

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

**Institutional Goal 2: Ensure Program Excellence**

**Institutional Goal 3: Improve Student Success**

**Department Name:** Aviation Systems Technology

**Mission/Purpose:** The purpose of the Aviation Systems Technology program is to provide individuals with the knowledge and skills to qualify for an aircraft mechanic's certificate with airframe and/or power plant ratings.

**Degrees, Diplomas, and Certificates Offered:**

AAS Aviation Systems Technology, Airframes Diploma, Power Plant Diploma

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

WCC AST parallels the college mission in general, we support our community providing aviation training to enable our customers the skills needed to obtain employment in the aviation industry.

**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 |
|----------------------------------|------------------------------------|
| Aviation Maintenance General     | N/A                                |
| Aviation Maintenance Airframe    | N/A                                |
| Aviation Maintenance Power Plant | N/A                                |

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

Curriculum is Federally mandated and has not been changed in recent history, we have incorporated new equipment to enhance the students learning experience.

**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 | March 27, 2015 | <ol style="list-style-type: none"> <li>1. Committee noted some deficiencies in students and recommended inclusion of soft skills and more focus on math in oral and practical testing.</li> <li>2. Changes recommended to Part 147 curriculum are: More emphasis on composite material repair and fabrication; More emphasis on turbine engine maintenance, inspection, repair; Less emphasis on wood and fabric repair, and installation; Less emphasis on reciprocating engine maintenance, inspection, repair; Soft skills to be incorporated with the Human Factors section.</li> </ol> |

|         |                   |   |
|---------|-------------------|---|
|         | October 17, 2015  | Round table discussion on job placement for students after graduation and networking skills to be incorporated in the next semester.  |
| 2016-17 | May 3, 2016       | <ol style="list-style-type: none"> <li>1. Employer recommendations for focused instruction which will produce quality graduates for the workforce.</li> <li>2. Discussed upcoming changes to FAR Part 147.</li> </ol>   |
|         | November 29, 2016 | <ol style="list-style-type: none"> <li>1. Updates provided on changes to the oral and practical examination. In addition, concerns with the low number of students following through and taking exams upon completion of program.</li> <li>2. Updates - new equipment (Piper Seneca), Lycoming engines, and helicopter; and informed of new airport manager.</li> </ol> |
| 2017-18 | October 10, 2017  | <ol style="list-style-type: none"> <li>1. Announced that the Delta partnership is moving forward.</li> <li>2. Possible scholarship money for written, oral, and practical exams.</li> <li>3. Procure more space for training.</li> </ol>  |

**Describe program’s participation with Advisory Committee or external organizations that contribute to maintaining program relevance.**

The advisory board members and employers are fully engaged with the program and offer good feedback.

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

**Provide narrative for analysis of trends in the field.**

More than 67% of survey respondents in the study indicated they are experiencing difficulties finding qualified mechanics. More than 60% reported hiring mechanics with less experience than they hired in previous years, and more than 50% said in the next five years, the inability to hire capable mechanics will interfere with their ability to expand. WCC AST will need to increase its floor space by 10000 sqft to incorporate the equipment and training spaces to meet this demand for entry level mechanics.

**Faculty Profile**

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

| Faculty / Name | Full-Time / Part-Time |
|----------------|-----------------------|
| Mark Peeples   | Full-Time             |
| Mike Crumpler  | Full-Time             |

**Have all the faculty credentials been verified?**

Yes

### Faculty Contact and Credit Hours

| Faculty / Name | Full-Time<br>Part-Time | Summer 2015 |        | Fall 2015 |        | Spring 2016 |        |
|----------------|------------------------|-------------|--------|-----------|--------|-------------|--------|
|                |                        | Contact     | Credit | Contact   | Credit | Contact     | Credit |
| Mark Peeples   | Full-Time              | 17          | 9      | 25        | 15     | 25          | 15     |
| Mike Crumpler  | Full-Time              | 17          | 9      | 25        | 15     | 25          | 15     |

| Faculty / Name | Full-Time<br>Part-Time | Summer 2016 |        | Fall 2016 |        | Spring 2017 |        |
|----------------|------------------------|-------------|--------|-----------|--------|-------------|--------|
|                |                        | Contact     | Credit | Contact   | Credit | Contact     | Credit |
| Mark Peeples   | Full-Time              | 17          | 9      | 25        | 15     | 25          | 15     |
| Mike Crumpler  | Full-Time              | 17          | 9      | 25        | 15     | 25          | 15     |

| Faculty / Name | Full-Time<br>Part-Time | Summer 2017 |        | Fall 2017 |        | Spring 2018 |        |
|----------------|------------------------|-------------|--------|-----------|--------|-------------|--------|
|                |                        | Contact     | Credit | Contact   | Credit | Contact     | Credit |
| Mark Peeples   | Full-Time              | 17          | 9      | 25        | 15     | 25          | 15     |
| Mike Crumpler  | Full-Time              | 17          | 9      | 25        | 15     | 25          | 15     |

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

|           | # Employees | Avg. Years of Service | % of Classes Taught By |
|-----------|-------------|-----------------------|------------------------|
| Full-Time | 2           | 5                     | 100                    |
| Part-Time | 0           | 0                     | 0                      |

### Provide narrative for adequacy of faculty numbers.

Current student loading is approaching the 50 person thresh hold. While it is mandated that we cap the class at 25 personnel, past practice has revealed that 16 students per instructor is the optimum load. Some of this workload is assumed by the lab techs, but all the paperwork and federal records are the responsibility of the instructor. In my opinion a third full time instructor could be justified due to the contact hours required from a federal mandated curriculum and mandated contact hours.

