

**SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
ACADEMIC AFFAIRS
COMMITTEE RECOMMENDATION**

SUMMARY

Lake Area Technical College
Substantive Program Application
Associate of Applied Science
Livestock Production and Management

COMMITTEE RECOMMENDATION

The Committee on Academic Affairs and Institutional Effectiveness ("Committee") met on 9/25/2025 to consider the merits of the above application. After review, the Committee makes the following action recommendation to the Board of Technical Education:

- ☒ Approval
- ☐ Disapproval
- ☐ Deferral
- ☐ Other:

PROGRAM DESCRIPTION

Institution	Lake Area Technical College
Program Identifier Code (If applicable)	
Program Title	Livestock Production and Management
Program Award Level: Check all that apply	☐ Short-Term Certificate ☐ Long-Term Certificate ☐ Diploma ☒ Associate of Applied Science
CIP Code (6 Digit)	1.0302
Projected Implementation Date	8/24/2026
Location	☒ Main Campus ☐ Other:

SUMMARY

Type of Substantive Change	☐ New Program (B.1.1) ☒ Significant Curriculum Modification (B.1.2) ☐ Other:
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Describe the change the institution is seeking approval of.

Lake Area Technical College (LATC) seeks approval for a curriculum modification and program re-organization to its current Agriculture AAS program and connected options, for full implementation in Fall 2026. Currently, LATC offers one Agriculture AAS degree which covers multiple aspects of the agriculture industry. The affiliated options, housed under the Agriculture program's umbrella, include six areas of emphasis that all share a common first year curriculum. However, the LATC Agriculture advisory boards recommended significant programmatic changes to address the growing industry demand for more specialized training and employability of students in ag-related fields.

LATC is ready to complete a comprehensive overhaul of this program's curriculum to better meet industry needs. The college is applying for four new agriculture programs: Precision Agriculture Technology, Production Agriculture, Agriculture Business, and Livestock Production & Management. This application specifically seeks the approval of the Livestock Production & Management program.

The Livestock Production & Management career field ranges widely from farm and ranch workers to farm managers, animal breeders and buyers, feedlot managers, animal nutritionists, and farm and ranch owners. Varying employment data in the livestock industry produce an extensive range of salary markers. According to South Dakota LightCast data (2023), positions in the Livestock Production and Management field include Farm Workers with an average salary of \$36,020 to Livestock Supervisors of Farming, Fisheries, and Forestry with an average salary of \$60,500. Additionally, according to Zip Recruiter.com (2025), wage data reveals that Livestock Agents or Cattle Buyers earn an average of \$51,757 to \$100,000 annually in South Dakota.

Further, LightCast data also reveals a 5.56% yearly increase in the category, with a positive trend of 569 jobs available annually in the Livestock Production & Management field. This data only provides a partial wage outlook, however, for the livestock industry in South Dakota. Due to the 24x7 on-call expectations for many employees of livestock farms and ranches in South Dakota, especially while calving, caring for livestock during inclement weather, and moving livestock from feedlots to pastures, it has been necessary to provide additional amenities as part of salary and wage packages to livestock employees. Housing, along meals, vehicles, and fuel allowances are customarily provided for many employees in the livestock industry. Although the initial salary may only reflect the \$36,000 average, the additional perks realistically add another \$17,000 to \$19,600, quite often raising the adjusted actual salary to the \$53,000+ range. Warren Symens, President of the South Dakota Cattlemen's Association, noted in a Letter of Support that while LATC "graduates are currently earning an average wage of \$18.76 per hour, and that figure often does not include additional benefits commonly offered in the livestock industry, such as free or subsidized housing, utilities, vehicles, fuel allowances, and even beef/meat products. These benefits significantly increase the overall compensation package and demonstrate the value of skilled employees in our sector."

CRITERION 1: MISSION

The program aligns with the system's mission and strategic priorities.

1.1. The program aligns with the system's mission of preparing a technically skilled workforce prepared to serve the state of South Dakota and its regions.

1.2. *The program aligns with the system's strategic priorities.*

1.1. Describe how the proposed program aligns with the system's mission.

The mission of Lake Area Technical College, as part of the South Dakota Technical College System, is to provide superior, comprehensive technical education that changes lives and launches careers. The structure of LATC's proposed Livestock Production & Management program ensures that students can complete an AAS college degree aligned with industry expectations while remaining affordable and offering a strong return on the investments students make into their college education.

The updated and re-organized Agriculture programs at LATC - Precision Agriculture Technology, Agriculture Business, Production Agriculture, Livestock Production & Management, and Natural Resources Management (an existing program that is currently part of the college's Agriculture Department) – will reflect the structure seen in public administration of agriculture and natural resources programs in South Dakota. Administering these programs together efficiently utilizes the college's resources and emphasizes for students the intersections and complexities of production, business, technology, and sustainability in agriculture and natural resources, no matter the specific career path they take within the industry.

CRITERION 2: DEMAND

The program leads to meaningful employment, adequate student enrollment, and/or fulfills needs not being met by existing education and training providers.

- 2.1. The program leads to high-wage occupations that have an average/mean wage greater than the median wage across all occupations.
- 2.2. The program leads to high-demand occupations that have project annual openings (a measure of demand for workers) greater than the average across all occupations or is shown as an economic and/or labor market emerging field for the state of South Dakota and its regions.
- 2.3. The program's student enrollment is adequate to justify program existence.
- 2.4. The program fulfills a demand not being met by existing education and training providers in the region and/or state.

2.1. Describe the wage projections for occupations associated with the proposed program by completing Appendix 2.A.

2.2. Describe the demand projections for occupations associated with the proposed program.

A. Complete Appendix 2.A.

B. If an emerging field for the state of South Dakota, describe the field. Letter(s) of support, detailing demand, should be attached as appendices.

