

ASSOCIATE OF SCIENCE SELF STUDY

FORESTRY/NATURAL RESOURCES (019)
EASTERN OKLAHOMA STATE COLLEGE

for the Oklahoma State Regents for Higher Education

February 19, 2019

INTRODUCTION

The Forestry/Natural Resources degree program offered by Eastern Oklahoma State College is a two year transfer program designed to provide the general education and introductory major requirements for students seeking a bachelor's degree and eventually careers in forestry and other natural resources management. The program was initiated in 1968 and since that time has undergone a number of revisions to reflect changes in the forestry profession. Beginning with the 2006-2007 academic year options in wildlife ecology, range management, natural resource management, and environmental science were incorporated into the program. The program is unique in that it is only one of two offered in the State of Oklahoma. The following information contained herein outlines the current status of the effectiveness of the program.

STATE REGENTS POLICY

Centrality of the Program to the Institution's Mission

As published, the mission of Eastern Oklahoma State College is "to provide the educational tools and environment to facilitate student learning through its associate degrees and other academic programs which effectively prepare graduates to enter their chosen vocational field or to continue their educational experience through baccalaureate degree programs. It is also the mission of the College to engage in educational programming and related activities that promote regional economic and community development". Also as published, one of the functions of the institution in order to achieve its missions is "to provide education in several basic fields of university-parallel study for those students who plan to transfer to a senior institution and complete a bachelor's degree".

Eastern's Forestry/Natural Resources program encompasses the mission of the institution by providing a complete, comprehensive associate degree program which allows students who successfully complete the curriculum to enter a four year college or university at the junior level and be competitive with fellow students as they begin to specialize in forestry and other natural resources curriculum.

Vitality of the Program

Program Objectives and Goals

The program has established clear program goals and objectives. The faculty incorporates the institution's five Student Learning Outcomes for General Education into their curriculum and establishes specific program goals and objectives as they apply to this degree program. Students receive a copy of the student handbook and individual course syllabi to assure they are aware of the college mission, program goals, and course objectives.

Program objectives for the Forest/Natural Resources program are well-defined and clearly stated. The primary goal of the program is to provide a complete, comprehensive program which includes general education requirements and introductory forestry/natural resources courses

which would allow the student to successfully matriculate into a baccalaureate program. Specific objectives include:

- To create an appreciation for the profession of forestry and natural resources management and a dignity for the managers role in professional forestry and the management of our natural resources.
- To develop an understanding of the art and science of forestry including the areas of forest history, ecology, dendrology, mensuration, management, products, harvesting, soils, etc.
- To instill the compatibility of proper forest/natural resources management with environmental health.
- To develop an understanding of other enterprises and/or uses competing with the commercial forest land base.
- To provide students with a knowledge of the various opportunities available in forestry and natural resources.
- To create appropriate communication skills.

These program objectives have been derived over time by the forestry faculty with significant input from recommendations by the Department's advisory committee, past graduates and employers and from transfer institutions. The curriculum content, laboratories, problems, etc, has been designed to attain the aforementioned objectives.

Quality Indicators

Multiple tools are used to evaluate the Forestry/Natural Resources program. These tools consist of student evaluation of individual courses, review of student success, analysis of faculty performance, an annual strategic planning meeting of Agriculture faculty and staff members, input from the Forestry Department Advisory Committee, and feedback concerning student success from transfer institutions.

Students evaluate their instructors and the strengths/weaknesses of their courses as a measure of program effectiveness. A standardized faculty evaluation form available through BlackBoard is used by students to evaluate teacher performance. Students evaluate the instructor with 23 items, with an additional optional four items designed by the division. The evaluation also allows students the opportunity to provide written comments. Results of the evaluation are reviewed by the Division Dean and the individual faculty member.

Student success is evaluated through Eastern's assessment program. Eastern's program has shifted over the past several years from a focus on teaching to a focus on student learning. A model has been devised that links outcomes with curriculum, co-curricular activities, assessment methods, and the budget. Student assessment is conducted at three levels: entry level, mid-level, and programs. Entry-level assessment is used to determine appropriate enrollment of new students to ensure student success. ACT scores are evaluated and if any of the sub-scores in reading, English, or mathematics fall below 19, students must enroll in and complete developmental courses in that subject area as required by OSRHE policy. Students placed in

developmental course work by ACT scores have the option of taking the ACCUPLACER Test to provide additional entry-level assessment.

Mid-level assessment in the Agriculture program consists of an entrance and exit examination administered at the beginning of the program and upon program completion. Student progress is partially determined from these scores in consideration with ACT scores and GPA.

The Agriculture Division Dean also evaluates faculty member performance to identify strengths and weaknesses and to implement any plans for improvement, if required. The annual evaluation is maintained in the Office of the Dean of Agriculture with a copy provided to the faculty member and a copy forwarded to the Vice President of Academic Affairs.