### 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.

Program faculty consistently maintain and exceed the required hours of professional development based on the classification category (full-time faculty) of 30 hours. Program faculty obtain professional development in a variety of opportunities to include: college courses, maintaining credentials, conferences, departmental/division meetings; and college mandatory trainings and meetings.

| Year    | Faculty       | Total PD Logged |
|---------|---------------|-----------------|
| 2015-16 | Mark Peeples  | 59.37 hours     |
|         | Mike Crumpler | 36.00 hours     |
| 2016-17 | Mark Peeples  | 40.30 hours     |
|         | Mike Crumpler | 90.14 hours     |
| 2017-18 | Mark Peeples  | 33.30 hours     |
|         | Mike Crumpler | 40.03 hours     |

## Student Demographics

| <b>Gender (A60200) Unduplicated</b> |               |             |              |
|-------------------------------------|---------------|-------------|--------------|
| <b>Academic Year</b>                | <b>Female</b> | <b>Male</b> | <b>Total</b> |
| 2015-2016                           | 3             | 39          | 42           |
| 2016-2017                           | 4             | 41          | 45           |
| 2017-2018                           | 2             | 39          | 41           |

| <b>Gender (D60200) Unduplicated</b> |               |             |              |
|-------------------------------------|---------------|-------------|--------------|
| <b>Academic Year</b>                | <b>Female</b> | <b>Male</b> | <b>Total</b> |
| 2015-2016                           | .             | .           | .            |
| 2016-2017                           | .             | .           | .            |
| 2017-2018                           | 1             | 0           | 1            |

| <b>Ethnicity (A60200) Unduplicated</b> |                        |                         |                                  |                 |                  |                                   |              |
|--|------------------------|-------------------------|----------------------------------|-----------------|------------------|-----------------------------------|--------------|
| <b>Academic Year</b>                   | <b>American Indian</b> | <b>African American</b> | <b>Asian or Pacific Islander</b> | <b>Hispanic</b> | <b>Caucasian</b> | <b>Other / Unknown / Multiple</b> | <b>Total</b> |
| 2015-2016                              | 0                      | 7                       | 1                                | 4               | 30               | 0                                 | 42           |
| 2016-2017                              | 0                      | 4                       | 1                                | 5               | 34               | 1                                 | 45           |
| 2017-2018                              | 0                      | 5                       | 0                                | 3               | 31               | 2                                 | 41           |

| <b>Ethnicity (D60200) Unduplicated</b> |                        |                         |                                  |                 |                  |                                   |              |
|--|------------------------|-------------------------|----------------------------------|-----------------|------------------|-----------------------------------|--------------|
| <b>Academic Year</b>                   | <b>American Indian</b> | <b>African American</b> | <b>Asian or Pacific Islander</b> | <b>Hispanic</b> | <b>Caucasian</b> | <b>Other / Unknown / Multiple</b> | <b>Total</b> |
| 2015-2016                              | .                      | .                       | .                                | .               | .                | .                                 | .            |
| 2016-2017                              | .                      | .                       | .                                | .               | .                | .                                 | .            |
| 2017-2018                              | 0                      | 0                       | 0                                | 0               | 0                | 1                                 | 1            |

| <b>Age Groups (A60200) 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               | 20                 | 12                 | 4                  | 6                   | 42           |
| 2016-2017                               | 0               | 21                 | 11                 | 6                  | 7                   | 45           |
| 2017-2018                               | 0               | 18                 | 12                 | 6                  | 5                   | 41           |

| <b>Age Groups (D60200) 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                               | .               | .                  | .                  | .                  | .                   | .            |
| 2016-2017                               | .               | .                  | .                  | .                  | .                   | .            |
| 2017-2018                               | 0               | 0                  | 1                  | 0                  | 0                   | 1            |

### **Provide narrative for analysis of student demographics.**

WCC AST program houses student from all demographic groups, we are very pleased with such diversity and we believe it enhances the learning experience for all our students.

