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A PROPOSAL FOR  
**Swine Option**  
beginning fall of 2015



**LAKE AREA**  
TECHNICAL INSTITUTE

## **Executive Summary**

Lake Area Technical Institute is proposing adding an option to the nine options that currently are available in our Agriculture Program. The new Swine Management Option would increase the skill set of students who select this option and provide additional employment avenues for graduates to pursue.

## **Identification and Description of the New Options**

Our Agriculture Program currently has nine options which allow students to tailor their degree to fit their employment goal. The Options are: Agri- Business, Agri-Production, Commodity Merchandizing, Dairy Option, Environmental Technology, Equine, Large Animal, Precision Technology and Ranch Management. The students are required to take a common core of courses and then can pursue the option which best fits their personal employment goals, as the Agriculture industry in South Dakota is quite diverse.

The Swine Management Option will add four required courses, such as Swine Science; Swine Environment and Practical Management Techniques; Farrowing, Nursery, & Finishing Management; and Swine Health Biosecurity to the current Large Animal curriculum. Students will exit with a strong Large Animal foundation, along with the Swine specialty courses, enabling them to go to work in a wide variety of Ag-related businesses, such as Swine Operations, Feed Supply Companies, and Animal Health Businesses, in addition to the Agri- Production industry. The Swine Option will better prepare students to return to work on their family operation or work for other Swine Operators in the state

## **Objectives and Purposes of the New Option**

The primary purpose of the Agriculture Program is to graduate students with the necessary skills to be employed in the Ag sector or return to family farms/ranches in South Dakota. In addition to the course objectives in our current Large Animal Option, the new option would add objectives including:

- Identify common swine breeds, characteristics and uses, husbandry practices and biosecurity standards.
- Develop skill in swine nutrition, digestive anatomy, and ration management.
- Knowledge of operational swine facility management, including development of business plans.
- Provide training in safety, swine handling, and swine reproduction techniques.
- Develop knowledge of swine anatomy, physiology, and disease management.

## **Methods of Obtaining the Objectives of the Program**

In addition to a very strong theoretical base gained through course work on campus, all Ag students do a Supervised Occupational Experience (SOE) placement at the end of their first year and again at the end of the second year of the program. The students are placed in Ag Businesses or farms and ranches all over the region to gain real world experiences, meeting established SOE Objectives. All Ag students also participate in learning experiences at the 90 acre LATI Ag Demonstration Farm.

The Swine Option students will also have exposure to various swine facilities throughout the state.

### **Description of the Need Based Upon Labor Market Demands**

LATI's Agriculture program has been operational since 1970. In the over 40 years of educating Agriculture students, solid relationships have been developed with Ag Businesses and Producers around the state. The Ag Businesses needing employees contact LATI annually to obtain student interns which eventually become business employees. Each year the number of job openings far exceeds the number of graduates seeking employment. Business representatives serving on the Agriculture advisory board confirmed the need to train agriculture students specifically for the swine industry.

Department of Labor data is included in Appendix B. This data often does not address the Ag sector accurately as so many of the jobs are as self-employed producers. The data available indicates employment opportunities in this sector will remain steady or increase slightly over the next few years.

### **Population to be Served by the Program**

This option will be available to any applicant who has successfully met the admission standards for the AG program as set by LATI. The option will be offered on a full-time basis only. Occasional part-time students might be accommodated, depending upon their personal situation, but all students must have a plan to persist to graduation. No restriction will be made regarding race, age, creed, or gender. The program will draw students primarily from South Dakota. The employers served will fall within the same geographical area.

### **Projected Three Year Budget**

This option will be located in the current LATI facilities and in the new Ag Complex which was completed in the fall of 2013. The program will utilize current and new industry partners. No enrollment cap is anticipated for the Swine Option.

	<b>2014-2015</b>	<b>2015-2016</b>	<b>2016-2017</b>
Salary/Benefits	\$20,000	\$57,000	\$58,500
Supplies	\$2,000	\$4,000	\$4,000
Equipment	\$26,000	\$8,000	\$8,000
<b>TOTAL EXPENDITURES</b>	<b>\$48,000</b>	<b>\$69,000</b>	<b>\$70,500</b>

### **Program Option Competencies and Entry and Exit Points**

Entry Points: Fall or Spring Semester

Exit Point: After completion of all coursework for AAS degree

Job Titles: Ag Sales, Production Operator, Swine Facility Manager, Herdsman and Breeder.

**Statement of Non-duplication**

There is no Swine Management Option at the two year level in the state. Once the Option begins, LATI will work with LATI on adding articulation agreements to facilitate interested graduates pursuing a Bachelor's degree.

