

**Wayne Community College**  
**Program Review and Outcome Assessments, 2018-19**

**Institutional Goal 2: Ensure Program Excellence**

**Institutional Goal 3: Improve Student Success**

**Department Name:** Forestry Management Technology

**Mission/Purpose:** The purpose of the Forestry Management Technology program is to help students understand the concepts of forestry management and to develop competencies and technical skills in the production, utilization and conservation of natural resources.

**Degrees, Diplomas, and Certificates Offered:** List all degrees, diplomas, and certificates offered.

Forest Management Technology, AAS A15200  
 Forest Management Technology Wildlife Certificate, C15200W  
 Natural Resource Certificate, C15200B

**Describe how the program's mission aligns with the College's vision, mission, core values, and strategic goals.**

Forest Management Technology supports WCC mission to meet the educational and training needs of the forest industry and landowners in the communities it serves.

**Activities to ensure curriculum currency (2015-16; 2016-17; 2017-18)**

List program curriculum changes, revisions, deletions in table.

Course Title	Date – Updated / Revised / Deleted
MAT 143 Quantitative Literacy	Added Fall 2016
FOR 215 Introduction to GIS and GPS	Moved to Spring of second year for 2017-18
FOR 212 Forest Survey – Aerial Interp.	Moved to Fall of second year for 2017-18
FOR 243 Insects and Disease replaced with FOR 240 Forest Protection	Effective Fall 2018

**Provide an overview of the significance of the program changes and improvements that occurred over the past three years**

Addition of MAT 143 allowed students going into the lesser math intensive aspects of forestry a better-suited math alternative to MAT 121 or MAT 171. Recommended by the Advisory Board – We replaced FOR 243 with FOR 240, which allows us to present invasive SPP and fire protection, as well as the original insect and disease, so it gives a more complete coverage.

**Advisory Committee: dates, summary of minutes, activities (2015-16; 2016-17; 2017-18)****Summary of Advisory Committee Activities**

Year	Meeting Dates	Recommendations / Activities
2015-16	12/17/15 6/17/16	Add global markets & certification topics in FOR 273 Add MAT 143, Reschedule days for labs so they are on class days.
2016-17	12/13/16 6/22/17	Reword PLO's so employment/public understands Replace FOR 243 with FOR 240, Concern about lack of dedicated instruction space for program
2017-18	12/1/17 6/14/18	Requested dedicated classroom for instruction and recruiting for on campus visitors Dedicated space in Maple Building in five years

**Describe program's participation with Advisory Committee or external organizations that contribute to maintaining program relevance.** *(File Advisory Committee Meeting Minutes for past three years in Program Review Attachment folder.)*

Forestry Management Technology has been very active with North Carolina Forestry Association helping with education events for middle school students in Wilmington and presenting to summer program for high school teachers. Labs were scheduled with members of the advisory board and other industry/state organizations practicing on the ground. Course changes were made to curriculum.

**Analysis of trends in the field or industry**

**Provide narrative for analysis of trends in the field.** *(Are there jobs available for your students? Is there new technology/equipment that needs to be added to your program?)*

Job market is strong. Starting salaries are increasing with more jobs than graduates. Program has up to date technology and equipment as of March 2019 with addition of new GPS units.

**Faculty Profile****List of Faculty and Status (2015-16; 2016-17; 2017-18)**

Faculty / Name	Full-Time / Part-Time
Lynn Jenkins	FT
Chuck Little	PT
Jim Moeller	FT
Dwight Gerding	FT

**Have all the faculty credentials been verified?** *(Verify required documents are in personnel files.)*

Christy verified faculty credentials. Christine Tyson has the records for Jim Moeller, Dwight Gerding, & Lynn Jenkins. Records have been requested from HR for Chuck Little. All current faculty members have a Bachelor of Science in Forestry from North Carolina State University and are registered foresters. Jim Moeller has a pesticide applicator's certification. Both current faculty are certified NC Tree Farm Inspectors. Past instructor has a Bachelor of Science in Forestry from West Virginia University.

