

PROPOSAL FOR NEW INSTRUCTIONAL PROGRAM

SECTION 1

I. Descriptive Information

Institution Submitting Proposal: Western Nebraska Community College

Title of Program: Applied Agriculture Technologies

Degree: Certificate

Other Programs offered in this filed by this institution: None

CIP Code: 01.9999 Agriculture, Agriculture Operations, and Related Sciences, Other

Administrative unit in which the program will be located: Applied Technologies
Division

Proposed delivery site(s), and type(s) of delivery, if applicable: Western Nebraska
Community College Campuses, Face-to-face, blended, and online.

Date approved by Governing Board: May 11, 2016

Proposed date to initiate program: August 2017

Description and purpose of the proposed program: The Applied Agriculture Technologies Program is a 1-year program designed to prepare individuals for a career in agriculture. The program will emphasize technical knowledge and skills related to harvest and feedyard operations. Coursework will provide learning related to machinery use and operation, equipment and facility maintenance, regulations governing agriculture, plant science, and animal science. Program course detail is presented in **Attachment 1**. Major program objectives include the following:

- Identify various technologies related to harvest and livestock operations.
- Identify pertinent regulations and compliance issues governing agriculture.
- Demonstrate proficient and safe operation of agricultural equipment.
- Demonstrate the ability to troubleshoot relevant technologies.
- Examine process/production flow parameters in agriculture.

This program also provides training in language and math, both of which are critical to the agricultural industry. No such technical program is offered at Western Nebraska Community College.

Contact if additional information is needed: Jason Stratman

Address: 2620 College Park, Scottsbluff, NE 69361

Telephone: 308-635-6740 **Fax:** 308-635-6704

If the program has a projected ending date, please indicate: None

Chief Executive Officers or other Authorized Officers Signature:

 R. K. Sale, Executive Vice President
6-30-16

II. Review Criteria

A. Meeting the Role and Mission of Community Colleges

Western Nebraska Community College (WNCC) assures learning opportunities for all – enriching lives, invigorating communities, creating futures. As a community college, WNCC offers assurances that the proposed program is consistent with its role and mission of meeting vocational/technical, liberal arts, college transfer, and continuing education needs in accordance with Nebraska statutes. WNCC was established by the State legislature in 1973 and provides comprehensive educational opportunities and services to meet the diverse needs of its public. The college provides:

1. Career education programs that develop knowledge and workforce skills.
2. The first two years of an undergraduate curriculum so students may successful transfer.
3. A general education program that promotes the development of basic knowledge and skills.
4. Customized educational programs that meet personal and professional needs of individuals, businesses, and industries.
5. Student support services and student life opportunities that promote social, personal and educational development.
6. Transitional learning opportunities that enable students to be successful in related college course work.
7. Resources and services that contribute to the intellectual and cultural life of the community.
8. Assistance with workforce, community, and economic development.

There is currently not a 1-year technical program for agriculture in the western half of Nebraska. Approval of the Applied Agriculture Technologies Program would serve a growing need in rural Nebraska and neighboring states adjacent to the WNCC service area.

B. Evidence of Need and Demand

Need for the program in the Institution, the community, and region.

It should come as no surprise that agriculture is a staple industry throughout Nebraska. In 2010, the Nebraska Department of Economic Development and the Nebraska Department of Labor completed an assessment known as the Battelle Study. This study highlighted 12 primary industry clusters, two of which were specifically related to agricultural operations. Demand for a technical workforce specific to agriculture in the panhandle and regional bordering states is evident through economic modeling data. Interest and support is evident through letters of support from the University of Nebraska Panhandle Research Extension Center, Aulick Industries, and Scottsbluff High School (**Attachment 2**).

Economic modeling data was gathered through services provided by Economic Modeling Specialists, Inc (EMSI). EMSI data indicates 68 annual openings with an estimated 66 new jobs being created through 2020. A summary of job demand and growth is presented in **Table 1** below. Currently, WNCC offers no such program to meet this economic need.