While Livestock Production & Management is not an emerging field in South Dakota, it is certainly an evolving area of agriculture, relying on research-driven best-practices like the utilization of innovative genetics and nutrition formulations to help farmers and ranchers raise high-quality, low-stress animals. As such, we have included three letters of support from members of the LATC Livestock Production & Management Advisory Board.

2.3. Describe projected student enrollment for the proposed program by completing Appendix 2.B.

2.4. Describe how the proposed program fulfills a demand not being met by existing education and training providers in the region and/or state.

A. Identify closely related program(s) that currently exist at other public higher education institutions in the system or state. If none, write "None."

South Dakota State University (SDSU) in Brookings, SD offers undergraduate degrees (BS) in a variety of Agriculture systems and specializations. SDSU Capital City Campus provides an Associate of Science in Agriculture in Pierre, SD. Southeast Technical College in Sioux Falls, SD offers an AAS degree in Business Administration with Agriculture Emphasis and agriculture-related programs, such as Horticulture Technology. Mitchell Technical College in Mitchell, SD offers AAS degrees in ag-related fields and houses the South Dakota Center for Farm/Ranch Management.

B. If applicable: Describe the ways in which the demand is not currently being met by the aforementioned program(s) and provide justification as to why the program should be approved by addressing the following conditions that warrant duplication ([BP 303.2](#)). Select all that apply.

- ☐ Unmet Demand (C.5.1.1)
☒ Industry Partnership (C.5.1.2)

- ☒ Increases Student Access (C.5.1.3)
☐ Other:

I. For each condition selected above, provide a brief justification.

Industry Partnerships

Partnerships with the Livestock Production & Management industry remain a critical cornerstone to the overall outlook of South Dakota agriculture. Chris Bartelt, CEO of Midwest Veterinary Service in Watertown, SD and a member of the Lake Area Technical College (LATC) Livestock Production & Management Advisory Board, wrote that Livestock Production & Management is vital to our state's economic well-being. He stated, "With nearly 4 million beef cattle – outnumbering residents five to one – and over 92,000 dairy cows producing 1.8 billion pounds of milk annually, this sector drives significant economic activity, contributing billions in revenue and supporting thousands of jobs statewide." Beyond what state labor market data shows, thousands of related careers in transportation, refrigeration, and consumer sales are needed to bring fresh meat and dairy products from the barn to the table.

Additionally, Dr. Bartelt, wrote that, "Producers must navigate complex challenges, like precision nutrition, genetic selection, disease prevention and sustainable land use, all the while meeting consumer expectations for quality and traceability." LATC agriculture graduates need a higher level of training than in previous decades to remain relevant with the changes in agricultural science.

Another LATC Livestock Production and Management Advisory Board member, Madison Kovarna, a South Dakota State University Beef Nutrition Extension Specialist, stated that, "As agriculture becomes increasingly specialized, a general ag degree often does not provide the depth of training required by today's students. A dedicated Livestock Production and Management program would offer invaluable hands-on experience with real world tools – preparing students whether they plan to return to a family operation, start their own, enter a commercial workforce, or pursue further education."

One of most influential South Dakota industry voices agrees succinctly. The President of the South Dakota Cattlemen's Association, Warren Symens, noted that "South Dakota's livestock industry is a cornerstone of our state's economy, and well-trained professionals are essential to its continued success. Today's operations require employees with advanced skills in animal health, nutrition, reproduction, handling, and financial management, along with a strong understanding of technology and data-driven decision-making. Lake Area Tech's Livestock Production & Management graduates are entering the workforce well-prepared to meet these needs." He further states, "Employers across South Dakota consistently report difficulty finding qualified labor. Programs like this are critical to filling that gap and ensuring the long-term strength and competitiveness of our cattle industry. For these reasons, the South Dakota Cattlemen's Association supports Lake Area Technical College's efforts to train the next generation of livestock professionals."

It is more important than ever to have a well-educated workforce of Livestock Production & Management graduates who understand not only animal husbandry, nutrition, genetics and sales, but also business costs, marketability and consumer appetites. The coursework outlined in this degree will directly address those educational expectations set by the livestock industry.

Increases Student Access

Additionally, the overall programmatic change in the LATC Agriculture program from one AAS degree to four AAS degrees (Production Agriculture, Agriculture Business, Precision Agriculture Technology and Livestock Production & Management) allows LATC students greater expertise for the newer technical employment positions that represent the forefront of agriculture in South Dakota. While pursuing one of the four agriculture degrees, LATC students may also choose classes from any of the three other degrees to complement their learning experiences and expand their job preparedness. With several optional courses built into all five degrees (also including Natural Resources Management), Lake Area Tech students will be excellently prepared for a wide range of agricultural employment prospects. This expanded educational access allows even more career opportunities for our agriculture students.

CRITERION 3: DESIGN

The program's learning assessment strategy, program of study, and delivery methods are designed to provide students with the necessary competencies, as demonstrated through program learning outcomes.

- 3.1. The program is aligned to competencies, as demonstrated through program learning outcomes, that are developed with and continually validated by relevant stakeholders.
- 3.2. The program has a learning assessment strategy to validate student mastery of the program learning outcomes.
- 3.3. The program has an integrated program of study designed to develop and reinforce the program learning outcomes.
- 3.4. The program, when appropriate, includes a work-based learning component that develops and reinforces the program learning outcomes.
- 3.5. The program, when appropriate, offers flexible delivery methods to increase student access.

3.0. Describe the proposed program's alignment with the program award level requirements established in [BP 301.1](#).

A. Does the program align with the requirements?

- ☒ Yes
☐ No (Requesting Exemption)

B. If no: Provide a detailed rationale for program exemption. Specify which requirement(s) in BP 301.1 are not met; cite specific policy sections (e.g., B.3.4), when appropriate. If external organizations are involved (accreditation, regulatory, licensure, etc.), reference the organization name(s), specific requirements (including citations), and a justification for why the exemption should be approved.