**Faculty Contact and Credit Hours**

Faculty / Name	Full-Time Part-Time	Summer 2015		Fall 2015		Spring 2016	
		Contact	Credit	Contact	Credit	Contact	Credit
Dwight Gerding	PT	8.50	7	0	0	0	0
Lynn Jenkins	FT	10.50	7	18	16	20	15
Jim Moeller	FT	0	0	22	15	22	16

Faculty / Name	Full-Time Part-Time	Summer 2016		Fall 2016		Spring 2017	
		Contact	Credit	Contact	Credit	Contact	Credit
Lynn Jenkins	FT	14	9.50	21	18	22	14
Chuck Little	PT	6	2	0	0	0	0
Jim Moeller	FT	9.50	11	26	18	19	12

Faculty / Name	Full-Time Part-Time	Summer 2017		Fall 2017		Spring 2018	
		Contact	Credit	Contact	Credit	Contact	Credit
Lynn Jenkins	FT	7	8	24	18	23.50	17
Jim Moeller	FT	12	11	20	13	20.50	12

**Faculty Demographics (2015-16; 2016-17; 2017-18)**

	# Employees	Avg. Years of Service	% of Classes Taught By
Full-Time	2	4	98
Part-Time	1	0	2

**Provide narrative for adequacy of faculty numbers.** *(Do you have enough faculty to support your program?)*  
Faculty support is adequate.

**Professional development activities of faculty (2015-16; 2016-17; 2017-18)**

Verify departmental professional development (PD) tracking logs are completed and filed in Program Review Professional Development folder.

Professional tracking logs have been reviewed and a minimum of 30 hours per year have been met.

**Student Demographics**

<b>Gender (A15200) Unduplicated</b>			
Academic Year	Female	Male	Total
2015-2016	4	40	44
2016-2017	4	40	44
2017-2018	5	40	45

<b>Ethnicity (A15200) Unduplicated</b>							
Academic Year	American Indian	African American	Asian or Pacific Islander	Hispanic	Caucasian	Other / Unknown / Multiple	Total
2015-2016	0	0	1	0	43	0	44
2016-2017	1	1	0	0	42	0	44
2017-2018	1	0	0	1	43	0	45

<b>Age Groups (A15200) Unduplicated</b>						
<b>Academic Year</b>	<b>Under 18</b>	<b>18-24 years</b>	<b>25-34 years</b>	<b>35-44 years</b>	<b>45 and older</b>	<b>Total</b>
2015-2016	0	35	5	2	2	44
2016-2017	0	36	5	2	1	44
2017-2018	0	34	8	2	1	45

**Provide narrative for analysis of student demographics.** *(Are you satisfied with your program demographics? Do you have a diverse population of students?)*

Diversity of students reflect what is typical of workforce in region and is consistent with similar programs.

**Program Enrollment (Fall, Spring, Summer)**

<b>Program Enrollment (A15200) Unduplicated</b>		
<b>Year</b>	<b>Enrollment</b>	<b>3-Year Average</b>
2015-16	44	45
2016-17	44	44
2017-18	45	44

**Provide narrative for analysis of program enrollment.** *(Is enrollment increasing or decreasing? What possible reasons for increase/decrease? Describe how you plan to address program enrollment.)*

Enrollment is stable with similar numbers to prior program evaluation.

**Program Outcomes**

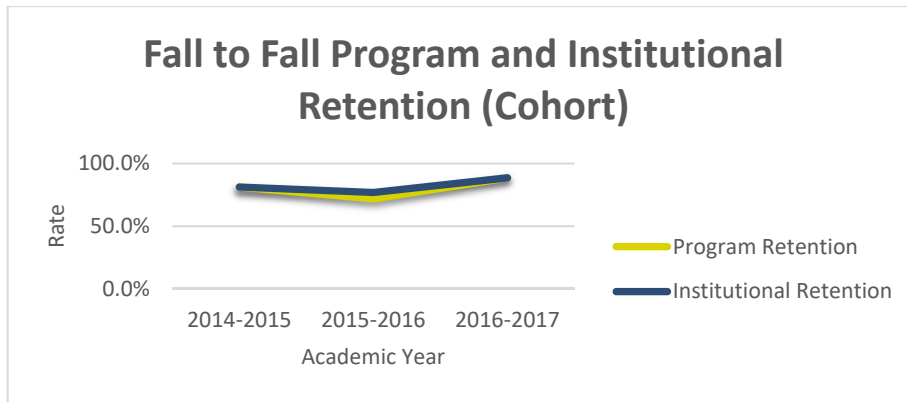
**Retention**

**Baseline:** 80% (Average of last three years – 2014-15; 2015-16; 2016-17, fall-to-fall program retention)  
**Standard:** 81%  
**Target:** 82%