Table 1- Summary of Demand

SOC	Description	Avg. Hourly Earnings	2013 Jobs	2020 Jobs	2013 - 2020 Change	2013 - 2020 % Change	Annual Open
19-4011	Agricultural and Food Science Technicians	\$19.29	35	37	2	6%	2
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$19.87	75	78	3	4%	3
45-2041	Graders and Sorters, Agricultural Products	\$10.82	38	40	2	5%	Insf. Data
45-2091	Agricultural Equipment Operators	\$13.29	139	146	7	5%	6
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$12.89	1,018	1,051	33	3%	44
45-2099	Agricultural Workers, All Other	\$15.20	17	17	0	0%	Insf. Data
49-3041	Farm Equipment Mechanics and Service Technicians	\$17.46	213	232	19	9%	13
			1,535	1,601	66	4.3%	68

Data extracted from EMSI Economic Modeling (2015)

The industry in the local economy

Agriculture is a predominant industry in western Nebraska. Operations related to both harvest and livestock are spread throughout the WNCC service area and include operations related to sugar beet harvest and refining, bean harvesting, corn and grain harvesting, agriculture implement dealerships, agriculture transportation and manufacturing, cooperative operations, and livestock operations. Evidence of the diversity of the local industry is highlighted through the letters of support from local employers.

Industry demand for training in the local and regional economy

To best understand the educational priorities of the local and regional workforce, WNCC brought together an advisory committee that consisted of representation from the following organizations: 21st Century Equipment, Aulick Industries, Kelley Bean Company, Panhandle Coop, Scottsbluff High School, University of Nebraska Extension, Westco, Winner Circle Feedyards. Gaps in technical skills for entry level workers and limited educational opportunities were expressed as primary concerns from all advisory participants. In particular, concern for students not bound for four-year institutions was voiced.

Local Shortages within the Targeted Industry

Table 1 (above) summarizes the current worker shortage in the WNCC service area. As shown in the table, there are approximately 1,535 related jobs in WNCC's 12.5 county area. Projected new job openings is expected to increase by 4.3% through 2020. Additionally, 68 jobs are open annually throughout the service area. This, coupled with border-state operations highlighted in letters from industry partners, highlight the need for educational opportunities to meet the growing workforce shortage.

Demand for the Program (including the extent of student interest)

The Applied Agriculture Program is designed to provide a multi-disciplined technical background related to agricultural operations. High school graduate demand is expected to be high. Scottsbluff High School (SHS) is the largest high school in the WNCC service area. Working with SHS, student interest was gauged and an estimated 10 students would likely enter the program from this school alone. Several other area

high schools, such as Banner County Schools, Bridgeport High School, Minatare High School, Morrill High School, and Sioux County High School, have agriculture programming from which enrollments would be expected. Being a 1-year program, there is also potential for non-traditional enrollments for those underemployed wanting a career change.

C. Adequacy of Resources

Faculty and Staff Resources

The Applied Agriculture Technologies Program will require one full-time faculty. The program will require the hiring of an individual with significant education and industry experience. To maximize resources, the program has been designed with both current and new coursework, particularly technical elective options (welding, commercial driving, etc). This allows for stacked credentials necessary in the agricultural industry (i.e. CDL, AWS in addition to program certificate). Additionally, expertise from the University of Nebraska Panhandle Extension Office has been offered to assist (see attached letter of support).

Physical Facilities

Lab facilities for the Applied Agriculture Technologies Program will be housed in various locations at the Scottsbluff Campus. These include a medium-size lab at the Applied Technologies Building and a larger lab space located at the Harms Advanced Technology Center. As one of the intents of this program is to offer as much outside of the Scottsbluff Campus as possible, lecture spaces will be incorporated into shared lecture areas and interactive television classrooms to live broadcast between Scottsbluff, Sidney, and Alliance campus locations.

Instructional Equipment and Informational Resources

WNCC will utilize the budgeting process and seek additional funding sources and donations to acquire equipment and supplies necessary to support the training goals and objectives of the Applied Agriculture Technologies Program. Additionally, some program resources currently exist. WNCC currently owns a grain bin rescue simulator and related equipment. This resource is used to meet area customized training needs.

Additionally, WNCC was recently awarded a National Institute for Occupational Safety and Health sub-award (No. 34-5420-2002-202) through the University of Nebraska Medical Center's Center for Agriculture Safety and Health. As part of the grant, WNCC developed agricultural safety curriculum in multiple languages. WNCC also owns three semi-trucks and trailers to support the commercial driving portions of the program.

Budget Projections

The Applied Agriculture Certificate Program projected expenses and the revenue for a five year period is included as **Attachment 3**. Year 1 is a development year for resources and curriculum. Year 2, courses will launch.

D. Avoidance of Unnecessary Duplication

There are no such programs in the WNCC or adjacent service areas.