3.1. Describe the program learning outcomes.

1. Provide a list of program learning outcomes for each proposed award level. Learning outcomes should be specific to the program

1. Create livestock nutrition plans.
2. Evaluate livestock genetics and breeding programs.
3. Implement animal health and disease prevention protocols.
4. Apply financial management skills to make business decisions in livestock operations.
5. Demonstrate best practices in livestock handling and animal welfare,
6. ensuring both safety and animal well-being.
7. Utilize livestock marketing strategies, and evaluation techniques.
8. Manage feed resources to optimize livestock nutrition and performance.

9. Describe the how the program learning outcomes were developed and validated.

Livestock Production & Management program learning outcomes were developed and reviewed by LATC faculty and administrative staff. The program outcomes were thoroughly discussed and approved by the Livestock Production & Management Advisory Board members and industry partners within South Dakota.

3.2. Describe the program's learning assessment strategy.

- A. Describe how students will demonstrate mastery of the program learning outcomes. Description should be specific to the program's learning assessment plan vs. the institutional assessment plan.

All courses will contain assessment components. The assessments will be comprised of skills assessments, as well as formative and summative assessments both in the classroom and field setting.

All program courses leading to the degree will require a pass rate of at least 80% mastery. Post-graduation surveys conducted by employers and the college's placement report also help to determine the success of the program's graduates.

All LATC programs use SPOL assessment software to map curriculum and gather assessment data throughout the year. Annually, each department analyzes the assessment data. In addition, under the guidance of our Academics Department, each program creates an assessment and improvement plan annually.

- B. Is the program preparation for a professional licensure and/or certification examination?

- ☐ Yes (Detail in Appendix 4: Section 3)
☒ No

3.3. Describe the program of study by completing Appendix 3.

3.4. Describe the program's work-based learning component.

- A. Does the program have a work-based learning component? If so, select all that apply.

- | | |
|--|-----------------------------------|
| ☐ None | ☐ Clinical |
| ☐ Apprenticeship | ☐ Capstone |
| ☒ Internship or Externship | ☐ Other: |

- B. If none, describe why.

3.5. Describe the program's delivery methods.

- A. Select the program's primary delivery method(s)¹. Select all that apply.

- | | |
|---|---|
| ☒ On Campus | ☐ Apprenticeship |
| ☐ Online | ☐ Other: |
| ☐ Blended | |

- B. Describe how flexible delivery methods are being leveraged to increase student access.

Due to the specific hands-on lab requirements of this degree (utilizing sheds, barns, feedlots, grain elevators, veterinary equipment and grasslands), the primary delivery method for this program will continue to be in-person, on campus, including at the college farm and student worksites. LATC will offer face-to-face instruction with both full-time and part-time student pathways. Providing these two pathways will allow the program to meet the needs of both traditional and non-traditional students. Livestock Production & Management educational practices are based on highly researched practices, requiring hands-on training and practice. For this reason, the program

¹ **In Person:** 100 percent of courses are available in-person. **Online:** 100 percent of courses are available via distance learning. Delivery is only via the Internet. **Blended:** Delivery includes a required combination of both in-person and online courses. If a student has the option to take courses online, but is not required to do so, the program is not necessarily considered blended.

does not lend itself to an online or blended format at this time. However, after implementing the new curriculum for a few years, LATC will reevaluate to assess if a blended delivery method is feasible.

CRITERION 4: ALIGNMENT

The program is vertically aligned to an education and training pathway.

- 4.1. The program is vertically aligned to an education and training pathway, reflecting efficient articulation of:
 - 4.1.1. Non-degree credential/industry certification
 - 4.1.2. Certificate to diploma
 - 4.1.3. Diploma to associate of applied science
 - 4.1.4. Associate of applied science to baccalaureate

4.1. Describe the alignment of the proposed program along an education and training pathway.

A. Complete Appendix 4.

B. Describe the projected alignment between the proposed program and existing academic programs within the technical college system.

Under the Agriculture umbrella at LATC, four newly proposed curriculum modifications/realignments will be created to replace the previous Agriculture AAS degree. Production Agriculture, Precision Agriculture Technology, Agriculture Business and Livestock Production & Management will now each exist as independent Associate of Science degrees. The Natural Resources Management degree also falls under the agriculture support system and aligns well with LATC's proposed agriculture programs.

- Livestock Production & Management AAS shares 21 stackable credentials with the Precision Agriculture Technology AAS.
- The Livestock Production and Management AAS shares 35 stackable credentials with the Agriculture Business AAS.
- Livestock Production and Management AAS shares 30 stackable credentials with the Production Agriculture AAS.
- Natural Resources Management AAS shares 16 stackable credentials with the Livestock Production and Management AAS.

C. As applicable: Insert any additional comments here.

CRITERION 5: CAPACITY

The institution demonstrates the internal and external resources necessary to develop, implement, and sustain the program.

- 5.1. The institution demonstrates the financial resources necessary to develop, implement, and sustain the program.
- 5.2. The institution demonstrates appropriately certified and qualified faculty are in place with expertise in content, pedagogy, and related industry to develop and validate the program learning outcomes.
- 5.3. The institution's physical facilities (e.g., classrooms, laboratories) reflect current industry and/or occupational standards necessary to develop and validate the program learning outcomes.
- 5.4. The institution's equipment and technology resources reflect current industry and/or occupational standards necessary to develop and validate the program learning outcomes.
- 5.5. The institution demonstrates the ability of the program to meet institutional and programmatic accreditation standards, as applicable.

