

# Ag Power Technology

Associate in Applied Science

016

Division: Agriculture

Created: 11/21/2001 3:37:12 P

Revised: 4/24/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates of Ag Power Technology will be capable of attaining successful employment.	A) LLC yearly Occupational Follow-up Survey will reveal at least eighty percent of graduates will be employed in the Ag Power field.  B) Students will successfully complete SOE and receive average or above on the final SOE evaluation.  Beginning in 2003 Noel Levitz will be used  Expected mean for satisfaction will be 5.0 or greater	2003 level of satisfaction of graduate preparation was rated at a 5.5  A) 2002 report revealed 78% of 2002 graduates were employed in a related technically field, or in an ag related field. The other 22% went on to further their education.  B) Summer 2002 100% of the students successfully completed SOE.  67% of the students received above average and the remaining received average.	Will continue to monitor report  Individual student evaluation were discussed with student. Will continue to consult with the SOE evaluators for guidance in student preparation for full time employment and program requirements.
2	80 % Ag Power Technology graduates will be satisfied with the technical training they received at Lake Land College	A graduate exit survey will reveal that the graduate is satisfied with the technical training they received.	Graduate satisfaction in 2003 showed 85%  May 2002 graduate exit survey revealed that 88% were satisfied	Will strive to improve product knowledge to help the students meet their expectations
3	Graduates from the Ag PowerTechnology Associate in Applied Science degree program will be able to:  Perform necessary mathematical calculations to solve common problems related to agricultural mechanics.	Ag power students taking AGR040 final exam will achieve a 75% or greater.	2004 60% of students scored at or above 75%  2003 final exam resulted in 75% meeting the criteria  Fall 2002 final exam results revealed that 100% of Ag Power students obtained a 75% or greater.	Need to have students enrolled in class which is related to the Ag technology program  Students indicate that class size in relevant to learning  Will continue class and content.
3.2	Diagnose and repair electrical systems on agricultural equipment using a digital multi-meter and equipment service manuals.	80% of the students will be able to diagnose and repair electrical problems with the aid of a technical manual.	Fall 2003 83% of students were able to perform necessary skills  Fall 2002, 88% of the students were able to use the skills as needed	Will spend more time with basic circuits and diagnostic tools

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3.3	Diagnose and repair hydraulic systems and components on agricultural equipment given necessary tools and manuals.	80% of the students will answer the imbedded final exam questions regarding the diagnosis and repair of hydraulic systems.	2004 resulted in 76% of students correctly answering embedded questions  2003 resulted in 80% of students correctly answering embedded questions  Final in 2002 resulted in 78% of the students answering correctly all of the embedded questions
3.4	Diagnose and repair transmissions and related power train components on agricultural equipment given the necessary tools and manuals.	Students will successfully complete assigned equipment repair according to established checklist.	Fall 2003 90% of students were able to perform task as expected  Fall 2002 100% of the students were able to diagnose and repair transmissions as stated
3.5	Diagnose and repair gasoline and diesel engines and related components used on agricultural equipment with the necessary tools and manuals.	90% of the students will receive a 70% on the engine overhaul and specification checklist.	Spring 2004 100 % of the students successfully completed lab excersises and paper work  Spring 2003 90% of students obtained the skills to successfully to the lab excersices  Spring 2002 100% of the students were able to diagnose and repair engines.
3.6	Diagnose and repair air conditioning systems used for agricultural equipment given the necessary tools and manuals.	90% of the students will pass the EPA certification exam on air conditioning with first attempt.	Summer 2003-100% of the students achieved certification  Summer 2002—88% of the students achieved certification.

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3.7	Adjust, diagnose, and repair agricultural harvesting equipment given the necessary tools and manuals.	At the conclusion of AGR 086, 80% of the students will answer imbedded test questions regarding this criteria correctly.	Summer 2003 - 85% of studentds successfully answered embedded questions  Summer 2002- 78% of the students were able to answer correctly the embedded questions
3.8	Diagnose, tune up, and repair small engines that power equipment used on agricultural and lawn and grounds care equipment given the necessary tools and manuals.	90% of the students will receive a 70% on the small engine checklist	Fall 2003 95% or students completed list as specified  88% of the students were able to be successful on this project Fall 2002.  Continue to stress the importance of details in repairing engines  More lab time will be given to practice analysis of small engines, along with worksheets for guidance during 2003.
3.9	Diagnose improper of a diesel engine and determine if problem is fuel system related.	90% of AGR 087 students will successfully complete assigned equipment repair according to established checklist	2003 60% of students completed all assigned stations  2002, 67% of the students completed all assigned stations during the class. Remaining students were lacking 1 or more station assignments.  Will look at the number of stations, compared to the amount of time given for the class

# Ag Power Technology

## Certificate

920

**Division:** Agriculture

**Created:** 11/21/2001 3:37:12 P

**Revised:** 4/24/2003

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates from the AG Power Technology Associate in Applied Science degree program will be able to:  3a. Perform necessary mathematical calculations to solve common problems related to agricultural mechanics:	Use final exam results and ability to use math in other courses to evaluate math ability.	2003 no 920 students  Students have demonstrated both to us and their employers they possess the necessary math skills.	Continue to monitor classes and material
1	Graduates of Ag Power Technology will be capable of attaining successful employment.	LLC yearly Occupational Follow-up survey will reveal at least eighty percent of graduates will be employed in the Ag Power field.  1b. Students will successfully complete SOE and receive average or above on the final SOE evaluation.  Beginning in 2003 Noel Levitz will be used  Expected mean for satisfaction will be 5.0 or greater	2003 level of satisfaction of graduate preparation was rated at a 5.5  In 2002 report revealed 100% or 2002 graduates were employed in a related technical field, or in an ag related field.  1b. Spring 2002 100% of the students successfully completed SOE. 100% of the students received above average and the remaining received average.	Will continue to monitor report  Individual student evaluation were discussed with student. Will continue to consult with the SOE evaluators for guidance in student preparation and program requirements.
2	100% Ag Power Technology graduates will be satisfied with the technical training they received at Lake Land College.	A graduate exit survey will reveal that the graduate is satisfied with the technical training they received.	no 2003 920 graduates  May 2002 graduate exit survey revealed that 90% of the graduates were satisfied with their technical training at the completion of the program.	Will keep updating program to satisfy student training
3.1	Diagnose and repair electrical systems on agricultural equipment using a digital multi-meter and equipment service manuals.	80% of the students will be able to diagnose and repair electrical problems with the aid of a technical manual.	2004 100% were able to meet criteria  2003 no 920 students  Fall of 2002, 100% of the students were able to correctly use and read results of the electrical labs.	Continue to monitor progress of students in the program

