SEMINOLE STATE COLLEGE

ASSOCIATE IN SCIENCE IN AGRICULTURE (234)

Program Review Summary

October 1, 2019

Introduction

The mission of Seminole State College is to empower people for academic success, personal development, and lifelong learning. To that end, the College offers twenty-seven degree/ certificate programs, including the Associate in Science for in Agriculture. In accordance with requirements set forth by the Oklahoma State Regents for Higher Education, the College conducts a thorough review of this degree program every five years. The Science, Technology, Mathematics, and Engineering (S.T.E.M.) Division presents here the results of its self-review of the Associate in Science in Agriculture.

Assessment of this transfer degree program employed a number of direct and indirect indicators. The focus of this process was to evaluate degree program productivity and the achievement of specific degree program and general education outcomes by students. Additionally, this review relates these findings to a number of relevant Higher Learning Commission Criteria and Components and the educational mission of the College. Based on the information presented here, the academic division makes recommendations regarding the degree program.

3.7.5 Process (Internal/External Review): Self-review by academic division
Previous Reviews and Actions from those reviews: In the previous review, recommendations addressed issues related to articulation agreements and faculty mentoring. Faculty members used student support services to prepare students, participated in a newly created faculty advisor program, and prepared plans to improve articulation agreements. Courses for transfer have been added to the Oklahoma State Regents Higher Education Course Equivalency Matrix.

Analysis and Assessment (including quantitative and qualitative measures) noting key findings from internal or external reviews and including developments since the last review:

Analysis of degree program productivity revealed that the degree program averaged about 30 declared majors per year with an average of 5 graduates per year and 3338 total credit hours generated per year over the five-year period under review. Other direct indicators used were course-embedded assessment and ACT Collegiate Assessment of Academic Proficiency (CAAP) Test. Principal indirect indicators used were the Community College Survey of Student Engagement (CCSSE), and the SSC Graduate Exit Survey. Students increased knowledge by a 2.4 to 1 ratio in a comparison of the pre-test and post-test scores. The CAAP test scores reflect learning slightly below (0.5%) the national averages over the past 5 years. The data reported on the CCSSE reflected the commuter campus atmosphere of Seminole State College. In the Graduate Exit Survey, 82.7% of the students chose excellent or above average for quality of teaching in their major field.

Key findings from the most current evaluation of the Associate in Science in Agriculture

Faculty in the S.T.E.M. Division discovered a need to develop a plan to increase student and faculty awareness of the articulation agreements among colleges and universities in the state system and the advantage of receiving an associate degree before transferring to a regional institution. Faculty cited a need for increased efforts to encourage students to enroll in and a follow specific degree program rather than choosing Liberal Studies. The Agriculture Degree Program has been redesigned specifically to include a pre-professional emphasis in veterinarian medicine as well as options in agribusiness and leadership that accommodate student's needs at four-year institutes.

A. Centrality of the Program to the Institution's Mission:

SSC Mission Statement

Seminole State College empowers people for academic success, personal development, and lifelong learning.

The Associate in Science in Agriculture Degree Program:

Empowers people for academic success by preparing students for a range of careers involving Agriculture and at the same time improve their critical thinking skills necessary for success in all studies.

Empowers people for personal development by training students to set and achieve educational goals by developing responsibility, organizational skills, and academic skills. The program places students in appropriate developmental or college level courses, allowing students the opportunity to progress through the curriculum to achieve success.

Empowers people for life-long learning by providing a variety of courses that vary in content and have the purpose of broadening a student's appreciation of and creating a desire for continued learning once they have completed their education.

Seminole State College prepares students to continue their education beyond the two-year level, trains students for careers and other educational opportunities, and makes available resources and services designed to benefit students and the community at large. Seminole State College also enhances the capabilities of individuals to achieve their goals for personal development by providing quality learning experiences and services that respond to diverse individual and community needs in a changing global society.

B. Vitality of the Program:

B.1.Program Objectives and Goals:

Associate in Science in Agriculture Degree Program Outcomes
Outcomes for Transfer Degree Programs

Outcome 1: Demonstrate successful articulation of Seminole State College transfer degree programs to state and professional institutions of higher learning granting professional and baccalaureate degrees in Oklahoma.

Outcome 2: Demonstrate successful academic achievement by Seminole State College transfer degree students at primary receiving state baccalaureate institutions of higher learning in Oklahoma. Successful academic achievement is defined as the maintenance of satisfactory academic progress toward degree completion as

determined by the receiving institution.

Outcomes Specific to Associate of Science in Agriculture

Outcome 3: Interpret agricultural and related concepts foundational to advanced courses in Agriculture. Advanced courses shall be defined as courses commonly considered Junior and Senior level at baccalaureate degree granting institutions.