5.1. Describe the institution's financial capacity to develop, implement, and sustain the proposed program.

A. Complete Appendix 5.

B. Describe the proposed program's anticipated local fee structure. Description of fee structure should be specific to the program.

LATC students typically pay a per-semester department fee to assist in covering the costs of contractual services, rent, supplies, and travel associated with operating the academic programs in which they are enrolled. Agriculture students currently pay \$629 per semester (Fall & Spring). In addition, courses with specific credentialing or laboratory expenses (ex. Artificial Insemination certification) pay a course fee to directly cover the cost associated with that course. For the purposes of this proposed program change, the current department fee was used as placeholder. When the FY27 program budgets are created in February 2026, Lake Area Tech will determine the appropriate Department and Course fees for each of the new Agriculture programs.

C. What is the proposed program weight factor (funding formula)?

- ☒ Standard Cost (1)
- ☐ High Cost (3)
- ☐ High Cost, Low Density (5)

I. Provide rationale related to the selection of proposed program weight factor.

All Agriculture programs in the technical college system are current Standard Cost programs.

D. Describe the contingency plans in case anticipated enrollments, income, or resources do not materialize.

Existing classroom spaces at LATC will be used to deliver face-to-face instruction. Labs, shops, corrals, tanks, bins and farmland spaces will provide state of the art simulations to develop and refine critical thinking and hands-on skills. The agriculture programs have been a hallmark of the LATC student experience for over 50 years, and enrollment in these courses has been historically strong. Lake Area Tech does not expect this curriculum modification and re-organization to negatively impact those numbers in any significant manner. In fact, the college expects stronger student enrollments with the emphasis on specializations in the industry and the anticipated needs for workers and entrepreneurs in the field as the Baby Boomer generation continues to retire out of the workforce.

5.2. Describe how the institution will ensure the appropriate certified and qualified faculty are in place with the expertise in content, pedagogy, and the related industry to develop and validate the program learning outcomes.

A. Describe the necessary qualifications of faculty who will be involved in the program.

The instructors within the newly modified Agriculture programs will have earned an AAS degree at the minimum or achieved seven years of industry experience in the specific content areas while working to gain an AAS degree in a related field. As a matter of practice, many of the faculty in the Agriculture department have earned Masters degrees related to the courses they teach and have practiced in industry or conducted research in related areas. The General Education instructors in the updated Agriculture programs will be Masters prepared in each specific content area as the South Dakota Board of Regents and Board of Technical Education college transfer policies outline.

B. Does the instructorship(s) currently exist in the roster of Instructor Salary Support market value determinations?

☒ Yes
☐ No

I. If no: Describe the SOC(s) codes and titles that will need to be added.

5.3. Describe the existing and/or new physical facilities that will be utilized or needed to reflect current industry and/or occupational standards. Outline short- and long-term investments in physical facilities.

The present facilities at LATC will serve this program curriculum modification and realignment well. The educational classrooms, labs and shops within the Agricultural wing of LATC and at the college farms are excellent learning spaces. When needed, industry partners provide on-site work spaces.

5.4. Describe the existing and/or new equipment and technology resources that will be utilized or needed to reflect current industry and/or occupational standards. Outline short- and long-term investments in equipment and technology resources.

At present, the Livestock Production & Management curriculum modification program has adequate animal enclosure spaces and industry partners who provide trainings and hands-on experiences at neighboring feedlots and dairies. These spaces will continue to be utilized throughout the program's courses. Further, the Livestock Production & Management Advisory Board has thoroughly reviewed the curriculum and lab requirements, ensuring they meet industry standards and performance expectations.

5.5. Describe the institution's and proposed program's ability to meet institutional and programmatic accreditation standards, as applicable.

A. Specify Higher Learning Commission (HLC) requirements.

☒ Notification Only
☐ Approval Required
☐ None
☐ Other:

B. Is there an accrediting or professional organization that has established standards for the program?

☐ Yes

☒ No

- C. If yes: Describe the ability of the proposed program to meet professional accreditation standards. If the program does not or cannot meet those standards, describe the area(s) in which it is deficient and indicate steps needed to qualify the program for accreditation. Provide the date by which the program would be expected to be fully accredited.

If the institution does not plan to seek specialized accreditation, provide a rationale for not seeking.

No professional accreditation program presently exists for Livestock Production & Management. If an accreditation process is found in the future, Lake Area Tech will investigate the standards and make a determination about applying for that accreditation.

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 2.A: Labor Market Information

Lake Area Technical College
Livestock Production & Management

SOUTH DAKOTA								
SOC* CODE	SOC* TITLE	AVERAGE ANNUAL OPENINGS	2023 EMPLOYMENT	2033 EMPLOYMENT	NUMERIC CHANGE: 2023-2033	PERCENT CHANGE: 2023-2033	MEDIAN: ANNUAL WAGE (2023)	AVERAGE: ANNUAL WAGE (2023)
00-0000	Total, All Occupations	62,664	491,588	526,251	34,663	7.1	\$36,823	\$44,961
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals SD DLR	486	3474	3324	-150	-4.32	\$36,020.00	\$34,940.00
45-2021	Animal Breeders SD DLR	15	98	101	3	3.06	\$ 37,080.00	\$ 42,980.00
45-1011	First-Line Supervisors of Farming, Fishery, and Forestry Workers SD DLR	68	486	513	27	5.56	\$ 57,240.00	\$ 60,500.00
45-1011	First-Line Supervisors of Farming, Fishery, and Forestry Workers Lightcast		214	258	44	20.5	\$ 54,709.00	

