This course applies the principles of nutrition to livestock. It includes a discussion of nutrients, nutrient requirements, sources of nutrients and their cost. It also includes meeting the nutrient requirements of various livestock species through ration balancing. <b>Pre-requisite: LVS-1370</b>	3

## OLDS College Agricultural Management - Production Major

Program Learning Outcomes (2018-19 Curriculum)

### Description

The Olds College Agricultural Management Diploma prepares graduates for entry into careers managing agricultural production, service and value-adding enterprises.

#### Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Communicate professionally with stakeholders.
2. Develop enterprise goals and plans.
3. Apply problem solving strategies throughout the agri-value chain.
4. Apply project management principles to achieve defined project outcomes.
5. Appraise the performance of self and others.
6. Apply business principles to achieve organization goals.
7. Assess local and global market opportunities.
8. Assess animal and plant production and processing systems.
9. Assess the use of technology in the production and processing of food and non-food agricultural products.
10. Develop business plans.
11. Solve problems relating to production and management.
12. Manage financial information and physical records for decision making.
13. Apply principles and practices of livestock production.
14. Apply principles and practices of crop production.
15. Implement marketing strategies.
16. Comply with regulatory requirements associated with production and management.
17. Practice land and water resource stewardship.
18. Manage ecological, economic, and social issues of production decisions and processes.
19. Manage agricultural development using appropriate technology.
20. Manage agricultural equipment.
21. Develop strategies to address production variability.
22. Implement risk management strategies.
23. Utilize technology associated with production and management.

## OLDS College Agricultural Management - AgriCommerce Major Diploma

Program Learning Outcomes

### Description

The Olds College Agricultural Management Diploma prepares graduates for entry into careers managing agricultural production, service and value-adding enterprises.

#### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Communicate professionally with stakeholders.
2. Develop enterprise goals and plans.
3. Apply problem-solving strategies throughout the agri-value chain.
4. Apply project management principles to achieve defined project outcomes.
5. Appraise the performance of self and others.
6. Apply business principles to achieve organization goals.
7. Assess local and global market opportunities.
8. Assess animal and plant production and processing systems.
9. Assess the use of technology in the production and processing of food and non-food agricultural products.
10. Develop business plans.
11. Analyze financial statements.
12. Assess the financial strength of an agri-business.
13. Assess the payment capacity of an agri-business.
14. Appraise strategic aspects of an agri-business.
15. Evaluate the strategic management practices of an agri-business.
16. Apply the principles of marketing to create a marketing mix.
17. Develop pricing strategies for value added activities.
18. Develop customer relationship management (CRM) strategies.
19. Utilize E-marketing strategies in the professional selling process.
20. Apply the sales process and professional selling skills.

## OLDS College Agricultural Management - Production Major

Program Learning Outcomes (2018-19 Curriculum)

### Description

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#### Learning Outcomes

Upon successful completion of this program, students will be able to:

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