# Ag Power Technology

## Certificate

920

**Division:** Agriculture

**Created:** 11/21/2001 3:37:12 P

**Revised:** 4/24/2003

<b>Mission</b>		<b>Goal</b>		
	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong		Provide career education including occupational, vocational, technical training for employment, advancement or career change	
3.2	Diagnose and repair hydraulic systems and components on agricultural equipment given necessary tools and manuals.	80% of the students will answer the imbedded final exam questions regarding the diagnosis and repair of hydraulic systems.	2004 100% answered questions correctly No 920 students  Final in 2002 resulted in 78% of the students answering correctly all of the embedded questions	Will continue to update material to meet todays market
3.3	Diagnose and repair transmissions and related power train components on agricultural equipment given the necessary tools and manuals.	lab-students will successfully complete assigned equipment repair according to established checklist.	2003 100% were able to complete assignments  2002 100% of the students were able to diagnose and repair transmissions and related power train components successfully.	Moniter class progress  The power trains lab and content of theory is sufficient to enable the student to successfully complete task. Will continue to monitor class and content
3.4	Diagnose and repair gasoline and diesel engines and related components used on agricultural equipment with the necessary tools and manuals.	90% of the students will receive a 70% on the engine overhaul and specification checklist.	2004 - 100% or the students completed necessary work  2003- 100% of the students were able to diagnose and repair engines	Continue to find support from area farmers for work in the class  The engines class and lab is sufficient to enable the students to be successful in the activity.
3.6	Adjust , diagnose, and repair agricultural harvesting equipment given the necessary tools and manuals	80% of the students will answer imbedded test questions regarding this criteria correctly.	2003 no 920 students  2002 - 80% of the students were able to answer the imbedded test questions correctly.	Will strive to focus more on equipment theory, and specific brands equipment to reach 85% in the coming year.
3.7	Diagnose, tune up, and repair small engines that power equipment used of agricultural and lawn and ground care equipment given the necessary tools and manuals.	90% of the students will receive a 70% on the small engine checklist.	2003 - 100% of students filled out sheets correctly  2002 no 920 students	Will go over checklist and explaing better means and necessity of filling out list correctly
3.8	Diagnose problems of a diesel engine and determine if problem is fuel system related.	90% students will successfully complete assigned equipment repair according to established checklist.	2003 - 60% students were successfully in completing the assigned equipment repair according to established checklist.  2002 no 920 students	Will review program criteria and adjust assigments according to time requirements

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## Certificate

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**Division:** Agriculture

**Created:** 11/21/2001 3:37:12 P

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4.5	Diagnose and repair air conditioning systems used for agricultural equipment given the necessary tools and manuals.	90% of the students will pass the EPA certification exam on air conditioning with first attempt.	2003 - no 920 students 2002 - 100% of students passed EPA exam	Will strive to focus on more theory study and application of tool use to attempt to achieve 100% in the following years.
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# Ag Professional Custom Application

Associate in Applied Science

020

**Division:** Agriculture

**Created:** 11/21/2001 3:42:13 P

**Revised:** 5/10/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates from the Ag Professional Custom Application program will be able to:  Acquire an understanding of plant growth.	A) 80% of the students will correctly answer 8 of 10 imbedded questions on the corn exam.  B) 80% of the students will correctly answer 8 of 10 imbedded questions on the soybean exam.	A) The student met the assessment goal.  B) The student met the assessment goal.	With only one student an accurate assessment is highly questionable. The changes made following the 2003 assessment will be continued for items 1A and 1B.
2	Demonstrate the ability to make good agronomic and economic decisions.	80% of the students will score a minimum of 19 of 24 points on the soil test project given in AGR 051.	The student fell short of the assessment goal.	More emphasis will be placed on explaining what interactions occur within the soil.
3	Express basic agriculture business competency skills in oral or written form.	80% of the students will score a minimum of 7 points out of 10 on the written value from the soil test project given in AGR 051.	The student exceeded the assessment goal.	No changes recommended.
3.1		80% of the students will score 17 points out of 20 points on presentation of pesticide project given in AGR 053.		More presentation opportunities will be given in class and a stronger recommendation for students to take SPE 111.
4	Acquire a working knowledge of the pesticides used in production agriculture.	All students will receive a rating of a 3 or higher on their final employer evaluations concerning the working knowledge of pesticides.	The student has yet to complete this class. Evaluation will occur in fall of 2004.	Waiting for results of SOE evaluations.
5	Develop an understanding of the Global Positioning concept and its use in production agriculture.	80% of the students will correctly answer 80% of imbedded test questions on the final exam in AGR 051.	Student will have this class in the fall of 2004. An evaluation will occur following the completion of the class.	Waiting for fall 2004 assessment.
6	Apply mathematical skills when making agronomic decisions.	80% of the students will score a minimum of 19 points out of 24 on the math value from the soil test project given in AGR 051.	The student fell short of the assessment goal.	More mathematical projects will be attempted during the class period.

# Agriculture Business

## Certificate

912

**Division:** Agriculture

**Created:** 11/21/2001 4:12:25 P

**Revised:** 5/18/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates from the Agriculture Business and Supply certificate program will be able to:  Express basic agriculture business competency skills in communication.	Students will be assessed on a final oral presentation and imbedded written discussion questions in Agricultural Salesmanship, (AGR 133). 90% of the students will score 70% or higher.	Two of the three certificate students scored 70% or less in the oral presentation.	The final oral presentation in AGR 133 along with embedded written discussion questions indicate a need to improve communication skills from 912 majors. Next years class will concentrate on areas needing improvement - persuasion, delivery and having a clear conclusion.
2	Apply appropriate mathematic skills required for agribusiness.	Use of imbedded questions in the final exam in AGR 123. 90% of the students will score 70% or higher.	67% of the students scored 70% or higher on the embedded Math questions in AGR 123. These questions were application of mathematics from the development of a grain trading exercise.	The instructor will continue to expand the trading exercise by increasing the number of transactions.
3	Demonstrate an understanding of agricultural fundamentals in the core agricultural areas of agronomy, animal science, agricultural economics, and business.	Employer will evaluate students' demonstration of general agriculture knowledge during Supervised Occupational Experience. 90% of the employers will rate students average or higher.	Student knowledge was rated at average or higher.	Employer believes that student knowledge is adequate for the SOE tasks.
4	Examine the basics of retailing, marketing, business analysis, and salesmanship.	Use of imbedded questions in the final exams in Retailing (AGR 132) and Marketing (AGR 123). 90% of the students will score 70% or higher.	Students in AGR 123 and AGR 132 scored 70% or higher on the embedded question in Ag Marketing and Ag Retailing.	Students successfully met the standards for basics in Marketing and Retailing.
5	Illustrate a logical approach of a dilemma at an internship site.	By discussion during the supervisory visit the coordinating instructor will assess the student's recognition of a dilemma and how the dilemma was reconciled. A rubric will be used to evaluate with 90% of the student scoring 70 or higher.	This rubric for the evaluation of a student dilemma at the internship site is used during SOE visits. Students successfully recognized and reconciled dilemmas.	Students' recognition and reconciliation of a dilemma will continue to be emphasized.