NATIONAL								
SOC* CODE	SOC* TITLE	AVERAGE ANNUAL OPENINGS	2023 EMPLOYMENT	2033 EMPLOYMENT	NUMERIC CHANGE: 2019-2029	PERCENT CHANGE: 2019-2029	MEDIAN: ANNUAL WAGE (2020)	AVERAGE: ANNUAL WAGE (2020)
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals BLS	29,400	204,700	194,100	-10,600	-5.2	\$ 36,150.00	\$ 37,060.00
45-1011	First-Line Supervisors of Farming, Fishery, and Forestry Workers BLS	9,800	68,900	71,000	2,100	3.1	\$ 59,330.00	\$ 60,790.00
45-2021	Animal Breeders BLS		6,700	6,900	200	2.4	\$ 52,000.00	\$ 53,520.00

SOURCE: South Dakota Department of Labor and Regulation, Labor Market Information Center (LMIC) (<https://dlr.sd.gov/lmic/>)
DATE: 04/30/2025

NOTES:

SOURCE: Bureau of Labor Statistics <https://www.bls.gov/emp/tables/occupational-projections-and-characteristics.htm>
DATE: 04/30/2025

NOTES:

SOURCE: Lightcast https://analyst.lightcast.io/analyst/?t=4pWQW#h=4ZZsou-b~gwgVhL--69hyE7Ur3f&page=occupation_snapshot&vertical=standard&nation=us
DATE: 04/30/2025

NOTES: Average Annual Wage not found.

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION

Appendix 2.B: Student Demand Projections

Lake Area Technical College

Livestock Production & Management

	YEAR 1	YEAR 2	YEAR 3
Student Full-Time Equivalent (FTE)	39	43	47
Headcount: Full-Time	45	50	55
Headcount: Part-Time			
Headcount: Total	45	50	55
Total Program or Site Capacity	54	54	72

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION

Appendix 3: Program of Study

Lake Area Technical College
Livestock Production & Management

MONTHS:	18
SEMESTERS:	4
TOTAL CREDITS:	72

PREFIX AND NUMBER	TITLE	CREDITS	DESCRIPTION	EXISTING COURSE
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I. GENERAL EDUCATION CORE

COMM 101 or ENGL 101 or CMST 101	Communications and Career Strategies, Composition, Foundations of Communication	3	COMM 101 – Emphasis on the essentials of written and oral communication; also covers effective communication during the job search process. ENGL 101 – This course concentrates on all phases of the writing/communication process. Prewriting, drafting, revising and editing are used to help students develop clear, concise and unified writing styles that will serve them well in their chosen career areas.*College transferable. CMST 101 - The course introduces the study of speech fundamentals and critical thinking through frequent public speaking practice, including setting, purpose, audience, and subject. *College transferable.	Y
MATH 100 or MATH 101 or MATH 114	Applied General Math, Intermediate Algebra, College Algebra	3	MATH 100 - This course will provide emphasis on the ability to understand and apply math skills to solve problems in the world of work. MATH 101 - This course will enhance students' problem-solving skills and prepare them for mathematical problems to be faced in future courses and careers. MATH 114 - This course includes a study of the theory and application of functions, including function notation, graphs, inverses, polynomial, rational, exponential, logarithmic, and other functions. May also include additional topics, such as sequences, series, the binomial theorem, linear systems, matrices, or complex numbers. *College transferable.	Y
PSYC 100 or PSYC 101	Psychology of Human Relations, General Psychology	3	PSYC 100 - Human relations is a practical course that presents the interpersonal "people skills" that are important in the modern workplace. Topics include communicating effectively, assertive behavior, teamwork, conflict resolution, and work ethics. Students will gain awareness of their individual work styles and how to work effectively with people with different styles in a diverse workplace. Specific techniques for coping with job stress and managing anger will also be emphasized. Class activities and assignments will stress practical application of skills. Course is also applicable in personal settings, such as family, social, and school. PSYC 101 - This course is an introduction survey to the field of psychology with consideration of the biological bases of behavior, sensory and perceptual processes, learning and memory, human growth and development, social behavior and normal and abnormal behavior. *College transferable.	Y
ECON 105 or ECON 201	Leadership in the Global Workplace, Principles of Microeconomics I	3	ECON 105 - The study of traditional theories of leadership, as well as the most recently developed leadership philosophies. This course will focus on the application of leadership concepts through critical thinking and the development of critical leadership skills needed in the global workplace. Leadership traits, ethics, changing demographics, workforce diversity, and financial planning are also included. Upon successful completion of this course, the student will be able to relate to the importance of leadership both personal and professional. ECON 201 - This course studies the basic economic concepts as they relate to consumer, worker and business decisions. Emphasis is given to satisfaction maximizing behavior by individuals and profit maximization by firms. Market structures are thoroughly analyzed regarding their effect on price, output and competitiveness.	Y
CSC 102	Windows Application for Technicians	3	CSC 102 - Using a Windows-based computer and related software, students will gain a basic operational knowledge of the Windows operating system, Microsoft Office 2021, word processing, spreadsheet, and presentation software.	Y
SUBTOTAL OF GENERAL EDUCATION CREDITS:		15	TOTAL NEW COURSES:	0

