

Eastern Wyoming College

Instructional Program Review 2015-2017

Program: Agriculture Cluster

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EASTERN WYOMING COLLEGE Instructional Program Review

Program Name: Agriculture Cluster

Part I: Statistical Data from the past three years:

	2014-2015	2015-2016	2016-2017	5-Year Average
Annualized FTE Enrollment	74	65.8	62.9	65.9
Annualized FTE Faculty	5.1	5.9	5.6	5.3
# Students	78	70	85	73.8
# Graduated	25	22	22	19.6

FTE = Full-time equivalent

Modes of Delivery:

online compressed video face-to-face

Advisory Committee Members and Title or Role:

Steve Feagler	First State Bank
Jason Groene	Torrington High School Ag teacher/FFA Advisor
Kelly Groene	Local Business owner
Dewey Hageman	Ag Business
Dave Hansen	Bank Ag loan officer
Dan Keener	WESTCO
Wheaton Kremke	Ag loan officer
Christine Miller	Miller Feedlot
Ron Miller	retired manager of Horizon West (Case IH)
Matt Moore	Cattle buyer Cargill Meat Solutions
Brent Mullock	Bank Ag loan officer
Ross Newman	Ag producer and County Commissioner
Bob Pedulla	Scottsbluff, NE, High School Ag teacher/FFA Advisor
Dixie Roth	Ag producer
Shay Shimic	Ag Business, adjunct instructor
Ty Steben	Ag Business, adjunct instructor
Rick Vonburg	Former Ag educator, EWC Division Chair
Dr. Darrell Wilkes	Ag Business owner, adjunct instructor

Community Partners or Internships:

The Eastern Wyoming College Agriculture Program collaborates and has developed working relationships with numerous producers, businesses, and institutions throughout our region. Local agriculture business and financial institutions continuously assist in helping students gain hands-on experience. In the 2017 and 2018 the animal science instructors worked with the University of Wyoming Cooperative Extension to teach laboratories for ANSC 1009 via Zoom. The Ag

Program helped place 4 interns to SAREC in Lingle as well as several to local agriculture businesses. The following is a list of some of additional partnership and/or internship locations:

UW SAREC	University of Wyoming Extension	Brown & Co., Inc
George Oschner Ranch	Cherry Creek Angus	Lippincott Feeding
Miller Feedlot	M Lazy Heart Ranch	Jeff Chapman Family
Scott & Allison Salo	Bartlett Appraising	Al & Kay McKee
Dinklage Feedlot	Little Chena Cattle Co.	Hoffman Farms
Doug Booth Family Angus	Patti & Steve Griffith	Z & W Mill
Arrow A Performance Horses	Pinnacle Bank	SS Livestock
Steben Cattle Company	Steben Farms	Yorges Farms
Don Bruner Feed Sales	Stokes Land & Livestock	Westco
Goshen County Schools	Hitchcock Performance Horses	Matt Moore, Cargill
Wyoming Farm Bureau	Wyoming Game & Fish	Torrington Livestock
Middleswarth Herefords	Platte Valley Bank	Pinnacle Bank USDA
USDA FSA Office	Shepard Farms	Marker Ag
Simplot	Downer Farms	Hughes Ranch
Lindy Livestock	Last Chance Horse Co.	JMB Feeders
Muddy Flats Livestock	Bomgaars	Rawhide Fence Co.
Wyoming Vocational Agricultural Teachers Association		NE Coop. Extension

Revisions in Curriculum since Last Review:

During this period the Ag faculty has added several new programs of study. One change was to add an Equine Science option to the AS in Agribusiness and Sciences. We also added Agriculture Communications to this degree option. Another exciting program that was added as a pilot program was a one-year certificate and AAS in Precision Agriculture. We also did some mapping and reordered what semester certain classes were offered to better match the University of Wyoming. These changes have been sent to UW for them to evaluate and approve for 2 plus 2 agreements with them and will be implemented as soon as the paper work is complete. These include: Animal Science Production, Agroecology, Ag Business, Equine Science, and Agriculture Communications.

Part II Narrative Analysis

Description of Community Need

The Eastern Wyoming College service area leads the state in almost every category of livestock and crop production. These producers and the Ag businesses that support them need qualified employees. We worked with Simplot, Westco, and Panhandle Coop to find out how we could best fill their need for qualified employees and in return they wrote letters of support for an EDA grant to help pay for the ATEC building. We have made several changes in our curriculum in regards to their requests.