# Agriculture Business

## Certificate

912

**Division:** Agriculture

**Created:** 11/21/2001 4:12:25 P

**Revised:** 5/18/2004

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6	Demonstrate skill in prioritizing during Supervised Occupational Experience.	Survey employers regarding the students' use of prioritizing during Supervised Occupational Experience. 90% of the employers will rate the prioritizing skill at average or higher.	Employer Evaluation rated prioritization as average or higher for this student.	"Skill in prioritization" results indicated no further changes.
7	Differentiate the organizational roles within the workplace including management, supervisory, and other agribusiness employees.	Employers will rate the students during the Supervised Occupational Experience on the Employer Evaluation concerning their "understanding of the operation". 90% of the employers will rate this area of the evaluation as average or higher.	Assessment of students' "understanding of the operation" was rated as average or higher.	Rating for "students' understanding of the operation" was average or higher.
8	Express an understanding of computers and awareness of agricultural software.	Use of a final project in AGR 111, Ag Software. 90% of the participants will be proficient in their use and score 70% or higher.	100% of the students were higher than 70% on the final project in AGR 111, Ag Software.	The course continues to evolve with changing software for the agriculture industry.

# Agriculture Business and Supply

Associate in Applied Science

012

Division: Agriculture

Created: 11/21/2001 4:04:11 P

Revised: 5/18/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	<p>Graduates from the Agriculture Business and Supply Associate in Applied Science degree program will be able to:</p> <p>Express basic agriculture business competency skills in oral and written communication.</p>	<p>Students will be assessed on a final oral presentation and imbedded written discussion questions in Agricultural Salesmanship, (AGR 133). 90% of the students will score 70% or higher.</p>	<p>84.6% of the students scored 70% or higher in the oral presentation. The lowest area of evaluation was that of keeping eye contact and enthusiasm during the presentation.</p>	<p>While most students were satisfactory on the oral presentations those students not reaching the 70% mark were especially lower on "Delivery and Voice Quality" which will be focused on next year.</p>
2	<p>Apply appropriate mathematic skills required for agribusiness.</p>	<p>Application of a mathematics artifact in AGR 123. 90 % of the students will score 70% or higher.</p>	<p>90% of the students scored 70% or higher on the embedded Math questions in AGR 123. These questions were application of mathematics from the development of a grain trading exercise.</p>	<p>The instructor in AGR123 will continue to expand the "Trading Exercise" by increasing the number of classroom transactions to allow students to replicate these transactions prior to examination.</p>
3	<p>Demonstrate an understanding of agricultural fundamentals in the core agricultural areas of agronomy, animal science, agricultural economics, and business.</p>	<p>Employer will evaluate students' demonstration of general agriculture knowledge during Supervised Occupational Experience. 90% of the employers will rate students average or higher.</p>	<p>Results of the Spring 2004 Supervised Occupational Experience indicated that 92% of the employers rated student knowledge in this program as average or higher.</p>	<p>Results at this time indicate that most employers believe that students in the 012 program have the knowledge to effectively work in these internship positions. The staff will continue to articulate with major universities and agriculture advisory council of the evolving learning standards of Ag Business majors.</p>
4	<p>Assess the structure and management of agribusinesses including the understanding of retailing, marketing, and salesmanship.</p>	<p>Use of imbedded questions in the final exams in Retailing (AGR 132), Marketing (AGR 123), and Salesmanship (AGR 133). 90% of the students will score 70% or higher.</p>	<p>94% of the students in AGR 123 and 90% of the students in AGR 132 scored 70% or higher on the embedded question in Ag Marketing and Ag Retailing. The lower scores resulted from evaluation of a completed balance sheet.</p>	<p>The classroom time on discussion of hedging will continue to be increased.</p>

# Agriculture Business and Supply

Associate in Applied Science

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Division: Agriculture

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5	Prepare accurate agribusiness records for the purposes of accounting, financing, and business analysis.	Use of the results of the Cash Flow project in AGR 131, Ag Business Finance. 90% of the students will score 70% or higher.	86% of the students scored 70% or higher on the cash flow activity in AGR 131 and 133. Students completion of the top 2/3 of the document was accurate but had difficulty in the bottom portion of the Cash Flow considered to be the reconciliation of that particular document.	Again the difficulty of this document came from the reconciliation or analysis portion of the Cash Flow. Increased time was and will be dedicated to analysis in future classes. Next year's class will continue to increase the amount of time on the computer applications of Cash Flow and the development of the templates to perform the analysis portion.
6	Demonstrate skill in prioritizing during Supervised Occupational Experience.	Survey employers regarding the students' use of prioritizing during Supervised Occupational Experience. 90% of the employers will rate the prioritizing skill at average or higher.	"Students Use of Prioritization" was evaluated and over 92% of the employers rated the prioritizing skill at average or higher.	Employers believe that students make adequate use of prioritization.
7	Identify risk and conflict in management decisions.	By discussion during the supervisory visit the coordinating instructor will assess the student's recognition of a dilemma and how the dilemma was reconciled. A rubric will be used to evaluate with 90% of the student scoring 70 or higher.	This rubric for the evaluation of a student dilemma at the internship site and how the student handled the dilemma is utilized by staff during Student SOE visits. Students successfully recognized and reconciled dilemmas.	The results of the Student Dilemma Rubric indicator students successful recognition of a dilemma.
8	Demonstrate an understanding of the operation of the agribusiness, sales and marketing, and public relation skills required to succeed through participation in the SOE internship.	Employers will rate the students concerning their understanding of the business and the necessary skills to succeed. 90% of the employers will rate this awareness skill as average or higher.	During Spring 2004 SOE 100% of the employers rated students as average, above average, or excellent for their understanding of the business and understanding of the skills necessary to succeed. This was evidenced in not only the written evaluation but also from their personal visit comments about the student's awareness and understanding.	Staff will continue to emphasize to students prior to internship the need to fully understand the business at which they are placed and the skill set essential to operate effectively in that company or business.

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# Agriculture Business and Supply

012

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*Associate in Applied Science*

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9 Express an understanding of computers and awareness of agricultural software.

Use of a final project in AGR 111, Ag Software. 90% of the participants will be proficient in their use and score 70% or higher.

Over 90% of the participants scored 70% or higher on the final project in AGR 111, Ag Software.

All agriculture instructors incorporating the use of computers in the classroom will continue to challenge students with meaningful projects evolving the computer application skills.

# Agriculture Production Management

Associate in Applied Science

014

**Division:** Agriculture

**Created:** 11/21/2001 4:18:02 P

**Revised:** 5/13/2004

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**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Demonstrate an awareness of farm safety and the safe operation of farm implements.	Use of imbedded questions in the final exam of AGR 049. 90% of the students will score 70% or higher.	88% of the students scored 75% or higher on the imbedded questions from AGR049.	The questions used for assessment were revised from the previous year. 88% of the students assessed missed the same question suggesting some ambiguity in the wording of the question. This question will be improved for upcoming assessments.
2	Demonstrate an understanding of livestock fundamentals in the core areas of breeds, selection, genetics, reproduction, animal products, nutrition, and health.	Use of a final project in AGR 063. 90% of the students will score 70% or higher.	97% of the students scored 75% or higher on the project in AGR063.	The project involved the formulation of properly balanced nutritional diets for livestock. The results are greatly improved from the previous year's assessment. More classroom discussion was devoted to this topic and the improved scores suggest a continuation of this format.
3	Demonstrate an understanding of commodities and marketing	Use of imbedded questions in the final exam of AGR 123. 90% of the students will score 70% or higher.	71% of the students scored 70% or higher on the imbedded questions from AGR 123.	The embedded questions used for this assessment dealt with a practical marketing problem. These results were a significant improvement over last year's assessment. More classroom emphasis will be placed on calculating commodity trading balances.
4	Prepare accurate records for the purpose of accounting and financing.	Use of final project in AGR 124. 90% of the students will score 70% or higher.	81% of the students scored 70% or higher on the project from AGR 124.	The project used for assessment dealt with formulating a balance sheet and income statements. These results were a significant improvement over last year's assessment. More emphasis will be placed on evaluation of company year-end reports.