E. Consistency with the Comprehensive Statewide Plan

The WNCC Applied Agriculture Program is consistent with the major statewide goals found in Nebraska's Comprehensive Statewide Plan for Postsecondary Education, which was last revised in 2006. In particular, this program meets the needs of students, the State, and is considerate of partnerships and collaboration

Meeting the Needs of Students

The proposed program will incorporate practical, real-world skills and technology related to the needs of the agricultural workforce. Instruction will include both lab and lecture components that incorporate industry machinery and equipment, as well as incorporate live simulations to assure attainment of on-the-job skills necessary to be successful. WNCC offers a full range of student support services to assure equal access. Various educational technologies and mobile resources will be utilized to make much of the curriculum available throughout the service area.

Meeting the Needs of the State

Workforce development is a target of the Comprehensive Statewide Plan. Skills learned through the Applied Agriculture Program will apply directly to technical areas needed by employers in the area. These skills include, but are not limited to, welding, hydraulics, equipment operation, water management, flow calculations, understanding of technical language, and regulatory compliance. These will ensure that the increase in demand for technically skilled workers in the WNCC service area and surrounding areas are met.

Meeting Educational Needs Through Partnerships and Collaboration

WNCC has garnered participation in insight from a number of local partners. Educational partners engaged have been the largest high school in the service area as well as the University of Nebraska Panhandle Extension Center. Industry partners included six agricultural industry employers with operations related to agricultural machinery, harvest, and livestock. The diversity of the group affords a pipeline for students to enter the program, obtain a variety of skills and knowledge while in the program, and opportunities for quick employment at the completion of the program.

F. References

Nebraska Department of Economic Development (2010). *Battelle Study*. Retrieved December 2015 from <http://www.neded.org/business/data-a-research>.

EMSI (2015). *Agriculture Employment Data*. Retrieved December 2015 from www.emsi.com.

Nebraska's Coordinating Commission for Postsecondary Education (2006). *Comprehensive Statewide Plan for Postsecondary Education*. Retrieved December 2015 from <https://ccpe.nebraska.gov/sites/ccpe.nebraska.gov/files/doc/CompPlan.pdf>

ATTACHMENT 1

CURRICULUM (Per Industry Partners)

APPLIED AGRICULTURE TECHNOLOGIES CERTIFICATE

Catalog Description:

This program will emphasize technical knowledge and skills related to harvest and feedyard operations. Coursework will provide learning related to agricultural machinery use and operation, facility and equipment maintenance, regulations governing agriculture, plant science, and animal science.

Required Program of Study (2 semesters)

<u>First Semester</u>		Credits
Course		
AGRI xxxx	Introduction to Technical and Applied Agriculture	3
AGRI xxxx	Agriculture Regulations Overview	3
AGRI xxxx	Pest and Weed Control	3
AGRI xxxx	Water System Management	3
MATH-0150	Technical Mathematics (or higher)	3-4
Total Credit hours		15-16
<u>Second Semester</u>		Credits
Course		
AGRI xxxx	Emerging Agriculture Issues	3
AGRI-xxxx	Agriculture Machinery	3
AGRI-xxxx XXXX-xxxx	Agricultural Commercial Vehicle Operation <i>or</i> Technical Elective	3
AGRI-xxxx XXXX-xxxx	Field Practicum <i>or</i> Technical Elective	3
ENGL-0500	Workplace Writing (or higher)	3
Total Credit hours		15
CREDIT TOTAL for CERTIFICATE		30-31

ATTACHMENT 2



730 Ave. I
PO Box 259
Scottsbluff, NE 69361

December 17, 2015

Mr. Todd Holcomb
WNCC
1601 East 27th
Scottsbluff, NE 69361

Re: Ag Program

Aulick Industries is pleased to support the development of the agricultural program within WNCC. The Nebraska Panhandle, Eastern Wyoming and Northern Colorado, is in need of an entry-level skilled labor force in the agricultural. Aulick Industries is committed to doing its part to promote economic growth in the local community as it is essential to the growth of the company and its employee base in the agricultural manufacturing industry. Because of Aulick Industries desire to continuously improve and grow, we are willing and excited to help local school districts and WNCC in the following ways:

- Donation of used equipment
- Employee donated hours for speaking engagements, tours, and training

Because of Aulick Industries desire to continuously improve our community through education for both children and adults, we are very excited to share our ideas and innovations to promote the agricultural industry in an effort to drive job creation. The employees of Aulick Industries are looking forward to actively assisting during the process of developing the Ag Program and will provide as much support necessary for it to be successful. Thank you for the opportunity to partner with you on this project. Aulick Industries is looking forward to the opportunity to combine the expertise of the local school districts and WNCC to serve others in our community and beyond.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Aulick", written in a cursive style.