**Curriculum Design**

See Appendix A

**Wage Factor**

According to the most recent Job Placement data available, 2013 graduates of the Agriculture Program at LATI were earning an average salary of \$16.89 per hour after 6 months on the job. This same group of students were employed at a rate of 99% with 94% employed in the field. With overtime and bonuses, earning potential rises rapidly in this sector.

**CIP Code**

Since Agriculture is an existing program, the CIP code would remain the same.



**Agriculture ■ Swine Option**  
**Semester Course Outline ■ 2015 – 2016 ■ Revised: 5/19/14**  
**18 Months ■ Credits Required for Graduation: 76.5**  
**Associate of Applied Science (A.A.S.) Degree**

**First Year – Fall Semester**

Course Number	Course Title	Clock Hours	Credits
AG 100	Soil Science	48	3
AG 102	Crop Science	48	3
AGR 105	Ag Safety	28	1
AGR 110	Animal Science	48	3
AGR 233	Commodity Futures and Options	48	3
AED 100	Automated External Defibrillator	14	.5
CSC 100	Computer Concepts	16	1
CSS 100	Career Search Strategies	8	.5
HAZ 100	Hazardous Materials Safety	14	.5
<ul style="list-style-type: none"> <li>• Selected Communications Course (Choose one)</li> <li>    COMM 101 – Contemporary Communications</li> <li>    ENGL 101 – Composition *</li> <li>    SPCM 101 – Fundamentals of Speech *</li> </ul>		48	3
<b>Total</b>		<b>320</b>	<b>18.5</b>

**First Year – Spring Semester**

Course Number	Course Title	Clock Hours	Credits
AG 106	Animal Health I	48	3
AG 158	Farm/Ranch Records	32	2
AGR 101	Basic Animal Husbandry	42	1.5
AGR 103	Breeding Practices and Techniques	42	1.5
AGR 149	Swine Science	48	3
AGR 159	Swine Supervised Occupational Experience I	360	6
<ul style="list-style-type: none"> <li>• Selected Behavioral Science Course (Choose one)</li> <li>    PSYC 100 – Psychology of Human Relations</li> <li>    PSYC 101 – General Psychology *</li> </ul>		48	3
<b>Total</b>		<b>612</b>	<b>20</b>

**Agriculture ■ Swine Option**

**Second Year – Fall Semester**

Course Number	Course Title	Clock Hours	Credits
AG 200	Animal Nutrition	32	2
AGR 201	Medical Terminology	48	3
AGR 205	Treatment of Animal Injuries and Sample Collection	84	3
AGR 209	Biologics and Pharmaceutical Administration	56	2
AGR 211	Animal Anatomy	48	3
<ul style="list-style-type: none"> <li>Selected Mathematics Course (Choose one)                      MATH 100 – Applied General Math                      MATH 101 – Intermediate Algebra                      MATH 102 – College Algebra *</li> </ul>		48	3
<ul style="list-style-type: none"> <li>Selected Social Science Course (Choose one)                      ECON 105 – Leadership in the Global Workplace                      ECON 201 – Principles of Microeconomics I *                      ECON 202 – Principles of Macroeconomics II *                      SOC 100 – Introduction to Sociology *</li> </ul>		48	3
Total		364	19

**Second Year – Spring Semester**

Course Number	Course Title	Clock Hours	Credits
AGR 204	Animal Health II	48	3
AGR 237	Business Law/Supervision	48	3
AGR 239	Microsoft Excel for Ag	28	1
AGR 267	Swine Environment and Practical Management Techniques	56	2
AGR 268	Farrowing, Nursery, and Finishing Management	56	2
AGR 269	Swine Health Biosecurity	56	2
AGR 270	Swine Supervised Occupational Experience II	360	6
Total		652	19
<b>Optional Courses Available</b>			
AGR 210	Forages and Grasses	48	3

All optional courses not listed on your current program outline must be approved by your adviser and appropriately identified on the current program semester outline of any Ag option.

- Students will select a course in each of the areas listed to meet general education requirements. Courses marked with an asterisk can be transferred directly to the university system under the terms of articulation agreements and may be substituted for recommended courses on the outline. Students should speak with an advisor before doing so.