II. PROGRAM CORE

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 3: Program of Study

Lake Area Technical College
Livestock Production & Management

AGR 100	Soils & Fertilizers	2	This course provides students with a foundational understanding of soil properties including structure, texture, tilth, permeability, soil types, organic matter, and soil chemistry. Emphasis is placed on applying techniques to improve soil quality and prevent erosion caused by water and wind. Students will also explore the role of fertilizers, including their sources, components, and functions. By the end of the course, students will be able to formulate custom fertilizer blends and calculate pricing to meet specific agronomic needs.	N
AGR 211	Animal Anatomy	3	Animal Anatomy and Physiology focuses on accurately describing the form and structure of the animal body and the functions of its systems. Through classroom instruction and hands-on farm experiences, students gain a solid foundation in basic medical A&P, specifically as it applies to livestock species. Upon completion, students will be able to identify anatomical structures and describe the basic functions and vital processes of all major body systems.	Y
AGR 233	Commodity Marketing I	3	This course introduces students to the global and domestic factors influencing commodity markets, including export trends and technology. Students will explore futures markets, price risk management strategies, and the use of forward contracts, hedging, and options to manage grain marketing decisions. Emphasis is placed on understanding basis, market mechanics, and real-world application through contract analysis and scenario-based learning.	Y
AGR 127	Ag Accounting	3	This introductory course covers the fundamentals of financial recordkeeping for farm and ranch operations, focusing on accounting principles, financial statements, and the tracking of income and expenses.	N
AGR 110	Animal Science & Husbandry	2	This introductory course provides students with a broad overview of livestock industry, covering ruminant and monogastric species, focusing on their production, reproduction, genetics, nutrition, and basic husbandry. Emphasis is placed on understanding livestock behavior, facility design, and handling techniques to ensure the safe, humane, and welfare-oriented care of animals.	N
AGR 103	Livestock Genetics & Breeding	2	This course provides students with a comprehensive understanding of livestock reproduction, including reproductive anatomy, estrous cycles, advanced breeding techniques, breeding systems, and genetics essential for managing livestock.	Y
AG 106	Animal Health & Disease Prevention	2	Animal Health and Disease Prevention covers topics from cause of disease, disease transmission, and zoonotic diseases to diagnostic processes and preventative measures, emphasizing the importance of animal health.	Y
AGR 202	Forages and Range Management	3	Forages and Range Management will cover the production, management, and utilization of cool and warm season forages and grasses. Topics covered include livestock rangeland management, forage types, quality at harvest, forage cover crops, and grazing systems.	Y
AGR 254	Cow-Calf Production	2	Cow-Calf Production will cover topics including herd management, nutritional needs through the production stages, heifer retention and development, and bull management. Utilizing record keeping and benchmarks to enhance operation efficiency and increase profitability.	Y
AG 200	Livestock Nutrition & Feeding	2	Livestock Nutrition and Feeding will provide students the knowledge of the 6 essential nutrients required for animal nutrition, nutrient requirements, digestion, ration formulation, and feeding management for livestock.	Y
AGR 156	Farm Financial Management I	3	Farm Management I focuses on core financial principles essential to operating a successful agricultural business. Students learn to build balance sheets, analyze cash flow, understand loans and collateral, and work with ag lenders. A final project challenges students to manage a simulated farm scenario, applying financial tools and marketing decisions in a real-world context.	Y
AGR 232	Farm Financial Management II	3	This course focuses on the financial management of farm operations, with in-depth conversations on marginal analysis, cost of production, cash flow planning, insurance, taxes, investment evaluation, and enterprise analysis.	Y
AGR XXX	Precision Livestock Technology	1	This course explores modern precision technologies in livestock production, including sensors, RFID, automated systems, and data analytics. Students will learn to apply these tools to improve animal health, efficiency, and decision-making in real-world operations.	N

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 3: Program of Study

Lake Area Technical College
Livestock Production & Management

AGR 205	Treatment of Animal Injuries	2	This course familiarizes students with production animal treatments and procedures while also preparing them to respond to potential emergency situations. Students will collect various samples from livestock, perform routine treatments, and demonstrate methods for managing common diseases and injuries in livestock animals.	Y
AGR 105	Ag Safety	1	Agriculture is a diverse industry, encompassing all sorts of jobs, opportunities, and potential safety hazards. This class provides students with basic knowledge of vehicle and trailer safety, department of transportation rules and regulations, emergency livestock planning, electrical and grain bin safety, and general fire and emergency response training.	Y
AGR 204	Livestock Pharmaceuticals	3	Students will learn and develop pharmaceutical and vaccination protocols for livestock, learn and determine accurate withdrawal times and learn and apply safe handling practices for animals and products.	Y
AGR 261	Livestock Marketing & Evaluation	2	This course explores marketing strategies for livestock producers, with hand-on experience in live cattle and carcass evaluation, while also addressing current trends and hot topics in the meat industry.	Y
AGR 252	Advanced Livestock Nutrition	2	This is a specialized course that builds on foundational nutrition concepts, studying detailed ration formulations for cow-calf and feedlot operations, focusing on protein and energy, and the critical role of vitamins and minerals in preventing deficiencies and toxicities.	Y
AGR XXX	Feedlot Management	2	This class emphasizes key aspects of managing feedlot cattle, including receiving and processing of calves, performance tracking, implant utilization, feed efficiency, facility design, manure management, permits, and environmental compliance.	N
AGR 237	Agribusiness Law & Compliance	3	This course introduces students to the legal principles and regulations that impact agricultural operations, with a focus on understanding and navigating contracts, property rights, regulatory compliance, and laws related to land use, family matters, and environmental stewardship.	Y
AGR 117	Livestock Production & Management Supervised Occupational Experience I	5	Students complete a supervised internship in a livestock-focused operation. Emphasis is placed on hands-on learning, professionalism, and problem-solving in real-world settings. Progress is monitored through employer evaluations and instructor check-ins.	Y
AGR 263	Livestock Production & Management Supervised Occupational Experience II	5	Students complete a supervised internship in a livestock-focused operation. Emphasis is placed on hands-on learning, professionalism, and problem-solving in real-world settings. Progress is monitored through employer evaluations and instructor check-ins.	Y
AGR XXX	1st Year Spring Semester	1	AGR 107, AGR 170	Y
SUBTOTAL OF PROGRAM CREDITS:		57	TOTAL NEW COURSES:	5

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION

Appendix 4: Alignment Projection

Lake Area Technical College
Livestock Production & Management

TOTAL CREDITS IN PROPOSED PROGRAM:

72

I. STACKABLE OPPORTUNITIES							
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
Precision Agriculture Technology		Long-term Certificate	X	Forthcoming	Fall, 2026	72	21
		Diploma					
	X	AAS					
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
Natural Resources Management		Long-term Certificate	X	Forthcoming		71	16
	X	Diploma					
	X	AAS					
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
Agriculture Business		Long-term Certificate	X	Forthcoming	Fall, 2026	70	35
		Diploma					
	X	AAS					
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
Production Agriculture		Long-term Certificate	X	Forthcoming	Fall, 2026	71	30
		Diploma					
	X	AAS					

II. ARTICULATION AGREEMENTS (BACCALAUREATE)						
PROGRAM NAME	COLLEGE OR UNIVERSITY	X	Existing	If Forthcoming: Projected Timeline	Total Credits in Bachelor's Degree	How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement?
Agriculture	South Dakota State University	X	Forthcoming			
				Fall, 2026	120	***
PROGRAM NAME	COLLEGE OR UNIVERSITY		Existing	If Forthcoming: Projected Timeline	Total Credits in Bachelor's Degree	How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement?
			Forthcoming			
PROGRAM NAME	COLLEGE OR UNIVERSITY		Existing	If Forthcoming: Projected Timeline	Total Credits in Bachelor's Degree	How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement?
			Forthcoming			

*** Existing articulation agreement with SDSU is being revised to match the updated LATC Ag programs.

III. LICENSURE AND CERTIFICATION OPPORTUNITIES		
The PROPOSED PROGRAM will qualify students to pursue the following licensure and/or certification opportunities:		
LICENSURE/CERTIFICATION	OVERSIGHT ORGANIZATION	Will the licensure/certification require reporting per SDCL 13-1-61?
LICENSURE/CERTIFICATION	OVERSIGHT ORGANIZATION	Will the licensure/certification require reporting per SDCL 13-1-61?
LICENSURE/CERTIFICATION	OVERSIGHT ORGANIZATION	Will the licensure/certification require reporting per SDCL 13-1-61?

*Numbers will be updated as curriculums are being completed.

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION

Appendix 5: Financial Projections

Lake Area Technical College

AAS in Ag. Business, Livestock Production & Management, Precision Ag. Technology, and Production Ag.**

	YEAR 1	YEAR 2	YEAR 3
	2026-27	2027-28	2028-29
Student FTE	176	194	224

I. PROJECTED EXPENDITURES

A. ONE-TIME

New/Renovated Facilities	\$ -	\$ -	\$ -
Equipment	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -
Sub-Total: One-time	\$ -	\$ -	\$ -

B. RECURRING

B.1. PERSONNEL

FTE (Faculty and Staff)	9	9	11
Salary & Benefits	\$ 854,239.94	\$ 875,595.93	\$ 989,075.83

B.2. OPERATING

Rental / Lease	\$ 26,250.00	\$ 27,562.50	\$ 28,940.63
Contractual Services	\$ 77,700.00	\$ 81,585.00	\$ 85,664.25
Equipment	\$ -	\$ -	\$ -
Supplies	\$ 52,500.00	\$ 55,125.00	\$ 57,881.25
Travel	\$ 21,000.00	\$ 22,050.00	\$ 23,152.50
Other	\$ 408,663.40	\$ 448,533.00	\$ 508,337.40
Sub-Total: Operating	\$ 586,113.40	\$ 634,855.50	\$ 703,976.03
Total: Recurring	\$ 1,440,353.34	\$ 1,510,451.43	\$ 1,693,051.86

TOTAL EXPENDITURES (A + B)	\$ 1,440,353.34	\$ 1,510,451.43	\$ 1,693,051.86
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II. PROJECTED REVENUE

Tuition	\$ 686,400.00	\$ 756,600.00	\$ 873,600.00
State Fees	\$ 232,320.00	\$ 256,080.00	\$ 295,680.00
Local Fees	\$ 295,815.00	\$ 324,675.00	\$ 367,965.00
Location-Based Fees	\$ -	\$ -	\$ -
State Sources	\$ 1,052,952.66	\$ 114,928.25	\$ 1,223,701.74
Federal Sources	\$ -	\$ -	\$ -
Private Grants or Gifts	\$ -	\$ -	\$ -
Other	\$ 193,827.50	\$ 212,737.50	\$ 241,102.50

TOTAL REVENUE	\$ 2,461,315.16	\$ 1,665,020.75	\$ 3,002,049.24
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REVENUE - EXPENDITURES	\$ 1,020,961.82	\$ 154,569.32	\$ 1,308,997.38
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*Projections are held constant based on current fiscal year. Inflation or rate changes are not factored.

Notes:

****Board staff has approved LATC's submission of one consolidated budget for Ag. Business, Livestock Production & Management, Precision Ag. Technology, and Production Ag. due to the nature of the proposed changes.**

April 8, 2025

South Dakota Board of Technical Education
800 Governor's Drive
Pierre, SD 57501

Dear Committee,

My name is Madison Kovarna and I'm writing to share my strong support for the development of a Livestock Production & Management program at Lake Area Technical College. I am currently employed by South Dakota State University Extension as a Beef Nutrition Field Specialist; however, the views expressed in this letter are my own and do not necessarily reflect those of my employer.

In my experience growing up in and being employed in the agricultural industry, I see the need every day for skilled, knowledgeable professionals who not only understand the business behind operating a successful livestock enterprise but also proper animal husbandry of various species. The state of South Dakota relies heavily on the agricultural industry, namely the beef, pork, and dairy sectors. As the state continues to grow and expand its animal agriculture footprint, it is more important than ever to ensure we have a workforce prepared to meet the evolving demands of this vital industry.