# Agriculture Production Management

Associate in Applied Science

014

Division: Agriculture

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Revised: 5/13/2004

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5	Express basic agriculture competency skills in oral and written communication.	Students will be assessed using a rubric developed for oral and written presentation in AGR 051. 90% will score 70% or higher.	100% scored 70% or higher on the rubric used to evaluate their projects in AGR 051.	The project used for assessment dealt with a written paper that was then orally presented to the class. The assessment tool was changed from the previous year when results were lower than expected. Another year of assessment is required to reach adequate conclusions.
6	Express an understanding of computers and awareness of agriculture software.	Use of final project in AGR 111. A rubric will be used to evaluate. 90% of the participants will be proficient in their use and score 70% or higher.	100% of the students scored 80% or higher on the rubric used to evaluate their final projects in AGR 111.	These results were very positive but also reflect a change in instructor in AGR 111 and a different rubric design. Another year of assessment may be needed for appropriate conclusions.
7	Demonstrate an understanding of the operation of a farm enterprise, skills and knowledge application, and use of technologies.	Employers will rate the students concerning their understanding of the farm enterprise. 90% will rate these awareness skills as average or higher.	Of the employers who responded in Spring 2004, 100% rated students of the Agriculture Production Management program average or higher for their understanding of the farming operation.	These results suggest that employers of Agriculture Production Management students are satisfied with their understanding of farming operations. The staff will continue to monitor the students' progress.
8	Identify risk and conflict in management decisions.	Employers will rate the students concerning their adaptability and management skills. 90% will rate these skills as average or higher.	Of the employers who responded in Spring 2004, 100% rated students of the Ag Production Management program average or higher for adaptability and management skills.	These results suggest that in the employers mind, these students were well prepared to encounter risk and dilemma during their supervised occupational experience. The agriculture staff will continue to monitor the student's progress.
9	Apply appropriate mathematic skills required for agriculture production.	Use of imbedded questions in the final exam in AGR 051. 90% of the students will score 70% or higher.	70% of the students scored 70% or higher on the imbedded questions from AGR 051.	Basic mathematic conversions were used as a means of assessment. 30% of the students did not meet the targeted score of 70%. The assessment results suggest that greater emphasis be placed on coping with mathematic conversions and basic math skills in class assignments.

# Agriculture Transfer

Associate in Science

210

**Division:** Agriculture

**Created:** 11/21/2001 4:01:43 P

**Revised:** 5/6/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide pre-baccalaureate education consisting of liberal arts, sciences, and pre-professional courses designed to transfer to four-

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Demonstrate a proficiency in each of the five agriculture transfer courses (economics, animal science, crops, soils, and mechanization).	<p>*See general education assessment criteria.</p> <p>Use embedded test questions in final examinations to measure students' knowledge in agriculture economics, animal science, crops, soils, and mechanization. 70% of the students taking the exams will score 70% or higher.</p>	AGR 207 (Ag Econ) and AGR 205 (Soils) were assessed in 2003. As a result of those assessments, changes were made to the Ag Econ course to put more emphasis on costs, profit maximization and loss minimization. No changes were warranted for Soils. AGR 204 (Crops) was assessed in the Spring 2004 semester. 65% of the class scored 70% or higher on an embedded test question. Animal Science (AGR 206) and Ag Mechanization (AGR 208) will be assessed in the fall 2004 Semester.	In AGR 204 (Crops) more emphasis will be placed on the importance of soil structure and organic matter in plant growth.
2	Prepare students to transfer to a four-year university to continue an agriculture education.	Survey the Agriculture Transfer students to determine their acceptance to a four-year university. Ninety-five percent of those surveyed will be accepted.	100% of the Agriculture Transfer students were accepted to the four year university of their choice.	

# Crop Production

## Certificate

914

**Division:** Agriculture

**Created:** 10/29/2002

**Revised:** 5/10/2004

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**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates from the Crop Production certificate program will be able to:  Acquire an understanding of plant growth.	1A. 80% of the students will correctly answer 8 of 10 imbedded questions on the corn production exam.  1B. 80% of the students will correctly answer 8 of 10 imbedded questions on the soybean production exam.	1A. The student correctly answered 7 of the 10 imbedded questions.  1B. The student correctly answered 6 of the 10 imbedded questions.	It is very difficult to accurately assess this program with only one person seeking this certificate. In both items 1A and 1B the student struggled with growth stages. More emphasis will be placed on the importance of growth stages.
2	Demonstrate the ability to make good agronomic and economic decisions.	80% of the students will score a minimum of 19 of 24 points on the soil test project given in AGR051.	The student fell short of the assessment goal.	More opportunities will be given for students to make management decisions.
3	Express basic agriculture business competency skills in oral and written form.	3A. 80% of the students will score a minimum of 7 of 10 points on the written value from the soil test project given in AGR 051.  3B. 80% of the students will score 17 out of 20 points on the presentation pesticide project given in AGR053.	3A. The student has met the assessment goal.  3B. The student has yet to complete this class.	3A. No changes are anticipated at this time.  3B. Evaluation will occur in fall 2004.
4	Acquire a working knowledge of the pesticides used in production agriculture.	80% of the students will receive a rating of 3 or higher on their final SOE evaluations concerning their knowledge of pesticides.	The student has yet to complete this class.	Evaluation will occur in fall of 2004.
5	Apply mathematical skills when making agronomic decisions.	80% of students will score a minimum of 19 of 24 points on the math portion of the soils test project given in AGR 051.	The student fell short of the goal.	Small errors were made during the calculations. Extra classroom projects will be given.