The agriculture sector in the United States has more job opportunities in production agriculture and agri-business than current agricultural graduates to fill these positions (see following tables). Food production will need to double in the next 30 to 40 years to meet the food and fiber needs of a growing population that will reach 9 billion by 2050. Technology is one piece of the solution for this problem. Precision Agriculture allows farmers and ranchers to be more productive while using less chemicals and water. Rural communities, farms, and ranches will be dependent on a workforce that will have skills in machinery maintenance, welding, crop production, rangeland management, and livestock husbandry/production, plus life skills in communications, time management, decision-making, and leadership.

Description of State and National Trends

United States	Employment		Percent Change	Job Openings
	2012	2022		
Agricultural Workers	815,500	789,300	-3.2	245,500
Wyoming	Employment		Percent Change	Job Openings
	2012	2022		
Agricultural Workers	1,226	1,302	6.2	448

State and National Wages (from 2004 through 2014)

Location	Pay Period	Year or Period				
		10%	25%	Median	75%	90%
United States	Hourly	8.31	8.63	9.15	10.57	13.51
	Yearly	17,290	17,950	19,040	21,980	28,000
Wyoming	Hourly	8.22	9.55	13.06	17.79	22.20
	Yearly	17,090	19,860	27,170	36,990	46,170

Other information or comments that would assist the Commission: Information on this chart was from Wyoming Employment Projections http://doe.state.wy.us/lmi/proj2005/long_occ2014.htm. Wage data are collected by each state through the Occupational Employment Statistics (OES) survey, conducted by the Bureau of Labor Statistics (BLS) at the U.S. Department of Labor. National wage estimates are developed by BLS. State and national occupation information is classified using the Standard Occupation Classification (SOC) system.

Activities in Support of Student Recruitment and Retention:

This year the college had two mass advising days (one each semester) similar to summer registration days. Ag faculty were at both of them and got many students registered. We always have lots of faculty participate in the summer registration days as well. Students are placed in classes according to their ability and in line with Acuplacer guidelines. The Block & Bridle organization, livestock judging and show teams, and rodeo teams provide extracurricular activities that tend to create cohorts of Ag students. In the area of recruiting, faculty members visit local High Schools, attend the state-wide High School Ag Teachers (Wyoming Vocational Agriculture Teachers Association) meetings, and contact potential students via mail and phone. Ag faculty and students are involved in the Sage Brush and Roses Banquet which helps raise funds for the program. The Ag faculty host the annual Agriculture Awards Banquet each spring where top students and graduating students are recognized. Ag faculty are also involved with Technology Day in November and Lancer Look in February. The Ag Department puts on the State FFA Veterinary Science CDE contest. This contest has grown in size, both in number of

contestants and number of participating teams. We also put on a practice range contest in October for FFA chapters for the last three years. We attend the State FFA Conventions and other FFA and 4H events in Montana, Wyoming, and Nebraska to recruit and to sponsor scholarship awards for several other CDE contests, including Farm/Ranch Management, Ag Mechanics, Prepared Speech, and Extemporaneous Speech. The Show Team has been successful in their participation at the Arizona National Stock Show, the Northern International Livestock Show, the Western Junior Livestock Show, and the National Western Stock Show. The EWC Ag department also sponsors awards at the Wyoming State Fair and sponsors the Supreme Cow program at the Goshen County Fair.

Assessment of Student Learning

The program assessment tool for AAS students is the Capstone course where students develop a business plan utilizing the course material that they have covered during their program at EWC. These business plans display much thought, insight, and practical applications of the course material that the students have taken. The program assessment tool for AS students is the Capstone course where students develop an in-depth research paper in an area of the student's interest. The completed paper is also presented orally to the instructor and fellow class members. Students have exhibited excellent research and presentation skills in creating their research papers. Students in Secondary Ag Education complete a Ag Ed portfolio for their Capstone project. The Beef Production Certificate program uses a cumulative exam. As a program, the faculty use the exam scores to look at a course with low scores to see how it might be improved.

Annually the University of Wyoming reports how EWC students that transferred there are performing. We routinely find that our transfers are doing as well as other community college transfers and students that began their education at the University. We also have found that most students that have graduated from EWC in Agriculture have found jobs in their related fields. In summarizing these assessment tools, we have found that students in general have been able to utilize their education when they leave EWC, either to further their education or to go out into the job market.

Strengths of the Program and Faculty:

The program has an excellent advisory committee that meets at least twice a year to review curriculum and make suggestions about the programs. We routinely have 8 to 12 members come to our meetings and give constructive advice on our programs.

The EWC Ag faculty members have strong production backgrounds and are currently involved in agriculture production and students benefit from this experience. Faculty work closely with students in order to ensure they receive the best quality education. We have low student to faculty ratios so that faculty get to know their students very well.