Outcome 4: Design a plan for continued pursuit of an Agriculture education leading to a baccalaureate or professional degree in a branch of the Agriculture.

B.2 Quality Indicators (including Higher Learning Commission issues):

The SSC Agriculture Degree Program fulfills Higher Learning Commission Criteria by providing evidence of student learning, faculty engagement that encourages quality teaching, and effective assessment of the student learning process. Instructors in the S.T.E.M. areas consistently review assessment tools and methods and revise those tools and methods, when necessary, to provide the most accurate assessment data possible. Instructors use formative assessment to evaluate the needs of individual students. To measure the two outcomes specific to the Agriculture Degree Program course embedded assessment is the foremost method. In the S.T.E.M. areas, instructors used pre-tests and post-tests as tools to obtain assessment data. Faculty members regularly review and change pre-test and post-test questions when necessary. This process illustrates that the Agriculture Degree Program fulfills academic priorities such as improving the assessment of student learning and striving for instructional quality.

Instructors calculate and report student score improvements from pre-test to post-test for every class in the fall semester. While pre-tests and post-tests only assess improvements in a sampling of course objectives, the fact that all courses in the Mathematics and Science areas show improvement verifies that student learning takes place and that outcomes specific to the Agriculture Degree Program are met.

Key personnel gathered course embedded assessment data from the fall 2018 and spring 2019 semesters as shown in the following table. The percent increase reflects the difference between the average of the post-test scores and the pre-test scores. For the Major Field courses, the average growth rate was 26%.

Table 1. Combined Course Embedded Assessment Results For Fall 2018 through Spring 2019 for Major Field Courses in Degree Program

General Education Outcomes	Pre-Test % Correct	Post-Test % Correct	Difference
General Education Outcome 1	36%	53%	17%
General Education Outcome 2	36%	55%	19%
General Education Outcome 3	23%	65%	42%
General Education Outcome 4	35%	61%	26%
Specific Outcomes for Agriculture	**Pre-Test % Correct**	**Post-Test % Correct**	**Difference**
Degree Program Outcome 3	31%	53%	22%
Degree Program Outcome 4	25%	41%	16%

B.3. Minimum Productivity Indicators:

The following table provides data for the Agriculture Degree Program. Report Date September, 2019

Table 2

Agriculture Declared Majors and Graduates			
Academic Year	**Semester**	**Declared Majors**	**Graduates Total Per Year**
2016-2017	Summer	Program approved by OSRHE 6/30/16	
	Fall	0	
	Spring	0	
2017-2018	Summer	0	
	Fall	20	
	Spring	19	
2018-2019	Summer	4	1
	Fall	28	
	Spring	22	2

Table 2; shows an average of 22 students selecting the program each year since its inception in Fall 2016. Relative to the number of students declaring Agriculture as a major, the graduation rate is low. Low graduation rate may be attributed to the idea that the program is still within its infancy stages, thus a full two-year cycle has not been completed to show the true impact of the new program. Additionally, portions of these enrollees are cited in not completing their degree or changing majors due to the rigor of the courses required for graduation. Data provided indicates that nearly 100 percent of those enrolled in the Agriculture degree program commute to college and hold part or full-time jobs outside of their school responsibilities. This could serve as reasoning for their need to leave the program to serve outside obligations.

B.4. Other Quantitative Measures:

a. Number of courses taught exclusively for the major program for each of the last five years and the size of classes:

Table 3. Number of Sections Taught and Enrollment for Each Course in Major Field of Degree Program

Prefix	Number	Major Field Course Title	Number of Sections	Total Students	Ave. Class Size	Credit Hours
AGRI	1104	Introduction to Animal Science	3	46	31	184
AGRI	1204	Introduction to Plant and Soil Science	2	30	30	120
BA	1203	Agricultural Economics	2	18	18	54
BIOL	1114	General Biology	12	314	52.5	1245
BIOL	1224	General Botany	1	14	14	56
BIOL	1234	General Zoology	5	84	33	280
CHEM	1114	Introduction to Chemistry	5	147	59	588
AGRI	2113	Agricultural Communications	2	25	13	75
AGRI	2123	Agricultural Leadership	2	20	10	60

2017-18	1369	57
2016-17	Program approved by OSRHE 6/30/16	
Totals	2527	135

Note: In Table 3, the "Credit Hours Generated" column represents the student credit hours generated by all the Major courses of the degree program for the given academic year. The hours do not represent the number of student credit hours generated only by those students declaring Agriculture as their major.

c. Direct instructional costs for the program for the review period:

Instructional Cost (Estimate):

No direct data were available that could be used to determine the exact amount of the instructional cost for any of the math and science degree programs. The annual SSC budget report provided the total expenditures for the science department as shown in Table 4. The annual science department budget contains the instructional costs for four of the S.T.E.M. division degree programs.