# Horticultural Production & Landscape

018

**Division:** Agriculture

**Created:** 12/8/2003 7:35:47 AM

*Associate in Applied Science*

**Revised:**

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates from the Horticultural Production and Landscape program will be able to:  Express basic horticulture competency skills in communication.	Students will be assessed on a final oral presentation prior to program completion. 90% of the students will score 70% or higher.	Assessment results will be tabulated annually, commencing with the last semester of the first graduating class. Results from the student submitted portfolio will be reviewed and evaluated by the horticulture assessment committee consisting of horticulture faculty and the Agriculture Division Chairman.	Each outcome will be evaluated singly and programmatically in the case of the portfolio. If results do not sufficiently meet the assessment criteria, targeted program changes and enhancements will be made to address program weaknesses and to facilitate continuous quality program improvements.
2	Apply appropriate mathematic skills required for the horticulture industry.	Use of mathematic application questions imbedded in the final horticulture course. 90% of the students will score 70% or higher.		
3	Demonstrate an understanding of horticultural fundamentals in the core horticulture areas.	Employers will evaluate students' demonstration of general horticulture knowledge during the final student internship, Supervised Occupational Experience III. 90% of the employers will rate students knowledge average, above average, or excellent.		
4	Examine the basics of horticulture and salesmanship.	Use of imbedded questions in the final exams during the last semester and prior to graduation. 90% of the students will score 70% or higher.		
5	Illustrate a logical approach of a dilemma at an internship site.	By discussion during the supervisory visit the coordinating instructor will assess the student's recognition of a dilemma and how the dilemma was reconciled. A rubric will be used to evaluate with 90% of the students scoring 70% or higher.		

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# Horticultural Production & Landscape

018

**Division:** Agriculture

**Created:** 12/8/2003 7:35:47 AM

**Revised:**

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*Associate in Applied Science*

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

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| 6 | Demonstrate skill in prioritizing during Supervised Occupational Experience.  | Following the final student internship, employers will be surveyed regarding the students' use of prioritizing during their internship or Supervised Occupational Experience. 90% of the employers will rate the prioritizing skill at average, above average, or excellent. |
| 7 | Differentiate the organizational roles within the workplace including management, supervisory, and other horticultural employees. | Employers will rate the students during the Supervised Occupational Experience on the Employer Evaluation concerning their "understanding of the operation". 90% of the employers will rate this area of the evaluation as average or higher.                                |
| 8 | Demonstrate personal organization as a life-long learning objective.  | Presentation of a student's portfolio prior to graduation containing the documentation for the first 7 assessment criteria.  |

# Horticulture

## Certificate

919

**Division:** Agriculture

**Created:** 10/29/2003 11:37:21 A

**Revised:** 5/18/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates from the Horticulture certificate program will be able to:  Express basic horticulture competency skills in communication.	Students will be assessed on a final oral presentation and imbedded written discussion questions in Agricultural Salesmanship, (AGR 133). 90% of the students will score 70% or higher.	Only two Horticulture 919 majors were enrolled in Agricultural Salesmanship (AGR 133). Both students were below the 70% target.	Due to lower scores in presentation, eye contact and enthusiasm, the course will be edited to include additional concentration on delivery.
2	Apply appropriate mathematic skills required for the horticulture industry.	Use of imbedded questions in the final exam in Soil Fertility (AGR 051) class. 90% of the students will score 70% or higher.	100% of the students reached the criteria on the fertility exam.	Continued emphasis on math applications relating to horticulture in "Soil Fertility" class.
3	Demonstrate an understanding of agricultural fundamentals in the core horticulture areas.	Employer will evaluate students' demonstration of general agriculture knowledge during Supervised Occupational Experience. 90% of the employers will rate students average or higher.	75% of employers rated the students as average or higher in both acquisition and application of knowledge.	In the first year of the program we will address this need in the advisory council and seek curricular improvements.
4	Examine the basics of horticulture and salesmanship.	Use of imbedded questions in the final exams in (HRT 201). 90% of the students will score 70% or higher.	90% of the students scored 70% or higher on imbedded exam questions.	HRT 201 will continue to offer the horticulture fundamentals.
5	Illustrate a logical approach of a dilemma at an internship site.	By discussion during the supervisory visit the coordinating instructor will assess the student's recognition of a dilemma and how the dilemma was reconciled. A rubric will be used to evaluate with 90% of the student scoring 70 or higher.	100% of the students scored 70% or higher on "Recognition and reconciliation of a dilemma."	Students are successfully reconciling a dilemma during internships.
6	Demonstrate skill in prioritizing during Supervised Occupational Experience.	Survey employers regarding the students' use of prioritizing during Supervised Occupational Experience. 90% of the employers will rate the prioritizing skill at average or higher.	75% of employers rated the students with average or higher prioritization skills.	Prioritization discussion and exercise will be added to "Intro to Horticulture".

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# Horticulture

## Certificate

919

**Division:** Agriculture

**Created:** 10/29/2003 11:37:21 A

**Revised:** 5/18/2004

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**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

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|---|---|---|---|--|
| 7 | Differentiate the organizational roles within the workplace including management, supervisory, and other horticultural employees. | Employers will rate the students during the Supervised Occupational Experience on the Employer Evaluation concerning their "understanding of the operation". 90% of the employers will rate this area of the evaluation as average or higher. | 75% of the employers rate the students as average or higher concerning understanding of the internship operation. | Students will be encouraged to attend a one day job shadowing at the internship location prior to the beginning of work with an emphasis on understanding the operation. |
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# John Deere Ag Sales

Associate in Applied Science

013

**Division:** Agriculture

**Created:** 1/15/2002 1:23:18 PM

**Revised:** 5/6/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates of the John Deere Ag Sales program will have the sales knowledge necessary to be employed as John Deere dealership salespersons.	All graduates of the John Deere Ag Sales program will be surveyed concerning their satisfaction with the training they received at Lake Land College. The survey will specify if the student received the sales training necessary to become an entry-level John Deere salesperson. 90% of the respondents will respond positively.	100% of students surveyed indicated that S.O.E. was helpful in sales training but more John Deere corporate sponsored sales classes would be an improvement.	The John Deere Company continued to sponsor Sales and Financial classes at Lake Land College in the Spring of 2004.
2	Graduates of the John Deere Ag Sales program, employed as John Deere salespersons, will be sales motivated as judged by their respective employer.	John Deere dealers employing Lake Land College Ag Sales graduates will be surveyed concerning their satisfaction with the sales training received by the employee. The survey will specify if the student possessed the sales knowledge necessary to become an entry-level John Deere salesperson. Eighty percent of the respondents will respond positively.	All John Deere dealers surveyed indicate that students were ready for entry-level sales positions only after the third S.O.E.	
3.1	Graduates from the John Deere Ag Sales program will be able to:  3.1) Communicate effectively with clients in order to sell equipment.	Survey employing dealers to determine if the Lake Land College Ag Sales graduate can effectively communicate with clients.	Dealers surveyed state that Ag Sales students can communicate with clients	
3.2	Describe the operation of current John Deere equipment.	Survey employing dealers to determine if the Lake Land College Ag Sales graduate can describe the operation of current equipment.	Dealers surveyed indicate that students were adequately prepared to discuss the operation of equipment.	
3.3	Outline the different financial options available to clients who purchase equipment.	Survey employing dealers to determine if the LLC Ag Sales graduate can outline the different financial options available to clients who buy equipment.	Each dealership surveyed had a slightly different mode of operation. The dealers also indicated that more John Deere corporate sponsored finance options classes would be helpful.	The John Deere Company continued to sponsor Sales and Financial classes at Lake Land College in the Spring of 2004.