**Data/Results:**

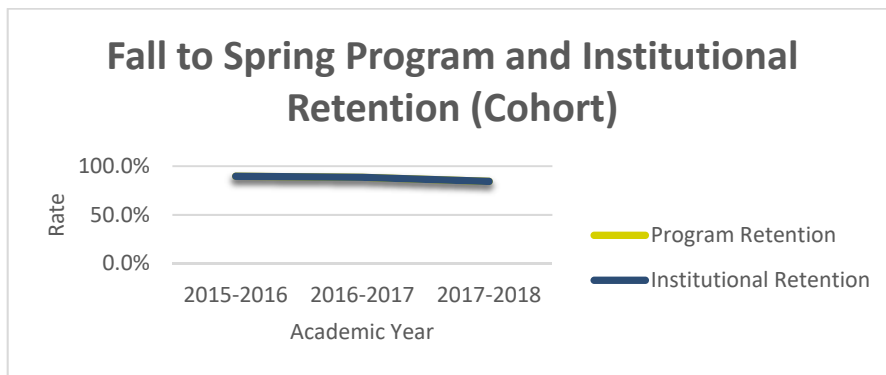
**Fall-to-Fall**

Year	Fall Enrollment	Grads	Return	Non-Completers	Program Retention	New Program	Institutional Retention
2014-2015	32	10	16	6	81.3%	0	81.3%
2015-2016	39	6	22	9	71.8%	2	76.9%
2016-2017	35	15	16	4	88.6%	0	88.6%



**Fall-to-Spring**

Year	Fall Enrollment	Grads	Return	Non-Completers	Program Retention	New Program	Institutional Retention
2015-2016	39	1	34	4	89.7%	0	89.7%
2016-2017	35	5	26	4	88.6%	0	88.6%
2017-2018	32	4	23	5	84.4%	0	84.4%



**Provide narrative for analysis of program retention.** *(Based on the data, provide a narrative of your analysis of fall to fall retention. Indicate factors that may have affected your retention. State any changes you plan to address for next year that may affect / increase your retention.)*

Fall to Fall retention continues to be above college average and relatively stable. Retention is negatively affected by the program's academic rigor and significant level of math based application. Employers demand the current level of rigor. Addition of certificates may increase retention.

**Provide narrative for analysis of standard/target.** *(As a result of the data analysis, indicate changes to the standard or target. Did you meet your standard/target? If you met your standard/target, what percentage would you like to increase your standard/target? Please provide an overall analysis of the results of your standard/target. Provide percentage of increase/decrease.)*

New program retention standard and target was set based on the three-year baseline data from 2014-15, 2015-16, and 2016-17 fall to fall retention.

### Completions

**Baseline:** 11 *(Average of last three years – 2015-16; 2016-17; 2017-18)*  
**Standard:** 12  
**Target:** 13

### Data/Results:

Number of Graduates (Completions) Unduplicated				
	Degree	Diploma	Certificate	Total
2015-16	6			6
2016-17	13			13
2017-18	13			13

**Provide narrative for analysis of completions.** *(Are you satisfied with your completion rates? How might you increase your completion rates?)*

Completion rates exceed college's average. Introduction of certifications will increase completion rates.

**Provide narrative for analysis of standard/target.** *(As a result of the data analysis, indicate changes to the standard or target. Did you meet your standard/target? If you met your standard/target, what percentage would you like to increase your standard/target? Please provide an overall analysis of the results of your standard/target. Provide percentage of increase/decrease.)*

New completion standard and target was set based on the three-year baseline data from 2015-16, 2016-17, and 2017-18.