Table 5

Academic Year	Program approved by OSRHE 6/30/16	2016-17	2017-18	2018-19
Instructional Cost		$996,965	$463,449	$562,778

d. The number of credits and credit hours generated in the program that support the general education component and other major programs including certificates:

Support of General Education Outcomes

All courses offered in the S.T.E.M. areas support the General Education philosophy of Seminole State College. S.T.E.M. instructors make every effort to provide experiences that will equip students with the necessary skills to make informed decisions and encourage life-long learning. Instructors also attempt to provide experiences that will prepare students to be citizens who will be thoughtful about their attitudes toward human life, cultural diversity and biological and physical environments. Please see Table 3 for a list of student credit hours generated in the major courses.

All college level courses in the Science area at Seminole State College support one or more of the General Education Outcomes. As students successfully progress through the course offerings in the Agriculture Degree Program, they will eventually achieve all four General Education Outcomes. To illustrate this support of the General Education Outcomes Table 5 shows the Major Field courses for the Associate in Science for Agriculture Degree Program and the General Education Outcomes each course addresses.

Table 5

Table 6. Credit Hours Generated by Courses in Major Field of Degree Program That Are Part of General Education Requirements in Other Degree Programs

Major Field Course Information			
Prefix	**Number**	**Title**	**Credit Hours Generated**
AGRI	1104	Introduction to Animal Science	4
AGRI	1204	Introduction to Plant and Soil Science	4

e. A roster of faculty members, faculty credentials and faculty credential institution(s). Also include the number of full time equivalent faculty in the specialized courses within the curriculum:

Current Mathematics/Science/Engineering Division Faculty

Table 6

Current Full-Time Mathematics/Science/Engineering Faculty			
Name	**Teaching Area**	**Highest Degree**	**Institution**
Hernandez, Theran	Science	M.Ed.	Grand Canyon University, Phoenix
Jobe, Noble	Science	Ph.D.	Oklahoma State University
Stanley, Kara	Science	M.S.	West Texas A&M University
Tollett, Jarrod	Science	M.Ed.	East Central University
Walker, Susan	Science	M.S.	Oklahoma State University
Cook, Jason	Science	M.Ed.	University of Oklahoma
Senaratne, Nilmini	Science	Ph. D.	
Current Full-Time Faculty From Other Divisions Teaching MSE Classes (Instructors with ** beside their name teach only zero-level classes)			
Current Adjunct Mathematics/Science/Engineering Faculty (Instructors with ** beside their name teach only zero-level classes)			
Helseth, Dave	Science	M.S.	Oklahoma State University

f. If available, information about employment or advanced studies of graduates of the program over the past five years:

No data

g. If available, information about the success of students from this program who have transferred to another institution:

Transfer Reports from Four-Year Institutions:

Seminole State College routinely seeks transfer data from the primary transfer baccalaureate institutions but receipt of transfer data from those institutions has been sporadic. Transfer reports received from East Central University, the University of Central Oklahoma, Oklahoma University, and Oklahoma State University provided GPAs of students who had transferred from Seminole State College. Data in the 2017-18 Transfer Report as cited in the 2017-18 Seminole State College General Education Evaluation showed that SSC students who transferred to these universities had a slightly higher G.P.A. than the average student at these schools. The data in those reports confirm our expectation that SSC students perform well when compared with other students upon transfer and verifies the competence of SSC students in their academic preparation.

B.5. Duplication and Demand:

B.5. Duplication and Demand Issues:

Review of Duplicated Programs

Seminole State College provides local access to students in our five county service area to pursue the Agriculture Degree. Seminole State College has a unique opportunity, as they are the only post-secondary education facility that provides a degree program in Agriculture.

B.5.a. Detail demand from students, taking into account the profiles of applicants, enrollment, completion data, and occupational data:

The Agriculture Degree is a low to moderate demand program and the rates of declared majors and graduation exceed OSRHE productivity levels. However, this demand would be increased with the addition of facilities and added extracurricular programs that support the Agriculture major. Survey data collected from potential high school students in the Spring of 2019 indicated that 61 percent of potential students would like to see the introduction of animal science facilities at Seminole State College.
Approximately 22 students selected the Associate in Science in Agriculture degree program each year over the review period with an average of less than 3 graduates each year. Relative to the number of students declaring Agriculture as a major, the graduation rate is low.