EWC has made progress in working with the University of Wyoming at the SAREC facility and will continue to develop relations to mutually benefit both institutions. Kole Dufore, who is an adjunct instructor for Precision Agriculture, is teaching part of his lab out at SAREC this spring.

Ag faculty continue to attend state FFA functions and meetings, work with 4H programs, as well as visit high school classrooms to educate and recruit.

Dr. Stokes teaches animal science courses at EWC and is the Division Chair for Agriculture, Business, Career and Technology. He is a licensed and federally accredited veterinarian. This is his 18th year teaching at the college. Dr. Stokes graduated from the Ranching for Profit School, which conducts ranch management courses and consultation all around the United States and other countries. He and his wife run a cow-calf and yearling operation as well as a grower feedlot that are Gap 4 certified by IMI Global.

Dr. Younglove, whose PhD is in Rangeland Ecology and Watershed Management, has taken over teaching the Principles of Range Management course and has added a Rangeland Plant Identification course in the fall. This has helped our farm and ranch program retain students and has added electives for the students interested in ranching. Dr. Younglove has half-time workload coaching and half-time instruction. Dr. Younglove also received tenure this spring and is very busy with keeping up the Ag Department's Facebook page. Dr. Younglove and her family are owners of Spy Club lambs and goats.

Kaitlyn Steben received tenure last spring. Kaitlyn has a MS in Ruminant Nutrition and extensive experience with running a start-up business. She is the founder and CEO of Shoo Fly Soap Co. an agri-business using goats' milk for soap and lotion. We have utilized her expertise within this area in teaching some of our agri-business courses. Kaitlyn serves as chair for *Sagebrush and Roses* which is the department's major fund raiser. She also is the secretary and clerk for the Lancer Livestock Sale and helps with the marketing of the event. Kaitlyn also helps maintain the EWC Ag Facebook page. This spring Kaitlyn was awarded the Honorary State Degree by Wyoming FFA Association. Kaitlyn and her husband farm and ranch near Torrington and raise club calves that the show team uses.

Amy Smith has a MS in Agroecology and is teaching our Agroecology courses as well as Soils and Crops courses. Amy also stepped up to the plate to attend an intense one week course at the University of Wyoming so that she could teach our Chemical Safety and Applications Course where students may become qualified to obtain their Commercial Applicators License. This class has been a huge success. Amy also introduced a new Entomology course that she hopes to teach every other fall semester online. Amy and her husband ranch south of Torrington.

John Marrin, MBA is a business instructor hired when Rick Vonburg retired. John has an extensive background in agriculture and teaches our Agriculture Finance course, Ag Econ I and II. He also teaches other business, marketing and computer science courses that some students have taken. John has worked hard at making the classes relevant to our students. He has helped implement the first EWC Millennial Business Club.

Adjunct faculty are a big strength of our programs in agriculture. We have several very qualified instructors that add lots of real-world experience and new faces to our programs. Shay Shimic,

local farmer, commodities broker and former bank auditor teaches our Commodities in Ag. class. Ty Steben, former Case IH mechanic and local farmer, teaches our Hydraulics and Equipment Maintenance and Repair Courses. Dr. Darrell Wilkes, who worked for ABS and NCBA, a local rancher, teaches our Management of Reproduction course. Kole Dufore, who works for Colorado State University Extension, teaches our Introduction to Precision Agriculture course.

Part III Recommendations

Faculty Recommendations

With the addition of Precision Agriculture EWC will need to add an additional full-time faculty member or have to find several adjuncts which may not be available. Faculty would like to add a couple of meat science classes and a meats judging team as well. Meat Science is one area that our program is lacking. Our students taking these classes would better understand the meat and animal science industry. Students in Veterinary Technology would also benefit from these classes and facilities. The meats judging team would bring more transfer students to campus and with classes and facilities, we could recruit students from FFA programs that would come to our campus to work out. As ATEC becomes a reality we would recommend exploring the possibility of having someone to oversee the scheduling and activities of ATEC. It is going to need a “building manager” to make sure that activities are not scheduled on top of each other, etc. We feel this could possibly be something that a work study student might be able to handle. We would like to see increased numbers of livestock used at the North Campus for our Ag classes. The faculty would like to see a land lab that we can use for our classes as well. With these additions our faculty also would like to have a “farm manager” to help with animal care and planning of labs using animals along with perform other duties during the summers when faculty are not here. These duties could include irrigation, pasture rotation of our nannies and ewes, fencing duties, maintaining the crops in the high tunnels, cleaning pens, and working on the land lab etc. We need to keep monitoring how are recent changes are affecting student performance and student numbers. Faculty will continue to explore educational approaches in the classroom that will improve student engagement and student learning. We also want to continue exploring additional program possibilities as our facilities materialize. An alumni list or contact program needs to be created and utilized for marketing and fundraising purposes. With all this program growth, we see a need for increased budgets.