**Job Placement / Employment (to be provided by program)**

**Baseline:** 97% (Average % employed & seeking more education for last three yrs; 2015-16, 2016-17, 2017-18)

**Standard:** 98%

**Target:** 99%

**Data/Results:**

Employment Demand						
Year	Graduates	# Employed (within 1 Yr)	# Seeking More Education (within 1 Yr)	% Employed & Seeking More Education	Unknown	Other/Comments
2015-16	6	6	0	100%		
2016-17	13	11	2	100%		
2017-18	13	10	2	92%	1	

**Provide narrative for analysis of job placement rates.** (Are students finding jobs within the program of study?) (How can your program promote higher employment of students in the field?)

Students are finding jobs in their program of study. Unwillingness to relocate does slow down employment in their program of study occasionally. Continue to encourage mobility after graduation.

**Provide narrative for analysis of standard/target.** (As a result of the data analysis, indicate changes to the standard or target. Did you meet your standard/target? If you met your standard/target, what percentage would you like to increase your standard/target? Please provide an overall analysis of the results of your standard/target. Provide percentage of increase/decrease.)

New employment demand standard and target was set based on the three-year baseline data from 2015-16, 2016-17, and 2017-18.

**Provide narrative for analysis of Labor Market Data.** (Review Labor Market Data provided and provide an assessment of the data.)

Data includes four-year graduates. Applicable to two year is 16 graduates. Average starting rate is \$18.30/hour not including benefits. Job market is good and will trend up 4% by 2021.

**Licensure and Certification Passing Rates (if applicable)**

**Baseline:** XX% (Average of last three years; identify last three licensure years)  
**Standard:** XX%  
**Target:** XX%

**Data/Results:** Not applicable to the Forest Management Technology program.

**Licensure / Certification Exam –**

Year	# Tested	% Passing
2010-11		
2012-13		
2013-14		
2014-15		
2015-16		
2016-17		

**Provide narrative for analysis of licensure / certification passing rates.** (Are you satisfied with your program licensure rates?)

Not-applicable.

**Provide narrative for analysis of standard/target.** (As a result of the data analysis, indicate changes to the standard or target. Did you meet your standard/target? If you met your standard/target, what percentage would you like to increase your standard/target?)

Not applicable.

**Third-Party Credentials (if applicable)**

**Baseline:** XX# (Average number of completers for the last three years – 2015-16; 2016-17; 2017-18)  
**Standard:** XX#  
**Target:** XX#

**Data/Results:** Not applicable

**Third-Party Credentials**

Year	Credentials for Program of Study	# Tested	# Completers
2015-16	Not applicable.		
2016-17			
2017-18			

**Provide narrative for analysis of third-party credentials.** (Are there other industry-recognized credentials that needs to be addressed for the program of study?) (What are other means to promote program third-party credentials?)

Not-applicable

**Provide narrative for analysis of standard/target.** (As a result of the data analysis, indicate changes to the standard or target. Did you meet your standard/target? If you met your standard/target, what percentage would you like to increase your standard/target?)

Not applicable



## Course Success

### Analysis of student success in courses (2015-16; 2016-17; 2017-18)

**Provide narrative for analysis of student success in courses.** (*Ex – Are more students successful in online courses versus traditional? Are students more successful in certain courses?)*

Traditional is 88% successful. Hybrid is 80% successful. Online is 84% successful. Fall first year courses generally have the lowest success rates. Lower success rates are attributed to students acclimating to college, and some students leaving the program.