Although I am only 24 years old, I have already observed significant changes in livestock production practices. Practical skills and technological literacy are becoming essential components of successful operations. Topics such as traceability, environmental stewardship, feed efficiency, genetic improvement, and animal health are now front and center in the daily responsibilities of those in the field. As agriculture becomes increasingly specialized, a general agriculture degree often does not provide the depth of training required by today's students. A dedicated Livestock Production & Management program would offer invaluable hands-on experience with real-world tools—preparing students whether they plan to return to a family operation, start their own, enter the commercial workforce, or pursue further education.

Lake Area Technical College has consistently demonstrated a commitment to meeting industry demands while placing a strong emphasis on student-centered education. Establishing a Livestock Production & Management program would further strengthen this mission by cultivating a skilled workforce equipped to support and advance one of South Dakota's most vital economic sectors. Through a balanced curriculum that blends classroom learning, practical experience, and sound management training, students will be well-prepared to thrive in diverse roles within the livestock industry.

I am proud to offer my full support for this initiative. I am confident that it will play a critical role in shaping the future of livestock production in our state and contribute meaningfully to the long-term strength and sustainability of South Dakota's agricultural economy.

Sincerely,

Madison Kovarna

May 6, 2025

South Dakota Board of Technical Education
800 Governor's Drive
Pierre, SD 57501

Dear Committee,

On behalf of Farm Credit Services of America, I'm writing to share my strong support for the development of a Livestock Production & Management program at Lake Area Technical College. As someone who works in the livestock industry, I see the need every day for skilled, knowledgeable professionals who understand both animal husbandry and the business behind raising livestock. South Dakota's ag economy depends heavily on beef, pork, and dairy production, and we need a workforce that's prepared to meet the demands of this essential industry.

Raising livestock today isn't what it was a generation ago. From feed efficiency and genetics to animal health, traceability, and environmental stewardship—there's a high level of technical knowledge and practical skill required to be successful. A dedicated Livestock Production & Management program would give students hands-on experience with real-world tools, whether they're working toward managing a feedlot, operating a cow-calf operation, or entering the animal health field.

Lake Area Tech has a strong reputation for aligning programs with industry needs, and this new focus on livestock would help develop a much-needed pipeline of trained individuals ready to enter one of South Dakota's most vital sectors. The combination of classroom learning, real production experience, and a strong foundation in management principles will set graduates up for success, whether they return to family operations or take on leadership roles in ag businesses.

I fully support this initiative and believe it will have a lasting, positive impact on our state's ag economy and the future of livestock production. As a producer myself I know how much this will be a change for the positive of the students as well as the industry within South Dakota! Thank you for your time and thoughtful consideration.

Sincerely,

Laurie Johnson
Developing Markets-Starting Gate Officer
Farm Credit Services of America



April 14, 2025
South Dakota Board of Technical Education
800 Governor's Drive
Pierre, SD 57501

Dear Board Members,

I am writing on behalf of Midwest Veterinary Service to endorse the establishment of a Livestock Production & Management program at Lake Area Technical College. South Dakota's livestock industry, a cornerstone of our state's economy, urgently needs skilled professionals to sustain its growth and meet evolving demands. With nearly 4 million beef cattle—outnumbering residents five to one—and over 92,000 dairy cows producing 1.8 billion pounds of milk annually, this sector drives significant economic activity, contributing billions in revenue and supporting thousands of jobs statewide.

Today's livestock operations require expertise far beyond traditional practices. Producers must navigate complex challenges like precision nutrition, genetic selection, disease prevention, and sustainable land use, all while meeting consumer expectations for quality and traceability. A specialized program at Lake Area Tech would equip students with practical skills and cutting-edge knowledge, preparing them for careers in feedlot operations, dairy management, pork production, or veterinary support roles.

Lake Area Tech's track record of delivering industry-focused education makes it uniquely positioned to bridge the workforce gap in agriculture. By offering hands-on training in livestock handling, data-driven decision-making, and business operations, this program would empower graduates to strengthen family farms or lead innovation in agribusiness. Such an initiative aligns directly with the needs of an industry that accounts for a substantial share of South Dakota's agricultural output, ensuring our state remains a leader in livestock production.

I enthusiastically support this program and am confident it will deliver lasting benefits to our communities and economy. Thank you for your consideration.

Sincerely,

Chris Bartelt
Chief Operating Officer
Midwest Veterinary Service
LATC Livestock Production & Management Advisory Board



SDCA
PO Box 1258
Pierre, SD 57501
(605) 945-2333

August 15, 2025

South Dakota Board of Technical Education

Dear Members of the Board,

On behalf of the South Dakota Cattlemen's Association, I am writing to express our strong support for the Livestock Production & Management program at Lake Area Technical College.

South Dakota's livestock industry is a cornerstone of our state's economy, and well-trained professionals are essential to its continued success. Today's operations require employees with advanced skills in animal health, nutrition, reproduction, handling, and financial management, along with a strong understanding of technology and data-driven decision-making.

Lake Area Tech's Livestock Production & Management graduates are entering the workforce well-prepared to meet these needs. These graduates are currently earning an **average wage of \$18.76 per hour**, and that figure often does not include additional benefits commonly offered in the livestock industry, such as free or subsidized housing, utilities, vehicles, fuel allowances, and even beef/meat products. These benefits significantly increase the overall compensation package and demonstrate the value of skilled employees in our sector.

Employers across South Dakota consistently report difficulty finding qualified labor. Programs like this are critical to filling that gap and ensuring the long-term strength and competitiveness of our cattle industry. For these reasons, the South Dakota Cattlemen's Association supports Lake Area Technical College's efforts to train the next generation of livestock professionals.

Thank you for your consideration and commitment to education that aligns with industry needs.

Sincerely,

A handwritten signature in blue ink that reads "Warren Symens".

Warren Symens
SDCA President