Each summer Agriculture Division faculty and staff gather off campus for a strategic planning session. The meeting is held at a regional agriculture related entity to provide a professional development opportunity in addition to the planning meeting. At the meeting performance of individual programs and associated activities of the previous academic year are reviewed, goals for the upcoming year are established, and upcoming activities are coordinated. In addition to these pertinent items, staff members are provided with an opportunity to interact with their colleagues in a less formal format.

The Forestry Department's Advisory Committee meets annually to discuss departmental programs and curriculum. Members of the committee also are in contact and meet informally with department faculty at various venues throughout the year. The committee consists of forestry and natural resources professionals who have contact with graduates. These individuals not only provide feedback concerning the performance of graduates from the program, but also serve in making recommendations to keep the curriculum and the program current with regards to industry standards and expectations.

In addition quality of the program is measured through student success at transfer institutions and subsequent satisfaction of employers with the work performance of graduates of the program. Department faculty are in contact with colleagues at transfer institutions concerning success of transfer students and program curriculum content.

Minimum Productivity Indicators

Enrollment/Headcount:

Enrollment (Headcount) in the Forestry/Natural Resources program has remained fairly consistent. Continued efforts in recruiting have been made by the department, division, and institution to locate and recruit future students. Initiatives in recruiting non-traditional students are also utilized. Enrollment (Headcount) for the past five academic years are presented in the table below:

Year	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Avg
Headcount	17	12	20	21	15	17.0

While previous enrollments have been below the OSRHE requirements for associate of science degree programs, there are several considerations that indicate a positive outlook for the future of the program. First, as previously mentioned, the program is unique to Oklahoma and to the region. The quality of the program is recognized by transfer institutions and regionally among industry.

Secondly, there has been a noticeable increase in the demand for graduates of the program. Contacts from prospective employers, particularly from agencies within the federal government and the private sector, seeking qualified graduates have increased significantly. Personnel from several federal agencies have communicated that over half of their workforce is of retirement age and that a shortage of qualified replacements is inevitable. This fact has been emphasized in the recruitment of prospective students to the program.

Finally, this program complements the Forest Technology technical-occupational program offered by the department. Four courses comprising 14 credit hours are taken by students in both programs. These shared courses help increase FTE and improves cost efficiency for both programs.

Degrees Conferred:

Graduates who successfully complete the Forestry/Natural Resources program are provided the knowledge, skills, and abilities required to transfer and be successful at a four year college or university. As outlined in previous sections, success of graduates and the program is monitored in several ways. Communication with transfer institutions provides information concerning the success of transfer students and any changes that might need to be made to the curriculum and/or program. Recommendations from the Department’s advisory committee provide information concerning changes in the profession. This in turn provides the necessary direction for curricular changes. Several members of the advisory committee are also direct supervisors or have contact with many past graduates working with their respective organizations. Forestry faculty are also active members of several professional organizations and come in contact with employers of graduates numerous times throughout the year. Input concerning the success of these graduates, as well as program efficiency, is provided through these contacts.

Thirty-one students have graduated from the program over the past five years. A breakdown of those graduates by year is presented in the table below:

Year	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	Avg
Graduates	7	9	2	10	3	6.2

The average number of graduates exceeds the desired rate required by the OSRHE for Associate in Science degree programs. Efforts continue by department faculty in the area of student retention and the subsequent completion of degree requirements by students entering the program.

Other Quantitative Measures

Enrollment in Major Courses:

The Forestry Natural/Natural Resources program consists of 23 credit hours of major courses. The number of credit hours of specific forestry courses, agriculture courses, and other science courses varies within specific options of the major. Enrollment in selected courses required by several options within the program for the past five years is presented below:

Course	Year					Avg
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	
FOREST 1123	14	5	15	12	8	10.8
FOREST 1124	5	4	5	4	Not Offered	4.5
FOREST 2123	Not Offered	7	2	7	Not Offered	5.3
BOTANY 2134	6	4	8	1	6	5.0
BIOLOGY 2104	7	Not Offered	3	2	5	4.3

As depicted from the information presented in the table above, course enrollments have remained fairly consistent over the past five years. Several courses have been identified as to be offered on an every other year basis to improve cost effectiveness as long as it doesn't conflict with a student's academic plan and graduation timetable.

Faculty:

Currently there is one faculty member who teaches the majority of the major specific courses within the Forestry/Natural Resources program. In addition to teaching these courses, advising majors, and administering the program, the faculty member also teaches other courses within the agriculture curriculum and currently serves as the Dean of the Agriculture Division.