# John Deere Ag Tech

Associate in Applied Science

017

**Division:** Agriculture

**Created:** 11/28/2001 10:36:03 A

**Revised:** 3/19/2004

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates of the John Deere Ag Tech program will possess the technical knowledge necessary to be successfully employed as John Deere dealership technicians.	<p>Graduates of the John Deere Ag Tech program will be surveyed concerning their satisfaction with their technical training.</p> <p>The college student satisfaction questionnaire will be used. Results will be tabulated summer semester.</p> <p>Beginning summer of 2003 Noel Levitz to be used</p> <p>Expected mean for satisfaction will be 5.0 or greater</p>	<p>Summer 2003 - level of satisfaction of graduate preparation was rated 6.0 on a 7.0 scale.</p> <p>Summer 2002 - 100% of the students surveyed responded positively.</p>	Maintain present standards.
2	Graduates of the John Deere Ag Tech program, employed as John Deere dealership technicians, will be technically proficient as judged by their respective employers.	John Deere dealers employing Lake Land College Ag Tech graduates will be surveyed. The survey will specify if the student possessed the technical knowledge necessary to become an entry level John Deere technician. The survey will be given at the end of the final SOE period. Eighty percent of respondents will respond positively.	<p>Spring 2003 - 97 % of the dealers responded positively.</p> <p>Spring 2002 - 86% of the dealers responded positively.</p>	<p>2003 - Comments specific to certain models and/or systems will be addressed in respective areas</p> <p>2002 - One dealer responded negatively. The student employed by this dealership performed marginally in the classroom as well.</p>
3	<p>Graduates from the John Deere Ag Tech program will be able to:</p> <p>Communicate effectively in an agriculture dealership service environment through the proper use of verbal and written techniques.</p>	Survey employing dealers during all SOE periods to check student interaction and communication with other employees and customers.	<p>2003 - 100% of the dealers surveyed indicated that their student possessed the communication skills necessary.</p> <p>2002 - 86% of the dealers surveyed indicated that their student possessed the communication skills necessary.</p>	<p>2003 - One dealer indicated that his student needs to be more aware of comments made to customers. More emphasis will be placed on awareness of customer communications.</p> <p>2002 - Maintain emphasis on written and oral communications.</p>

# John Deere Ag Tech

Associate in Applied Science

017

**Division:** Agriculture

**Created:** 11/28/2001 10:36:03 A

**Revised:** 3/19/2004

<b>Mission</b>	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong	<b>Goal</b>	Provide career education including occupational, vocational, technical training for employment, advancement or career change
3.1 Demonstrate the ability to perform mathematical operations pertinent to an agricultural equipment dealership service program.	100% of John Deere Ag Tech students taking Ag Math final exam will achieve a minimum score of 75%.		Fall 2004---44% of students scored at or above 75% Fall 2003 ---69% of students scored at or above 75% Fall 2002---42% of students scored at or above 75% Fall 2001---67% of students scored at or above 75% Fall 2000---50% of students scored at or above 75% 2004 - student comments indicate that smaller class size could improve results 2003 - noticeable improvement of incoming student's math skills 2001-2002 Investigate the possibility of raising the entrance requirements.
3.2 Diagnose and repair electrical systems on current John Deere equipment using a digital multimeter and equipment technical manuals.	At the conclusion of JDA080 and JDA082 80% of the students will be able to diagnose and repair electrical failures using established electrical test equipment and technical information. Results of dealer surveys will be used to evaluate students' abilities in using electrical test equipment. Surveys are distributed during final SOE.		Spring 2003---100% of the students demonstrated abilities as stated --100% of dealers responded positively Spring 2002---100% of the students demonstrated abilities as stated ---83% of dealers responded positively 2003 - One dealer did comment that more time is needed on planter monitors. His student received the same training as all of those who responded positively. 2002 - One student's performance was unsatisfactory. This particular student's performance was minimally satisfactory during the entire program despite repeated warnings. Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.

<b>Mission</b>	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong	<b>Goal</b>	Provide career education including occupational, vocational, technical training for employment, advancement or career change
3.3 Diagnose and repair hydraulic systems on current John Deere equipment using necessary measuring devices and equipment technical manuals.	At the conclusion of JDA091 and JDA092 80% of the students will be able to diagnose and repair hydraulic failures using established hydraulic test equipment and technical information. Results of dealer surveys will be used to evaluate students' abilities in using hydraulic test equipment. Surveys are distributed during final SOE.	Fall 2003---100% of the students demonstrated abilities Fall 2002---75% of the students demonstrated abilities ---100% of dealers responded positively Fall 2001---100% of the students demonstrated abilities as stated ---100% of dealers responded positively	Spring 2003 - -Three students did not demonstrate the abilities in the classroom. Their dealers indicated that these skills were satisfactory.  Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.
3.4 Diagnose and repair power train systems on current John Deere equipment using the proper tools and equipment technical manuals.	At the conclusion of JDA071 and JDA072 80% of the students will be able to diagnose and repair power trains using established tools, equipment and technical information. Results of dealer surveys will be used to evaluate students' abilities in using power train tools and equipment. Surveys are distributed during final SOE.	Summer 2003---100% of the students demonstrated abilities as stated Summer 2002---100% of the students demonstrated abilities as stated Spring 2003---100% of dealers responded positively Summer 2001---100% of the students demonstrated abilities as stated ---100% of dealers responded positively	Spring 2003--25% of dealers indicated that they had not provided the student with an opportunity to perform this work. Instructors will urge dealers to provide this opportunity.  Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.

# John Deere Ag Tech

Associate in Applied Science

017

Division: Agriculture

Created: 11/28/2001 10:36:03 A

Revised: 3/19/2004

Mission	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong	Goal	Provide career education including occupational, vocational, technical training for employment, advancement or career change
3.5 Diagnose and repair engine systems on current John Deere equipment using the proper tools and equipment technical manuals.	At the conclusion of JDA050 and JDA087 80% of the students will be able to diagnose and repair engine and fuel systems using established test equipment and technical information. Results of dealer surveys will be used to evaluate students' abilities in using engine and fuel system test equipment. Surveys are distributed during final SOE.	Fall 2003---100% of the students demonstrated abilities as stated  Fall 2002---91% of the students demonstrated abilities as stated  Spring 2003--100% of the dealers responded positively  Fall 2001---88% of the students demonstrated abilities as stated  Spring 2002--100% of the dealers responded positively	Spring 2002--One student did not demonstrate the abilities in the classroom. His dealer indicated that these skills were not applicable to his work experience.  Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.
3.6 Diagnose and repair air conditioning systems on current John Deere equipment using the proper tools and equipment technical manuals.	100% of the students will achieve EPA certification at the conclusion of JDA094 Results of dealer surveys will be used to evaluate students' abilities to diagnose and repair air conditioning systems. Surveys are distributed during final SOE.	Summer 2003 - 100% of the students passed EPA certification exam  Summer 2002---100% of the students passed EPA certification  Spring 2003 - 100% of dealers responded positively  Summer 2001---86% of the students passed EPA certification  Spring 2002--100% of dealers responded positively	Spring 2003 - 58% of students were given the opportunity to practice these skills at the dealership. Instructors will continue to urge dealers to provide A/C work.  Spring 2002 - only 14% of students were given the opportunity to practice these skills at the dealership. Instructors will communicate to dealers the need for air conditioning system repair opportunities.