Appendix B: Wage Data

South Dakota Employment Projections and Wage Estimates for Select Ag-Related Occupations												
SOC* Code	Occupational Title	2012 Employment	2022 Employment	Numeric Change	Percent Change	Average Annual Demand for Workers	Average Wage	Percentile Wages				
								10th	25th	50th	75th	90th
11-9013	Farm, Ranch and Other Agricultural Managers	n/a	n/a	n/a	n/a	n/a	\$41.87	\$38.01	\$39.67	\$42.38	\$45.08	\$46.70
13-1021	Buyers and Purchasing Agents, Farm Products	365	375	10	2.7%	8	\$26.82	\$18.96	\$23.85	\$26.64	\$29.32	\$34.38
19-1011	Animal Scientists	120	130	10	8.3%	5	\$25.67	\$20.12	\$22.07	\$25.38	\$28.96	\$33.20
41-4011	Sales Representatives Wholesale and Manufacturing Technical and Scientific Products	1,480	1,610	130	8.8%	42	\$38.79	\$20.98	\$25.49	\$33.50	\$46.42	\$65.28
41-4012	Sales Representatives Wholesale and Manufacturing Except Technical and Scientific Products	5,280	5,715	435	8.2%	147	\$26.84	\$15.89	\$19.38	\$24.52	\$31.55	\$41.90
45-1011	First-Line Supervisors/Managers of Farming Fishing and Forestry Workers	490	480	-10	-2.0%	10	\$22.52	\$17.89	\$19.75	\$21.39	\$23.03	\$31.44
45-2021	Animal Breeders	n/a	n/a	n/a	n/a	n/a	\$13.18	\$9.88	\$10.36	\$11.16	\$16.41	\$21.16
45-2092	Farmworkers and Laborers Crop Nursery and Greenhouse	2,130	2,040	-90	-4.2%	65	\$11.66	\$8.66	\$9.98	\$11.43	\$13.48	\$14.86
45-2093	Farmworkers Farm and Ranch Animals	3,805	3,820	15	0.4%	117	\$12.26	\$10.00	\$10.73	\$12.00	\$13.71	\$14.73

Please see page 2 for notes and definitions.

## Appendix B: Wage Data

### Notes and Definitions for South Dakota Employment Projections and Wage Estimates for Select Ag-Related Occupations

**Notes:** Data is preliminary and subject to revision.

\*SOC - Standard Occupational Classification, 2010

[Click here for descriptions of SOC occupations by code \(2010 version\).](#)

n/a - Data not available due to disclosure concerns or reliability issues.

Employment projections data for occupations with less than 20 workers in 2012 not included.

Number of workers data for 2012 and 2022 rounded to nearest five.

Demand data is the summation of job openings estimated due to projected employment growth and job openings projected to be created due to replacement need of current workers. Replacement need is estimated by multiplying occupational employment estimates by national replacement rates supplied by the U.S. Bureau of Labor Statistics (BLS). These rates estimate the number of job openings, by occupation, which will be attributed to a worker permanently leaving an occupation (e.g. retirement, death, exits the workforce, etc. ). Average annual demand data are calculated by dividing by ten, the number of years in the projection period. For more information, see [http://dlr.sd.gov/lmic/projections\\_methodology.aspx](http://dlr.sd.gov/lmic/projections_methodology.aspx).

Wage data are taken from the South Dakota Occupational Worker and Wage Estimates program, based on May 2013 data updated to the quarter ending June 2014 using the U.S. Bureau of Labor Statistics' Employer Cost Index. Wages do not include the value of benefits provided for workers.

#### **Statistical Definitions Related to Wage Estimates:**

**Average Wage:** represents the arithmetic mean of the wage data collected, calculated by dividing the estimated total wages for an occupation by the number of workers in that occupation. Also referred to as the mean wage.

**Median Wage:** represents the positional central tendency of a dataset where 50 percent of the wages fall below this wage and 50 percent of the wages fall above this wage. This is also commonly referred to as the 50th percentile wage.

**Percentile Wage:** represents the percentage of an occupation's workers that earn less than or equal to that wage:

10th Percentile: 10% earn less than or equal to this amount; 90% earn more

25th Percentile: 25% earn less than or equal to this amount; 75% earn more

50th Percentile: 50% earn less than or equal to this amount; 50% earn more (median wage)

75th Percentile: 75% earn less than or equal to this amount; 25% earn more

90th Percentile: 90% earn less than or equal to this amount; 10% earn more

Source: Labor Market Information Center, South Dakota Department of Labor and Regulation, September 2014



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Phone (605) 849-3477  
Fax (605) 849-3597

September 4, 2014

Alexis Stinton  
Agriculture instructor  
Lake Area Technical Institute

Dear Alexis:

I whole heartedly support the efforts of LATI to develop a swine teaching curriculum. I believe such a curriculum is needed to help fill the void of quality workers and managers on many swine farms in South Dakota.