Jacob Aulick,
Company Director



"Working for Nebraska beef producers - pasture to plate."

February 22, 2016

Jason Stratman
Dean of Workforce Development
Western Nebraska Community College
2620 College Park
Scottsbluff, NE 69361

Dear Jason:

As the Executive Vice President of Nebraska Cattlemen, the members would strongly support the instructional program being developed by Western Nebraska Community College that is focused on Applied Agriculture Technologies.

Agriculture is a staple in the panhandle of Nebraska. Our members frequently express frustrations with finding labor. If a farm/ranch manager is able to hire qualified labor, it will allow the manager time to focus on the big-picture direction of the business.

Since the proposal is designed to prepare individuals for a career in agriculture, this program will fill a void that exists for entry level workers. This educational program will also assist the workforce to succeed in this industry. Not only will the program prepare individuals for a career in agriculture, it will provide training in language and math, both of which are critical to the agricultural industry.

In conclusion, Nebraska Cattlemen fully supports the efforts of Western Nebraska Community College to provide training in the technical knowledge and skills related to harvest and feedyard operations.

Sincerely,

A handwritten signature in black ink that reads "Pete McClymont". The signature is written in a cursive style.

Pete McClymont
Executive Vice President



Jack C Whittier, PhD
Panhandle Research and Extension Director
University of Nebraska
4502 Avenue I
Scottsbluff, NE 69361
Office: 308-632-1254
Cell: 308-765-0218
jwhittier2@unl.edu

Thursday, December 17, 2015

Dr. Todd Holcomb, President
Western Nebraska Community College
1601 East 27th Street
Scottsbluff, NE 69361

Dear Dr. Holcomb,

I'm writing in support of the Applied Ag Certificate Pathway that Jason Stratman, Dean of Workforce Development at WNCC is developing. Jason has discussed this concept with Dr. Jeff Bradshaw and others at Panhandle Research and Extension Center (PHREC).

Here at PHREC, our scientists could potentially be a partner in educating and providing complementary research to this effort. Specifically, we believe our scientists could collaborate in some of the classes listed in the Applied Ag Certificate Pathway draft curriculum Jason provided for our review. There may be additional ways such as student labor experiences, job shadowing, internships, etc., in which we could collaborate in this endeavor.

We appreciate the opportunity to continue to build collaborative relationship with WNCC. Please contact me if you have further questions.

Regards,

A handwritten signature in purple ink that reads 'Jack C Whittier'.

Jack C Whittier
Panhandle Research and Extension Director
University of Nebraska



Scottsbluff Senior High School

313 East 27th Street • Scottsbluff, Nebraska 69361
Phone (308) 635-6230 • Fax (308) 635-6240 • www.sbbs.net

To Whom It May Concern:

Scottsbluff High School, SHS, is currently in the process of creating wall-to-wall career academy programming. In the student's freshman and sophomore years, they take introductory career and technical education courses along with many support programs with a focus of exposing students to a variety of career pathways within various industries. In the student's junior year, they will select a Foundational Career Academy containing two career related courses and one academic course that is generally aligned to a career pathway. In the student's senior year, they have the opportunity to select a Specialized Career Academy Pathway. Specialized courses are specifically aligned to post-secondary and career transition. Opportunities at the specialized level include dual credit opportunities, certification attainment, and internship participation.

In developing this model, SHS has worked closely with WNCC to provide a blend of courses at SHS and WNCC campuses allowing students to start working toward specific degree programming or industry standard certification. Currently, there are six career academies with at least three career pathways contained within each of the six academies. In almost all academies there are opportunities for post-secondary attainment and training. One academy that is currently lacking post-secondary training is the Ag, Food, and Natural Resources Career Academy. This academy provides pathways in vet and animal science, ag machinery, plant and environmental science, and agribusiness.

Based on a current survey of sophomore students, there are approximately 30 students interested in enrolling in the junior level Ag, Food, and Natural Resources Foundational Career Academy. These students interest are equally spread among the various pathway options within the academy. At this time, local post-secondary education and training is limited for senior students looking to pursue further degree programs or receive adequate training to enter the labor force. The only dual-credit opportunities available for students enrolled in the Ag, Food, and Natural Resources Academy are through on-line offerings.