Advisory Committee Recommendations

Committee members have provided invaluable advice in analyzing the proposed ATEC prints.

- They have suggested we be sure to have tie downs in the demonstration area, have indoor wash facilities, and have room for livestock when we have various shows and activities.
- The committee has recommended that EWC offers meat science courses and builds facilities to have hands-on-labs in ATEC.
- They have recommended that EWC keep the Beef Production certificate but perhaps change the name and add more livestock marketing to it.

- They recommend that we continue to look into various types of certification programs in addition to a degree, that will give our students an advantage in gaining employment.
- Another suggestion is a community artificial insemination course in May.
- The Committee recommends that the program continue to monitor the results of the changes made over the last few years to the Ag program.
- They recommend that we begin looking now at the various community activities that we might be able to host in ATEC—from local to national shows, trainings, workshops, expositions, etc.
- They continue to recommend more involvement and contact with every possible Ag related activity in the community and state, especially 4-H and FFA youth activities.
- The committee wants the Ag faculty included in any discussions about the ATEC building that might include building cuts due to the over-run in building costs.

Division Chair Recommendations

The Ag Department has done a lot the past three years. We have continued to work with the architects as needed to design a building that will greatly enhance our programs. The Ag program numbers have been the highest they have ever been the last two years. The Livestock Show Team has had much success and has generated much student interest in our college. We have an Ag faculty team that is dedicated to growing and improving our Ag program. We have worked several weekends or holiday breaks getting ready for FFA contests, banquets, sales and recruiting events. We have strengthened our local ties with SAREC, the UW Extension service, and local producers. We have begun participating in more statewide meetings with FFA Ag instructors/advisors. These activities are bound to result in more recognition and more EWC student recruitment. Specific recommendations are as follows:

- Look to the energy sector of Wyoming to obtain dollars to build ATEC and other CTEC.
- Need a shop space for the Precision Agriculture labs.
- Coaching the show team and livestock judging is quickly becoming a two-person job, and Dr. Younglove is doing this on a half-time release contract. I would like to see an assistant coach to help with these duties. This person could also be the farm manager.
- Continue close involvement with local Ag entities such as SAREC, Extension, and other Ag related organizations. With the addition of a full-time Precision Agriculture faculty, EWC will be better positioned to offer services to SAREC and partner with them on more community activities.
- Continue involvement with FFA and 4-H activities, state meetings, and contests.
- Continue recruitment activities by visiting high school Ag classes where possible.
- Continue statewide articulation meetings with UW and Wyoming Community College instructors so that we can be aware of what is happening in other institutions.
- Address the outcomes assessment process for any improvement and changes that might better reflect student learning and possibilities for more appropriate techniques.

- Evaluate the beef production certificate to see if we can re-brand it by changing the name and the course offerings slightly or offer it as the first year of the farm and ranch management degree.
- Offer a couple meat science courses.
- Start a meats judging team.
- Continue the exploration of other certificate or degree programs that might be developed in the Ag area to meet the market demands. (entrepreneur courses in Artisanal meats or bakery shops)
- Expand our hands-on labs now that we are getting the facility.
- Expand our distance education classes especially with high school students.
- Do what we do well. Hold a high standard of excellence with all these programs.

Vice President’s Recommendations:

The EWC Agricultural Program has traditionally been one of the strongest certificate and degree programs over the past several years. They have tremendous support among the community and with their advisory board. The faculty has worked hard the past few years to expand, revise, and adjust programs to meet industry needs and to provide seamless transitions to other colleges. I concur with the majority of recommendations of both the faculty and division chair.

My recommendations are:

1. Develop a comprehensive recruiting and marketing strategy for prospective Agricultural students from our service area and surrounding region.
2. Set enrollment goals and completion goals for all Agricultural programs, which includes retention, persistence and completion.
3. Continue the articulation agreements with the University of Wyoming and other regional institutions for transfer students.
4. Continue to revise and adjust curricular offerings and courses to meet the ever -changing demands of the Agricultural industry.
5. Continue to develop and expand partnerships with local and regional industries that include internship and externship possibilities for students.
6. Investigate and develop strategies to develop additional certificates and non-credit workforce opportunities.
7. Coordinate program courses with general education courses in order to eliminate conflicts and delays in completing degrees.
8. Efficiently use faculty and balance workloads and faculty assignments.