B.5.b. Detail demand for students produced by the program, taking into account employer demands, demands for skills of graduates, and job placement data:

Faculty members encourage students with an Agriculture Degree to matriculate to a four-year program. The options available to these students include fields such as education, research, health care, and consultancy.

B.5.c. Detail demand for services or intellectual property of the program, including demands in the form of grants, contracts, or consulting:

Not applicable to SSC.

B.5.d. Detail indirect demands in the form of faculty and student contributions to the cultural life and well-being of the community:

Although many of the faculty members commute, they also participate in community activities such as blood drives, Lion's Club, Rotary Club, churches, and the local chambers of commerce. Faculty members and students actively participate in the five county area communities served by SSC.

B.5.e. The process of program review should address meeting demands for the program through alternative forms of delivery. Detail how the program has met these demands:

With the advances in technology, faculty members have the opportunity to expand to several different forms of delivery. Although still experimenting with new methods, faculty members have found that hybrid or blended courses and ZOOM classes prove to be successful delivery methods. SSC also addresses the community need for a variety of course scheduling by offering

night courses, weekend courses, 8-week courses, and courses at correctional facilities.

B.6. Effective Use of Resources:

Staff Support

The S.T.E.M. Division has a full-time secretary who primarily supports the Division Chair, and secondarily supports the other functions of the division including purchasing, maintaining budgets and various records, and facilitating the various needs of the S.T.E.M. faculty members. There are currently two student wage students working for the S.T.E.M. Division.

Educational Technology Support

The infusion of technology into academic programs and processes currently receives priority implementation and funding at Seminole State College. Through this focus, the College creates a technologically enhanced academic environment focused on student learning. As a result, technology has never been a limiting factor in classroom instruction. Primary funding sources are E&G funds, federal grants, dedicated student fees, and private donations.

Seminole State College has a wireless network with two control centers providing Internet and Seminole State College Intranet connectivity to campus academic and residential buildings. In addition to wireless connectivity, all classrooms are hard-wired for Internet and Seminole State College Intranet access. Students have access to personal email accounts, online enrollment, student records, and can obtain copies of their transcripts online. Students may use one of the computers in 16 computer labs stationed across campus to access these sites.
Technologically equipped classrooms have computer systems with current instructional and multimedia software, CD/DVD/VCR players, digital multimedia projectors and a Smart Board. Faculty members use the internet for instructional activities and information research in courses throughout the curriculum.

Technological services provided by the Testing Center include computerized Advanced Placement testing, class placement testing, ACT residual testing, telecourse testing, and technologically-aided ADA appropriate testing for students with special needs.

Instructional Technology Support Services

Maintaining all forms of technology used in instruction requires a qualified support team. Seminole State College has just such a team made up of the MIS director and two tech persons. They are responsible for maintaining all campus technology such as computers, Smart Boards, and keeping the campus Intranet and Internet operable in all offices and classrooms.

Web-based Support Services

Brightspace is available to instructors for course management and not just for online course delivery. Through MySSCOK, instructors report student grades electronically, receive emergency response, and make announcements.

Institutional Program Recommendations: (describe detailed recommendations for the program as a result of this thorough review and how these recommendations will be implemented, as well as the timeline for key elements)

Table 7

Recommendation	Implementation Plan	Target Date
The degree program mentor will encourage and recruit students through a variety of methods to declare Agriculture as their major	Led by the degree program mentor, STEM faculty will increase efforts to recruit Agriculture majors by encouraging SSC students to choose Agriculture as a major and by recruiting area high school students to choose the major. Additionally, current students enrolled as Agriculture degree majors will serve as recruitment specialist at various events throughout the five-country serve area to promote the program. The degree program mentor will coordinate these efforts and provide appropriate literature on the program to be distributed to high school students. Advertisement using social media will continue to play a key role in helping advertise the new program to high school student in the five-county area along with those outside of the serve district.	On-going
Encourage students to enroll in specific degree programs rather than choosing Liberal Studies.	Faculty, along with student support services, will continue the efforts to inform students of the advantages of enrolling in a specific S.T.E.M. degree program by implementing a degree enrollment plan currently advancing through implementation stages.	On-going
Faculty, advisors, and the student success committee will increase student awareness of the advantage of receiving an associate degree before transferring to a four-year institution.	The degree program mentor will consult with faculty, advisors, and the student success committee to create a plan to increase student awareness of the advantages of receiving an associate degree	On-going

	before transferring	

Summary of Recommendations:

	Department	School/College	Institutional
Possible Recommendations:			
Expand program (# of students)	We recommend expanding the program about 15 students per year.		

Department/
Program Head_____ Date_____
(Signature)

Dean_____ Date_____
(Signature)