

ASSOCIATE OF APPLIED SCIENCE SELF STUDY

FOREST TECHNOLOGY (101)  
EASTERN OKLAHOMA STATE COLLEGE

for the Oklahoma State Regents for Higher Education

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## **INTRODUCTION**

The Forest Technology degree program offered by Eastern Oklahoma State College is a two year technical-occupational program designed to produce a competent forest technician. The program was initiated in 1968 and since that time has undergone a number of revisions to reflect changes in the forestry profession. The program is unique in that it is the only one of its kind offered in the State of Oklahoma and one of only a few offered within the central United States. 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 one- and two-year programs of technical and occupational education to prepare individuals to enter the labor market”.

The Forest Technology program encompasses the mission of the institution by providing a complete, comprehensive program in forest technology to produce a competent forest technician who can gain successful employment in forestry and closely related fields upon graduation.

### **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 Technology program are well-defined and clearly stated. The primary goal of the program is to train and place qualified students immediately into the profession upon completion of the degree requirements. Specific objectives include:

- To create appropriate communication skills.

- To develop a high level of field and office skills needed by the technician.
- To create or improve initiative of the student in the area of timber management.
  - To develop an understanding of other enterprises and/or uses competing with the commercial forest land base.
  - To impart mensurational skills to the student so they might have the ability to perform a variety of mensurational duties in the forest.
  - To train students in woody plant identification specifically in southeastern Oklahoma and the more important commercial and aesthetically important species found growing throughout the United States.
  - To illustrate proper harvesting techniques to assume minimum site damage for perpetual resources along with record keeping techniques which will indicate the economics of the operation.
  - To indicate the various silvicultural techniques used in a variety of management techniques to attain a sustained yield of products from the forest.
  - To train students on the fundamental techniques of protecting the forest resource from fire, insects, and disease.
  - To introduce students to the various commercial products derived from the forest including measurement, processing, manufacturing and marketing.
- To create an understanding of the basics of soil science and techniques of management.
  - To train students in the techniques of surveying, map drawing and map/aerial photo interpretations.

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 SAF standards for technical forestry education. The curriculum content, laboratories, problems, etc, has been designed to attain the aforementioned objectives.

### ***Quality Indicators***

Multiple tools are used to evaluate the Forest Technology 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 from graduate employers.

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 graduate success and employer satisfaction. Department faculty are in contact with representatives from organizations and industry that have hired program graduates. Many of these entities have representatives that serve on the department advisory committee. Though no formal process in place, these contacts provide valuable information concerning graduate job performance, employer satisfaction, and input into curricular needs.

### ***Minimum Productivity Indicators***

Enrollment/Headcount:

Enrollment (Headcount) in the Forest Technology program has declined. 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
<b>Headcount</b>	3	6	4	1	0	2.8

While previous enrollments have been below the OSRHE requirements for technical-occupational 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 meets national technical/occupational standards as set forth by the Society of American Foresters.

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 Forestry transfer program offered by the department. Five courses comprising 18 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 Forest Technology program are provided the knowledge, skills, and abilities required to perform as a competent forest technician. As outlined in previous sections, success of graduates and the program is monitored in several ways. SAF standards and recommendations from the Department’s advisory committee provide information concerning changes in the profession. This in turn provides the necessary direction for curricular changes in the program. 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.

A breakdown of graduates for the past five years is presented in the table below:

Year	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	Avg
<b>Graduates</b>	0	0	1	1	0	0.4

***Other Quantitative Measures***

Enrollment in Major Courses:

As previously mentioned, the Forest Technology program complements the Forestry transfer program offered by the department. Five courses comprising 18 credit hours are taken by students in both programs. These shared courses help increase FTE and improves cost efficiency for both programs. Enrollments for shared courses and courses specific to the Forest Technology program for the past five years are presented in the table below:

Course	Year					
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	Avg
<b>FOREST 1123</b>	14	5	15	12	8	10.8
<b>FOREST 1124</b>	5	4	5	4	Not Offered	4.5
<b>FOREST 2123</b>	Not Offered	7	2	7	Not Offered	5.3
<b>BOTANY 2134</b>	6	4	8	1	6	5.0
<b>BIOLOGY 2104</b>	7	Not Offered	3	2	5	4.3
<b>FOREST 1103*</b>	1	Not Offered	1	2	Not Offered	1.3
<b>FOREST 2115*</b>	Not Offered	Not Offered	3	1	Not Offered	2.0

\* Indicates program specific course

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 Forest Technology 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 Technology program is unique in that it is the only program of its kind offered in the state of Oklahoma and in this region of the country.

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 Forest Technology program the following strengths have been identified.

#### **Strengths**

1. This academic program is unique in nature and unavailable at any other institution in Oklahoma and is geographically ideal in location with respect to the industry.
2. The quality of the program is nationally recognized by the Society of American Foresters.
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 from the program 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.

## Concerns

1. Current program enrollment and graduates for the program fall below the standards established by the Oklahoma State Regents for Higher Education. This is due to the past perception that job opportunities are limited. As previously mentioned, retirements in the work force will address the issue of job opportunities and enrollment can be increased by more aggressive marketing of the program. In addition, recruiting efforts related to non-traditional students, who make up a large percentage of the program population, are being emphasized.