Based on the level of interest, the strong agricultural presence in Western Nebraska, and the limited opportunities for post-secondary training, we are recommending the creation of Agricultural programming through WNCC. Although on-line courses are available, students generally will not enroll in these courses. Those enrolling in the course are more likely to leave the area pursuing degree programming through the college offering the dual credit. Unfortunately, these alternatives leave the community with a small, untrained workforce. Should WNCC create an Agricultural program, SHS would pursue a goal of enrolling a minimum of ten senior students per year in introductory dual-credit courses in hopes of seeing seven students complete the program within two years of graduation. SHS feels the programming will aid in continuing to serve student needs while meeting the demand of business and industry within the valley. Thank you for your time and consideration of our request.

Sincerely,

Justin Shaddick
Assistant Principal
Scottsbluff High School



NORTH PLATTE

Natural Resources District

P.O. Box 280 • 100547 Airport Rd. • Scottsbluff, NE 69363-0280 • Phone: 308 632-2749 • Fax: 308 632-4346

February 19, 2016

Jason Stratman, Dean of Workforce Development
Western Nebraska Community College
2620 College Park
Scottsbluff, NE 69361

VIA ELECTRONIC MAIL

Dear Mr. Stratman:

The North Platte Natural Resources District (NRD or District) is providing this letter to support the development of the proposed Applied Agriculture Technologies program at Western Nebraska Community College (WNCC). The District recognizes the key role of agriculture in the regional and state economy, as well as the importance of having a trained agricultural workforce to remain competitive.

The District considers that, along with the curriculum components on agricultural regulations and water system management, the curriculum should also include an overview of water and natural resources regulations. Ideally, this component would include pertinent laws and rules at the federal, state, and local NRD levels. The District believes that successful agriculture personnel should have at least a basic foundation in the regulations that influence the kinds of agricultural water systems and how those systems are required to operate. The District would be happy to assist WNCC in developing this portion of the curriculum.

The District hopes that WNCC will choose to implement the proposed program. Please contact our office at (308) 632-2749 if we may be of assistance in this process.

Sincerely,

John Berge
General Manager

ATTACHMENT 3

Applied Agriculture Expense and Revenue Projections

	Year 1 ('16-'17)		Year 2 ('17-'18)		Year 3 ('18-'19)		Year 4 ('19-'20)		Year 5 ('20-'21)	
	Expense	Revenue	Expense	Revenue	Expense	Revenue	Expense	Revenue	Expense	Revenue
Personnel*										
Personnel Salary	\$ 45,000.00		\$ 46,350.00		\$ 47,740.50		\$ 49,172.72		\$ 50,647.90	
Personnel Benefits (35% of Salary)	\$ 15,750.00		\$ 16,222.50		\$ 16,709.18		\$ 17,210.45		\$ 17,726.76	
Supplies and Equipment										
Small equipment (pumps, sprayers, etc)	\$ 10,000.00		\$ 5,000.00						\$ -	
Large equipment (used tractor, augers, misc. implement)	\$ 10,000.00		\$ 20,000.00						\$ -	
Equipment maintenance **	\$ -		\$ -						\$ -	
Classroom supplies and materials	\$ -		\$ 2,000.00		\$ 7,000.00		\$ 7,000.00		\$ 7,000.00	
Perkins Funds (Wheel Loader Simulator)	\$ 75,000.00		\$ 2,000.00		\$ 2,000.00		\$ 2,000.00		\$ 2,000.00	
Continued faculty development	\$ -		\$ 1,500.00		\$ 1,500.00		\$ 1,500.00		\$ 1,500.00	
Revenues*										
Student tuition (15 students/term)	\$ -		\$ 41,175.00		\$ 42,410.25		\$ 43,682.56		\$ 44,993.03	
Standard fees	\$ -		\$ 7,875.00		\$ 8,111.25		\$ 8,354.59		\$ 8,605.23	
Program fees	\$ -		\$ 6,750.00		\$ 6,952.50		\$ 7,161.08		\$ 7,375.91	
Books/supplies			\$ 1,400.00		\$ 1,442.00		\$ 1,485.26		\$ 1,529.82	
Room and board (5 students/year)			\$ 6,266.00		\$ 6,453.98		\$ 6,647.60		\$ 6,847.03	
Totals	\$ 155,750.00	\$ -	\$ 91,072.50	\$ 63,466.00	\$ 74,949.68	\$ 65,369.98	\$ 76,883.17	\$ 67,331.08	\$ 78,874.66	\$ 69,351.01

* Assumes 3% annual increase

** Includes maintaining the following *currently owned* equipment:

- Semi truck
- Semi trailer
- Grain bin entry/rescue trailer