Mission	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong	Goal	Provide career education including occupational, vocational, technical training for employment, advancement or career change
3.7 Describe the operation and perform adjustments to current John Deere combines.	During JDA086, 100% of the students will demonstrate the ability to adjust and repair combines, corn heads, and grain platforms according to operator's manual. Results of dealer surveys will be used to evaluate students' abilities to adjust and repair combines, corn heads, and grain platforms according to operator's manual. Surveys are distributed during final SOE	<p>Fall 2002 - 87% of the students demonstrated abilities as stated</p> <p>Fall 2001---93% of the students demonstrated abilities as stated</p> <p>Spring 2003 - 100% of dealers responded positively</p> <p>Fall 2000---80% of the students demonstrated abilities as stated</p> <p>Spring 2002 - 93% of dealers responded positively</p>	<p>Spring 2004 - One student dropped out of the program</p> <p>Spring 2003 - One student dropped out of the program</p> <p>Spring 2002 - One student's performance was unsatisfactory. This particular student's performance was minimally satisfactory during the entire program despite repeated warnings.</p> <p>Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.</p>
3.8 Describe the operation and perform adjustments to current John Deere planting equipment.	At the conclusion of JDA051 100% of the students will be able to perform adjustments and make necessary repairs on planting equipment according to operator's and technical manuals. Results of dealer surveys will be used to evaluate students' abilities to perform adjustments and make necessary repairs on planting equipment according to operator's and technical manuals. Surveys are distributed during final SOE.	<p>Spring 2003 - 100% of the students remaining in the program demonstrated abilities as stated</p> <p>Spring 2002---91% of the students demonstrated abilities as stated</p> <p>Spring 2003- 100% of dealers responded positively</p> <p>Spring 2001---86% of the students demonstrated abilities as stated</p> <p>Spring 2002---86% of dealers responded positively</p>	<p>Spring 2003 -one student did not demonstrate the abilities in the classroom. His dealer indicated that these skills were satisfactory.</p> <p>Spring 2002 - One dealer responded negatively. The student employed by this dealership performed marginally in the classroom as well.</p> <p>Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.</p>

# John Deere Ag Tech

Associate in Applied Science

017

**Division:** Agriculture

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**Revised:** 3/19/2004

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3.9 Describe the operation and perform adjustments to current John Deere lawn and grounds equipment.

At the conclusion of JDA053 100% of the students will be able to make adjustments and repairs on commercial and consumer equipment according to operator's and technical manuals.  
Results of dealer surveys will be used to evaluate students' abilities to perform adjustments and make necessary repairs on commercial and consumer equipment according to operator's and technical manuals. Surveys are distributed during final SOE.

Fall 2003 - 83% of the students demonstrated abilities as stated

Fall 2002 --- 100% of the students remaining in the program demonstrated abilities as stated

Spring 2004 -

Fall 2001 ---100% of students performed tasks as stated

Spring 2003 - 100 % of dealers responded positively

Fall 2000 ---100% of students performed tasks as stated

Spring 2002 - 100% of dealers responded positively

Spring 2003 - Two dealer comments - more on older models and more on fuel systems. Class content is limited by time and available equipment

Class content will be revised upon recommendation of John Deere advisory council to keep pace with technological changes.

# Livestock Production

918

**Division:** Agriculture

**Created:** 1/15/2002 1:35:36 PM

**Revised:** 5/14/2004

## Certificate

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Demonstrate an awareness of farm safety and the safe operation of farm implements.	Use of imbedded questions in the final exam of AGR 049. 90% of the students will score 70% or higher.	88% of the students scored 75% or higher on the imbedded questions from AGR049.	88% of the students answered incorrectly on the same question suggesting some ambiguity in the wording. The question will be reviewed for next year.
2	Demonstrate an understanding of livestock fundamentals in the core areas of breeds, selection, genetics reproduction, animal products, nutrition, and health.	Use of final project in AGR 063. 90% of the students will score 70% or higher.	97% of the students scored 75% or higher on the project in AGR063.	The project involved the formulation of properly balanced nutritional diets for livestock. The results suggest a strong knowledge of the topic.
3	Demonstrate an understanding of livestock commodities and marketing of animal products.	Use of imbedded questions in the final exam of AGR 123. 90% of the students will score 70% or higher.	71% of the students scored 70% or higher on the embedded questions from AGR123.	The embedded questions used for this assessment dealt with a practical marketing problem. More classroom emphasis will be placed on calculating commodity trading balances.
4	Prepare accurate records for the purpose of accounting and financing.	Use of embedded questions in the final exams of AGR 124. 90% of the students will score 70% or higher.	81% of the students scored 70% or higher on the project from AGR124.	The project used for assessment dealt with formulating a balance sheet and income statements. These results suggest that more emphasis be placed on evaluation of company year-end reports.
5	Express basic agriculture competency skills in oral and written communication.	Students will be assessed on oral and written presentation in AGR124. A rubric will be used to evaluate and 90% of the students will score 70% or higher.	81% scored 70% or higher on the rubric used to evaluate their projects in AGR124.	These results suggest that more time be devoted to class exercises dealing with written and oral communication.
6	Express an understanding of computers and awareness of agriculture software.	Use of final project in AGR 111. 90% of the participants will be proficient in their use and score 70% or higher.	100% of the students scored 80% or higher on the rubric used to evaluate their final projects in AGR111.	These results were very positive but reflect a change in instructor and a different rubric design. Another year of assessment may be needed for adequate conclusions.

# Livestock Production

## Certificate

918

**Division:** Agriculture

**Created:** 1/15/2002 1:35:36 PM

**Revised:** 5/14/2004

Mission	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong	Goal	Provide career education including occupational, vocational, technical training for employment, advancement or career change	
7	Demonstrate an understanding of the operation of a livestock enterprise, skills and knowledge application, and use of technologies.	Employers will rate the students concerning their understanding of the livestock enterprise and the necessary skills to succeed. 90% will rate this awareness skills as average or higher.	Of the employers who responded in Spring 2004, 100% rated students of the Livestock Production Certificate average or higher for their understanding of the farming operation.	These results suggest that employers of the Livestock Production Certificate students were satisfied with their understanding of farming operations. The staff will continue to monitor the student's progress.
8	Identify risk and conflict in management decisions.	By discussion during the supervisory visit the coordinating instructor will assess the students' recognition of a dilemma and how the dilemma was reconciled. A rubric will be used to evaluate with 90% of the students scoring 70% or higher.	Of the employers who responded in Spring 2004, 100% rated students of the Livestock Production Certificate average or higher for adaptability and management skills.	These results suggest that in the employers mind, these students were well prepared to encounter risk and dilemma during their supervised occupational experience. The agriculture staff will continue to monitor the student's progress.
9	Apply appropriate mathematic skills required for livestock production	Use of mathematics artifact in AGR 063. Students will score 70% or higher.	100% scored 70% or higher on mathematics artifact in AGR063.	The artifact used was a ration formulation using appropriate mathematics skills. The staff will continue to monitor progress.

