HIGHER EDUCATION COORDINATING COMMISSION
3225 25th Street SE, Salem, OR 97302
www.oregon.gov/HigherEd

Docket Item:

Community College Approval: Blue Mountain Community College, Associate of Applied Science in Precision Agriculture within 01.0299 – Agricultural Mechanization, Other.

Summary:

Blue Mountain Community College proposes a new Associate of Applied Science in Precision Agriculture. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the degree as proposed.

Staff Recommendation:

The HECC recommends the adoption of the following resolution:
RESOLVED, that the Higher Education Coordinating Commission approve the following degree: AAS in Precision Agriculture.

Blue Mountain Community College seeks the Oregon Higher Education Coordinating Commission's approval to offer an instructional program leading to an Associate of Applied Science in Precision Agriculture.

Program Summary

The Precision Agriculture program is a versatile two-year Associate of Applied Science (AAS) degree that prepares graduates for employment upon graduation as Precision Agriculture Technicians at equipment dealerships, agricultural cooperatives, and farming operations. Precision Agriculture Technicians use technologies such as drones, yield monitors, GPS/GIS, auto-steer, and advanced computer analysis software to collect and analyze data to make agriculture more efficient. Farms and agribusiness are rapidly adopting this technology, yet are lacking a skilled workforce who can use it. Precision agriculture is centered around the idea of site-specific farming: using only what you need (fertilizer, seed, pesticides, water, etc.) right when and where you need it.

1. ***Describe the need for this program by providing clear evidence.***
    a. With the world population increasing, farmers and ranchers are having to increase production. Precision agriculture technologies allow farmers to maximize production and more wisely use inputs such as seeds, fertilizers, water, and pesticides.
    b. According to O*Net Online, Precision agriculture related jobs are among the fastest growing in Oregon at 12% job growth with projected annual job openings of 180 in the State of Oregon and 9,400 nationally.

2. ***Does the community college utilize systemic methods for meaningful and ongoing involvement of the appropriate constituencies?***
    a. The Agriculture Advisory Committee includes representatives from several farms and agribusinesses within BMCC's service district.
    b. Advisory committee meetings are held biannually where input is sought by our Agriculture Department on the development of courses and skill needs in the industry.
    c. Jones Truck and Implement (an employee is on the Agriculture Advisory Committee) has offered to provide scholarships and internship opportunities for interested students.
    d. Instructor Drew Leggett keeps in regular contact with local industry to build relationships between the program and industry, assess workforce needs, and find job and/or internship opportunities for students.

3. ***Is the community college program aligned with appropriate education, workforce development, and economic development programs?***

a. Instructor Drew Leggett has begun teaching a class on Wednesday mornings for Hermiston High School students to introduce students to precision agriculture and offer college credits. The class has been very successful, and students are already expressing interest in taking another class next year.
b. Courses are being developed and changed so students can more easily transfer credits from and to other colleges in Oregon. Since other community colleges offer similar courses contained in this proposed degree, but not a similar degree program, having the similar courses match would allow students to more easily transfer.
c. Instructor Drew Leggett will teach as many courses as possible in the late afternoon/evening to enable adult learners and working students' greater access.
d. Each student will be required to complete an internship as a cooperative work experience (CWE) as part of the degree. This is in line with the top community college Precision Agriculture programs across the United States, gives students networking opportunities and real-world experiential learning, and makes program completers more desirable to potential employers.

4. ***Does the community college program lead to student achievement of academic and technical knowledge, skills, and related proficiencies?***

1. Students will have to complete Math 62 or higher, Writing 65 or higher, and Communications 100 for graduation.

2. Additional academic skills include workplace computers skills (as identified by the Agriculture Advisor Committee), business, and human communications.

3. Technical training includes agricultural safety, crop science, soil science, metals and welding, GIS and GPS, pest management, agricultural machinery operation and maintenance, geospatial data collection, 3 courses in automotive electrical theory, Unmanned Aerial Systems, irrigation design, and precision agriculture software and hardware.

4. Workplace readiness skills include skills in computer software applications such as Excel, Word, email, etc., teamwork, UAS mission planning, precision agricultural data collection, precision agriculture data analysis. These skills are developed in both the classroom and through cooperative work experiences in the industry.

5. Instructor Drew Leggett is on the founding committee to expand the Global Agriculture Learning Center which provides community college agriculture students the opportunity to travel abroad to countries such as Brazil, Kosovo, and Denmark where the meet with farmers, agribusinesses, and government officials and earn 3 college credits. Domestic exchanges are being set up as well. Funds raised through data collection as mentioned in Standard E will be available for students to apply to for travel assistance. BMCC is the first and only community college on the West Coast at this time to be a part of this organization.

5. ***Does the community college identify and have the resources to develop, implement, and sustain the program?***

   1. This is a modification to the existing Precision Irrigated Agriculture degree, and thus funding will continue as normal.

   2. Student base will be built and maintained through continued recruitment efforts within the service district via high school visits that include hands-on workshops, career fairs at local schools and other community events, FFA events, creation of promotional videos, and the identification of local workers requiring further training.

   3. Several grants have already been awarded and much equipment has been purchased that is necessary to provide students effective hands-on training with industry leading software and equipment.

   4. Jones Truck and Implement will provide opportunities for students to train on large farm equipment during labs, some of which is valued in excess of $250,000.

   5. Instructor Drew Leggett is developing opportunities for students to collect and analyze data for local farmers and Oregon State University researchers as both a fundraising opportunity for the program and an opportunity for students to work with real-world data in class.

Assurances

Blue Mountain Community College has met or will meet the four institutional assurances required for program application.

1. *Access*. The college and program will affirmatively provide access, accommodations, flexibility, and additional/supplemental services for special populations and protected classes of students.
2. *Continuous Improvement*. The college has assessment, evaluation, feedback, and continuous improvement processes or systems in place. For the proposed program, there will be opportunities for input from and concerning the instructor(s), students, employers, and other partners/stakeholders. Program need and labor market information will be periodically re-evaluated and changes will be requested as needed.
3. *Adverse impact and detrimental duplication*. The college will follow all current laws, rules, and procedures and has made good faith efforts to avoid or resolve adverse *inter*segmental and *intra*segmental impact and detrimental duplication problems with other relevant programs or institutions.
4. *Program records maintenance and congruence*. The college acknowledges that the records concerning the program title, curriculum, CIP code, credit hours, etc. maintained by the Office are the official records and it is the college's responsibility to keep their records aligned with those of the Office. The college will not make changes to the program without informing and/or receiving approval from the Office.