Faculty	Credential	Granting Institution
Edwin D. Woods	M. S. Forestry/Botany	Oklahoma State University

Duplication and Demand

The Forestry/Natural Resources program is unique in that there is only one other two-year institution in Oklahoma that offers such a program. Eastern's program is unique in that it offers options in not only traditional forestry, but also in wildlife, environmental science, range ecology, and natural resource management.

Demand for forestry/natural resource graduates is high. Contact with industry representatives, members of the Department's advisory committee, and university personnel have indicated that

demand in forestry and the other natural resource options is strong and will continue to remain so in the future as a large portion of the current work force nears retirement age.

Effective Use of Resources:

Staffing

With current enrollment levels, the program is adequately staffed and administered to meet program objectives, develop occupational competencies of the student, and contribute to the development of the student's citizenship and social conscience. The Forestry/Natural Resources Department staff consists of one faculty member. This individual administers the program, provides classroom and laboratory instruction, serves as academic advisor, and coordinates with transfer of graduates to the university level. In addition, the faculty member is involved with Agriculture Division activities which includes serving on campus committees, sponsoring student organizations, and coaching judging teams.

The Forestry/Natural Resources Department is housed within Eastern's Division of Agriculture. As part of the Agriculture Division the program incorporates the services and benefits of divisional staff and resources. Agriculture staff members who provide services include the Division Dean and an Administrative Assistant. In addition, the Division utilizes a 3,700 acre college farm, which includes 1,700 acres of forest land, administered by the Division Dean and support staff.

Institutional resources available to students include the library and media center, Student Support Services, tutoring, counseling, multiple computer laboratories, physical fitness facility, and on-campus housing. Opportunities available for the student to grow academically, socially, and culturally include Eastern's Student Government Association, college band and choir, theater program, college newspaper, various clubs, and athletic teams for both men and women. Additional opportunities provided by the Agriculture Division include the Aggie Club, Ag Ambassador Leadership program, and agricultural judging teams.

Faculty

Eastern's policy in regards to faculty credentials is for instructors to hold a Master's degree in the area of instruction. If conditions dictate, individuals with a Bachelor's degree may be temporarily employed, provided there is a commitment to complete a Master's degree within three years of initial employment.

The primary faculty member responsible for the forestry programs is Mr. Edwin Woods. Mr. Woods has been on staff since 1986 and holds a M.S. degree in forest resources/botany from Oklahoma State University. As chairman of the Forestry/Natural Resources department, Mr. Woods is responsible for: (1) program administration; (2) instruction; (3) determination of the adequacy of the curriculum; (4) forestry/natural resources student academic advisement; (5) forestry/natural resources student outcomes assessment; (6) transfer articulation; (7) program recruitment; (8) procurement and maintenance of tools, equipment and supplies; (9) management

of the college forest; and (10) maintenance of cooperative relations with forest industry and professionals. Mr. Woods also serves as the Dean of Agriculture.

To maintain and improve the quality of instruction Eastern faculty members are required to participate in professional development activities. This includes, but is not limited to, attending faculty conferences, attending professional conferences related to the faculty members respective field, and membership in professional societies.

Institutional Costs

The educational budget for the 2018-2019 academic year for the Forestry/Natural Resources Department was \$1,375. In reviewing this allocation of funds based on the enrollment in the department's programs and FTE generated, average expenditures were approximately \$80.88/student -or- \$3.85/FTE.

Institutional Program Recommendations

In analysis of the Forestry/Natural Resources program the following strengths have been identified.

Strengths

1. This academic program is unique in nature and available at only one other two-year institution in Oklahoma and is geographically ideal in location with respect to the industry.
2. The quality of the program is recognized by transfer institutions and regionally among industry.
3. Students receive a highly personalized education with real-world experiences built into the curriculum.
4. The program utilizes a wealth of tools, equipment and resources, including a college forest, to train students.
5. The demand for graduates has increased.
6. The program provides a valued service to the agriculture community and high school technical occupational programs teaching forest resources by conducting workshops and hosting judging events including the State FFA and 4-H Forestry Judging Contest.
7. The program operates at a minimum expense to the institution.
8. More than sufficient scholarship funds are available to students through the Agriculture Division.

The following recommendations are being made based on results of the comprehensive review of the Forestry/Natural Resources program by faculty and staff members of the Agriculture Division.

1. Continue offering the Associate in Science in Forestry/Natural Resources degree program.
2. Continue recruiting efforts of traditional students with emphasis on expanding into western Arkansas where additional industry opportunities are located.
3. Develop strategies to increase recruitment of non-traditional students.
4. Continue to work with the Department's Advisory Committee on keeping current with industry needs and demands.
5. Maintain and expand industry contacts through internships, the Department's Advisory Committee, field trips, and guest lecturers.