### Analysis of student success in distance learning courses (2015-16; 2016-17; 2017-18)

Course Success Rates by Method of Instruction				
Semester	Department	Course Number	% Success	Method of Instruction
Fall 2015	Forestry	FOR-161	70%	Hybrid
Fall 2015	Forestry	FOR-171	85%	Hybrid
Fall 2016	Forestry	FOR-161	64%	Hybrid
Fall 2016	Forestry	FOR-171	89%	Hybrid
Fall 2016	Forestry	FOR-273	80%	Internet
Spring 2016	Forestry	FOR-273	67%	Internet
Summer 2016	Forestry	FOR-225	88%	Hybrid
Fall 2017	Forestry	FOR-161	67%	Hybrid
Fall 2017	Forestry	FOR-171	60%	Hybrid
Fall 2017	Forestry	FOR-212	80%	Hybrid
Fall 2017	Forestry	FOR-273	75%	Internet
Spring 2017	Forestry	FOR-273	100%	Internet
Summer 2017	Forestry	FOR-225	92%	Hybrid
Summer 2017	Forestry	FOR-243	92%	Hybrid
Spring 2018	Forestry	FOR-273	80%	Internet
Summer 2018	Forestry	FOR-225	79%	Hybrid
Summer 2018	Forestry	FOR-243	84%	Hybrid

**Provide narrative for analysis of student success in distance learning courses.** (*Are distance education course success rates equivalent to the success rates for other methods of instruction?)*

Success rate of distance education courses are approximately 8% lower than traditional. Main driver is lack of student motivation/discipline to complete assignments.

**Analysis of Program Learning Outcomes (PLO) (2015-16; 2016-17; 2017-18)**

- Document PLO cycle for the next four years (2018-19, 2019-20, 2020-21, and 2021-22) in the table below.
- File program learning outcome reports for the past three years (2015-16, 2016-17, and 2017-18) in the Program Review Attachment folder.  
Completed
- Document changes to the program learning outcomes and/or assessment cycle.  
No changes

Assessment Cycle	Program Learning Outcomes
2018-19	Demonstrate proficiency at identifying common forest species with an emphasis on key North Carolina Piedmont and Coastal Plain species.
2019-20	Demonstrate proficiency at the science of setting up and implementing a basic timber cruise for forestry use.
2020-21	Create professional maps, which can be used to develop, conserve, and utilize sustainable forest resources.
2021-22	Demonstrate proficiency at identifying common forest species with an emphasis on key North Carolina Piedmont and Coastal Plain species.

**Other Assessments****Analysis of graduate survey data (2015-16; 2016-17; 2017-18)**

**Provide narrative for analysis of program-specific graduate survey data.** *(What did you learn from the results? What did your graduates indicate needed to be revised within your program?)*

Graduates were very satisfied with quality of instruction in program area, academic advising, availability of instructors, and classroom instruction. Nearly all graduates completely accomplished goals and would choose the Forest Management Technology Program at WCC. The graduates did not indicate anything needs to be revised in the program.

**Analysis of employer survey data (2015-16; 2016-17; 2017-18)**

**Provide narrative for analysis of program-specific employer survey data.** *(What did employers indicate needs improvement within your program (equipment, facilities, program offerings/certificates?)*

Dedicated instruction area for Forest Management Technology Program.

**External Reviews**

**In addition to SACSCOC, is there an accrediting body specifically related to the program? If so, please name the professional organization, describe the program's current status, and most recent date of accreditation.**

Society of American Foresters (SAF) has an optional accreditation for associate's degrees. We have a candidate status with an on site visit scheduled for May 2020.

## **Resources**

### **Program facilities - location and adequacy**

#### **Provide narrative for program facilities adequacy and/or needs.**

Dedicated classroom space is needed for recruiting and desirable for SAF accreditation. Reduction in forested acres will increase travel for labs. SAF has expressed some concern over both of these issues.

### **Library resources**

#### **Provide narrative for program library resources. (Are library resources adequate for your program?)**

Library resources are adequate.

### **Planning Objectives (2015-16; 2016-17; 2017-18)**

- Verify previous year's prioritized planning objectives end-of-year status reports are filed in Program Review Planning Objective EOY (End of Year) Status Reports folder.  
All three years are present
- Provide a summary of planning objectives submitted for the last three years, including the use of results, of the planning objectives in the table provided.  
Wildland Fire PPE for Forest Fire Management class (FOR241). Fifteen sets of pants, shirts, shelters and shelter harnesses. The PPE is essential in obtaining NWCG certification as a basic wildland firefighter. This is a nationally accepted certification administered by Jim Moeller and helps with job placement in government agencies.