# OTR Technology

Associate in Applied Science

019

Division: Agriculture

Created: 1/16/2002 3:53:34 PM

Revised: 4/10/2003

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates of the OTR program will be capable of attaining successful employment.	A) LLC yearly Occupational follow-up survey will reveal at least eighty percent of graduates will be employed in the OTR field.  B) Students will successfully complete SOE and receive average or above on the final SOE evaluation.	Will survey the results in fall of 2002.	Individual student evaluation were discussed with students. Will continue to consult with the SOE evaluators for guidance in student preparation and program requirements.
2	A graduate exit survey will reveal that the graduate is satisfied with the technical training the received.	May 20002 graduate exit revealed that 100% of graduates were somewhat satisfied with their technical training at the completion on the program.	May 2002 graduate exit survey revealed that 100% of the graduates were satisfied with their technical training at the completion of the program, although they were not completely satisfied with the overall program content.	
3	Graduates from the OTR program will be able to:  Diagnose and repair electrical systems on systems using a digital multi-meter and equipment service manuals.	At the conclusion of AGR 081 80% of the students will be able to diagnose and repair electrical problems with the aid of a technical manual.	Spring classes showed 100% of the students satisfactory completed a designated electrical project.	
3.1	Diagnose and understand the functions of the hydraulic systems given the necessary tools and equipment.	At the conclusion of the Hydraulic class 80% of the students will answer the imbedded final exam questions regarding the functions of hydraulic systems.	Final exam will be given with next incoming Freshman in Fall of 2003.	
3.2	Diagnose, tune up, and repair small engines that power equipment used on the trailer systems and to help understand the working relation of bigger engines.	At the conclusion on AGR 083 90% of the students will receive a 70% on the small engine checklist.	100% of the students were able to be successful on this project Fall 2002.	
3.3	Diagnose and repair air conditioning systems used on different applications in the field.	90% of the students will pass the EPA certification exam on air conditioning with first attempt.	Summer 2002 -100% of the students achieved certification.	Will strive to focus on more theory study and application of tool use to attempt to achieve 100% next year

# OTR Technology

Associate in Applied Science

019

**Division:** Agriculture

**Created:** 1/16/2002 3:53:34 PM

**Revised:** 4/10/2003

<b>Mission</b>		<b>Goal</b>	
	Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong		Provide career education including occupational, vocational, technical training for employment, advancement or career change
3.4	Diagnose improper symptoms of a diesel engine and determine if the problem is fuel related.	90% of OTR 046 students will successfully complete assigned equipment repair according to established checklist.	OTR 042 was substituted with JDA 087 in Fall of 2002, with 100% of the students were able to complete assigned tasks.  Need to find a suitable diesel class for the OTR students
3.5	Diagnose and repair gasoline and diesel engines and related components use on related equipment with the necessary tools and manuals	At the conclusion of AGR 089 90% of the students will receive a 70% on the engine overhaul and specification checklist.	100% of the students were able to diagnose and repair engines in accordance to service manuals in Spring of 2002.  The engines class and lab is sufficient to enable the students to be successful in the activity.
3.6	Diagnose and repair transmissions and related power train components on necessary equipment with the necessary tools and equipment.	AGR 088 power trains lab-students will successfully complete assigned equipment repair according to established check list.	Fall 2002 100% of the students were able to diagnose and repair transmissions and related power train components successfully.  The power trains lab and content of theory is sufficient to enable the student to successfully complete task. Will continue to monitor class and content.
3.7	Diagnose and repair brake related problems with the necessary tools and manuals.	OTR 044 brake students 80% will successfully answer embedded questions on the final exam	Final exam will be given to incoming Freshman in Fall of 2003 and the test results will be noted.  No new students in fall of 2002
3.8	Diagnose and repair problems dealing with the Air Control System related to the equipment	At the conclusion of OTR 042 90% of the students will successfully answer the embedded questions correctly on the final exam.	Final exam of 2002, resulted in a need for more theory and diagnosis of air control systems.  Need to have a class in Air Control Systems to be taught by an instructor that is familiar with the components
9	Diagnose and repair problems dealing with drive-ability problems on the road.	At the conclusion of OTR 042 80% of the students will be able to successfully complete and record lab assignments dealing with drive-ability related problems	Incoming Freshman class of 2003 will be evaluated at the conclusion of the class.  No new students in fall of 2002

# Swine Production

Associate in Applied Science

015

Division: Agriculture

Created: 1/17/2002 3:23:07 PM

Revised: 5/14/2003

**Mission** Lake Land College creates and continuously improves an affordable, accessible, and effective learning environment for the lifelong

**Goal** Provide career education including occupational, vocational, technical training for employment, advancement or career change

#	Intended Outcomes and Objectives	Assessment Criteria and Procedures	Assessment Results	Use of Results
1	Graduates of the Swine Production Associate in Applied Science degree program should:  Demonstrate an awareness of farm safety.	Use of imbedded questions in final exam of AGR 049. 90% of the students will score 70% or higher.	There were no students enrolled in 015 for the 2002-03 academic year, therefore no results could be assessed for the Spring 2003 semester.	
2	Apply appropriate mathematic skills required for swine production.	Use of imbedded questions in the final exam in AGR 040 and application of mathematics artifact in AGR 060. Students will score 70% or higher.	Results will be assessed Fall 2003.	
3	Express an understanding of computers and awareness of agriculture software.	Use of final project in AGR 1190% of the participants will be proficient in their use and score 70% or higher.	There were no students enrolled in 015 for the 2002-03 academic year, therefore no results could be assessed for the Spring 2003 semester.	
4	Demonstrate an understanding of the operation of the swine enterprise, skills and knowledge application, and use of technologies.	Employers will rate the students concerning their understanding of the swine enterprise and the necessary skills to succeed. 90% will rate this awareness skill as average or higher.	There were no students enrolled in 015 for the 2002-03 academic year, therefore no results could be assessed for the Spring 2003 semester.	
5	Identify risk and conflict in oral and written communication.	By discussion during the supervisory visit the coordinating instructor will assess the students' recognition of a dilemma and how the dilemma was reconciled. A rubric will be used to evaluate with 90% of the students scoring 70% or higher.	There were no students enrolled in 015 for the 2002-03 academic year, therefore no results could be assessed for the Spring 2003 semester.	
6	Express basic competency skills in oral and written communication.	Students will be assessed on final oral and written presentation in AGR 0790% of the students will score 70% or higher.	There were no students enrolled in 015 for the 2002-03 academic year, therefore no results could be assessed for the Spring 2003 semester.	
7	Demonstrate an understanding of livestock commodities and marketing of products.	Use of imbedded questions in the final exam of AGR 1290% of the students will score 70% or higher.		

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8 Demonstrate understanding of swine production fundamentals in the core areas of breeds, selection, reproduction, nutrition, and health. Use of imbedded questions in final exams of AGR 060 and AGR 0790% of the students will score 70% or higher.

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9 Demonstrate understanding of swine facility management and production systems.

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