Right now our growth potential is limited as many of our workers come to us with no farm experience at all. It takes a great deal of time and effort to train them on what has become a highly specialized and technical industry. We need technicians and managers with an understanding of the swine industry and what it takes to be successful producers. Through your proposed curriculum, LATI graduates will have an edge on the competition for these well paid positions in SD agriculture.

As a neighboring producer recently shared at a meeting, we have all the resources we need to grow agriculture and pork production in SD, we just need the workforce to help us get there.

I applaud your efforts and look forward to meeting with your students in the future.

Dave Uttecht  
Managing Partner, Heartland Pork LLC  
SD Pork Producer's Council Past President



1801 Forman Drive, PO Box 370  
Pipestone, MN 56164  
www.pipestonesystem.com

To whom it may concern:

First I would like to describe what the Pipestone is: To explain the Pipestone System from the beginning requires a look at the end result. Even though this is a tale of pork production, it does call to mind the old question regarding the chicken and the egg.

Well...actually we do know which comes first: Our shareholders. They're family farmers who aren't willing to give up their private stake in the pork industry.

Still, there are a few things they don't mind giving away. Labor-intensive breeding and farrowing can really wear one person down. Good genetics and modern sow barns require huge investments. Everybody knows today's employee benefit package is too costly for a single farm family to absorb.

Once they hand over responsibility for sows and employees though, our local owners get back the three things they really want. We provide healthy baby pigs and the opportunity to raise those pigs their own way and they keep all their profits! At that point, who cares whether it started with the chicken or the egg?

Here's how we preserve livestock ownership close to home:

- Our Pipestone System owners are family farmers with a stake in the farming communities surrounding our barns.
- The System brought them together. Few owners knew each other before they decided to invest in a new barn.
- Each owner receives an allotment of pigs based on shares owned and preferred schedule.
- Sow barn employees are hired, trained, compensated, and motivated through Pipestone System.
- On their own, shareholders cannot tap economies of scale available through the System. Animal health products, feed, veterinary services, and employee benefit packages are all more cost-effective because of System buying power.
- Supervisors, veterinary professionals, and employees embrace System core values that emphasize ethical treatment for animals.
- Potential for career advancement within the System enables employees to stay close to home and close to the livestock industry they love.
- Our producer-owners epitomize sustainable agriculture when they use their own corn to feed their pigs and their own manure to feed their corn.
- Our owners put their money in our hands. We supply them with a thorough accounting for our stewardship of their investment.

As the agriculture industry continues to grow our need for educated individuals continues to flourish. Every sector of our company is growing by leaps and bounds. Production agriculture will be here forever, as the economy grows so does the need for our employees. We are encourage by Lake Area's efforts to help educate young individual and help them begin their careers in the Midwest.

Regards,

Nicole Paulsen | SR Human Resources Supervisor  
PIPESTONE VET CLINIC and PIPESTONE SYSTEM  
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t: 507.825.7939 c: 507.215.7585  
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Appendix C: Letters of Support



College of Agriculture and Biological Sciences

Office of the Dean

Borg Agricultural Hall 131, Box 2297  
South Dakota State University  
Brookings, SD 57007-6197  
Phone: 605-688-4148  
Fax: 605-688-8320

October 9, 2014

Jim Clendenin  
Agriculture Department Head  
Lake Area Technical Institute  
1201 Arrow Avenue, P.O. Box 730  
Watertown, SD 57201

Dear Mr. Clendenin,

Please accept my support for the agricultural programs at Lake Area Technical Institute (LATI) and your proposal for a new swine option for students. This will not only enhance opportunities for students of LATI, but will also help ensure that South Dakota provides a skilled workforce to meet the needs for swine production in our state and region.

The College of Agriculture and Biological Sciences is committed to cooperating with LATI on providing educational opportunities in animal agriculture. We invite LATI to utilize our new Swine Education and Research Facility, which will be completed in late 2015 or early 2016, and also our planned Cow/Calf Education and Research Facility, which we continue to fundraise for. Once completed both of these will house classroom space, in addition to production facilities for teaching and research. In addition, we also extend the invitation for LATI to schedule tours of our other livestock facilities for their students.

I am pleased to support this proposal and help create positive outcomes for students. I look forward to working with you and LATI to enhance your livestock programs.

Sincerely,



Barry H. Dunn, Ph.D.  
South Dakota Corn Utilization Council Endowed Dean  
Director of SDSU Extension

Cc: President David Chicoine, Ph.D.  
Provost Laurie Nichols