### **Summary of Planning Objectives**

<b>Planning Year</b>	<b>Objective(s) Submitted</b>	<b>Use of Results</b>
2015-16	Wildland Fire PPE for Forest Fire Management class (FOR241).	As of May, 2018, 32 students received certification using this PPE
2016-17	None	N/A
2017-18	None	N/A

### **Overall analysis of the strengths of the program**

#### **Provide narrative for analysis of the strengths of the program.**

- Instructors have nearly 40 years of forestry related experience. The instructors' knowledge and connections help students and graduates success in learning and job placement. Many small companies call the instructors directly with job openings that are not advertised. Parents in the forestry business call instructors about sending their children to study forestry at Wayne Community College.
- The longevity, 53 years, and good name of the forestry program at Wayne Community College provide a good network for labs and future employment with prior graduates.
- Wayne Community College has the only Forest Management Technology Program in North Carolina east of Raleigh.
- Local state parks/property and Croatan National Forest provides a variable land base for labs and instruction.

## **Overall analysis of the weaknesses of the program**

### **Provide narrative for analysis of the weaknesses of the program.**

A lack of dedicated classroom space is a weakness from a student-recruiting standpoint. Both competing programs have dedicated instruction space. This will be a topic of discussion in 2020 on-site SAF visit.

Seventy-five percent of the students are from outside Wayne County due to the limited number of forestry programs offered in the state. These students come from lower income rural areas where housing is cheaper than in the Goldsboro area. With the higher rental costs and the costs associated with commuting long distances, some students make the decision to attempt going to their local community college and complete their general education requirements before transferring to WCC. Many of these students drop out of the transfer college program in their home county because they lose sight of their objective, and never get the chance to see what forestry is about before changing their focus.

### **Recommendations**

- Complete 2018-2019 Program/Service Review/Outcome Assessment Recommendation Worksheet to address action items from program review and outcome analysis with target date; and methods to assess action items.
- File Review/Outcome and Assessment Recommendation Worksheet in Recommendation and Follow-Up folder.
- Recommendation follow-up reports to be addressed spring semester following review year (2019-20 and 2020-21).

## Recommendations from Program Review and Outcome Assessments

**Name of Program: Forest Management Technology**

### 2018-2019 Program Review and Outcome Assessments Recommendations

*(Address program outcome assessments that fall below the established standard and/or target and additional recommendations resulting from the review.)*

<b>Outcome</b> <i>(Identify projected outcomes as a result of your program/service review.)</i>	<b>Target Date</b> <i>(Identify your projected target date for completion of action items.)</i>	<b>Actions/strategies to achieve outcomes and how you will assess the action/strategy</b>
Retention –  Baseline = 80% Standard = 81% Target = 82%	Spring 2022	Continue to use Aviso to identify students who may be at risk. Continue to actively advise students for course selections and registration.
Completions –  Baseline = 11 Standard = 12 Target = 13	Spring 2022	Continue to identify potential graduates in certificate and AAS degree along with active advising of students.
Job Placement –  Baseline = 97% Standard = 98% Target = 99%	Spring 2022	Continue to work with industry contacts, employers, HR representatives and advisory committee members to assist students in finding jobs.
Licensure/Certification Passing Rates (if applicable) – Not applicable	N/A	N/A
Third-Party Credentials (if applicable) – Not applicable	N/A	N/A
Additional Recommendation –  Apply for SAF accreditation status for the associate degree program.		Society of American Foresters (SAF) has an optional accreditation for associate's degrees. We have a candidate status with an on site visit scheduled for May 2020.

**Approvals**

- Using DocuSign (electronic signature), the Office of Institutional Effectiveness (IE) will review the Program/Service Review and Outcome Assessments when completed by the responsible program/service personnel. The Office of Institutional Effectiveness will forward the review documents to the appropriate administrator upon completion.
- Using DocuSign (electronic signature), appropriate Vice President/Associate Vice President is asked to review and approve the Service Review and Outcome Assessment and Recommendations as submitted.

IE Acceptance / Date: Dorothy Moore 6/8/2020

Administrator Approval / Date: Patty Pfeiffer 6/8/2020