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

| <b>Program Enrollment (A60200) Unduplicated</b> |                   |                       |
|---|-------------------|-----------------------|
| <b>Year</b>                                     | <b>Enrollment</b> | <b>3-Year Average</b> |
| 2015-16   | 42                | 48                    |
| 2016-17   | 45                | 45                    |
| 2017-18   | 41                | 43                    |

| <b>Program Enrollment (D60200) Unduplicated</b> |                   |                       |
|---|-------------------|-----------------------|
| <b>Year</b>                                     | <b>Enrollment</b> | <b>3-Year Average</b> |
| 2015-16   | .                 | .                     |
| 2016-17   | .                 | .                     |
| 2017-18   | 1                 | .                     |

**Provide narrative for analysis of program enrollment.**

Data indicates a slight decrease in the enrollment trends over the past reporting cycles. This can be attributed to decreased student interest in the program, the rigorous requirements of the program or lack of recruiting efforts. The aviation department is working currently with the marketing department to create new and exciting brochure materials that can be used to in recruiting efforts. There are several career fairs and high school visits scheduled that will allow for recruitment to the program. These efforts should show an increase in enrollment for the next review cycle.

## Program Outcomes

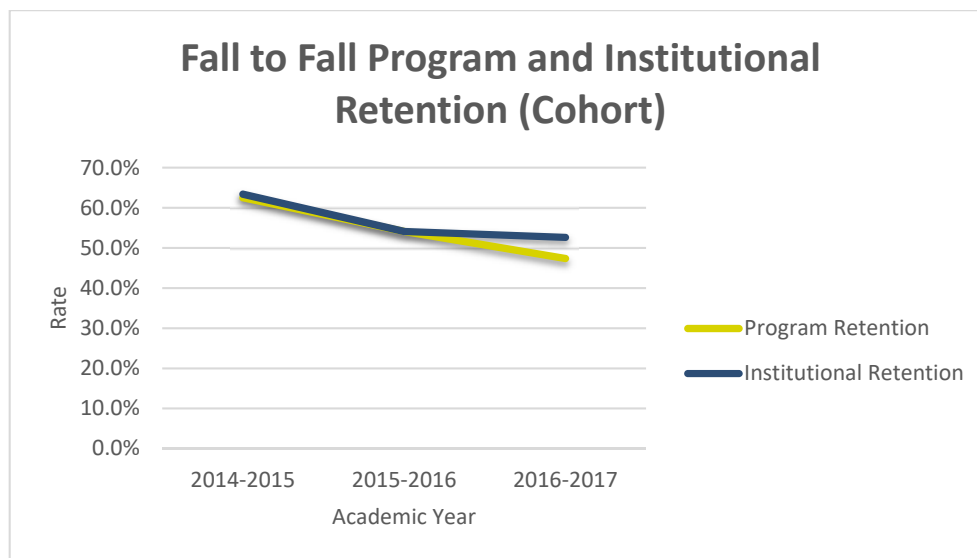
### Retention

**Baseline:** 54% (Average of last three years – 2014-15; 2015-16; 2016-17, fall-to-fall program retention)  
**Standard:** 55%  
**Target:** 58%

### Data/Results:

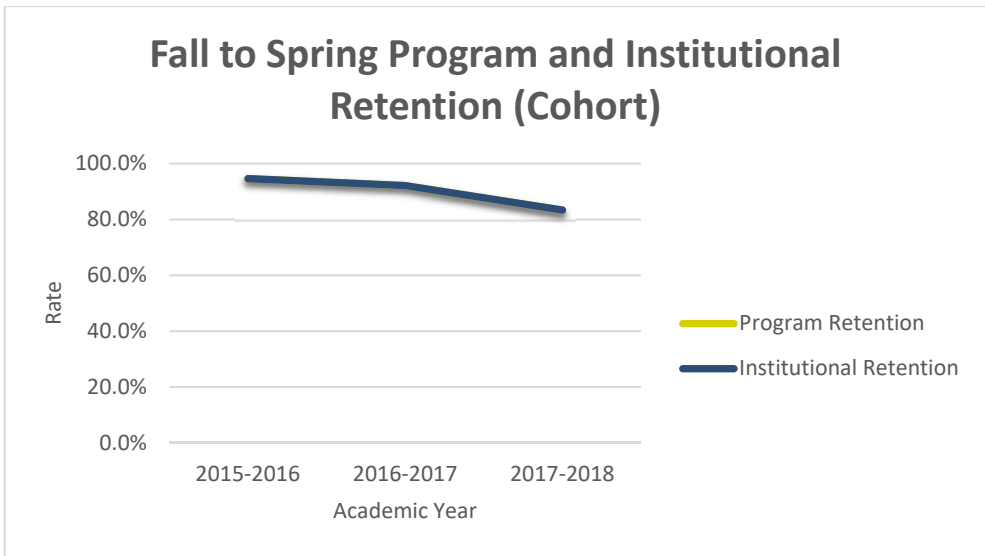
#### Fall-to-Fall

| Year      | Fall Enrollment | Grads | Return | Non-Completers | Program Retention | New Program | Institutional Retention |
|-----------|-----------------|-------|--------|----------------|-------------------|-------------|-------------------------|
| 2014-2015 | 40              | 10    | 15     | 14             | 62.5%             | 1           | 63.4%                   |
| 2015-2016 | 37              | 2     | 18     | 17             | 54.1%             | 0           | 54.1%                   |
| 2016-2017 | 38              | 2     | 16     | 18             | 47.4%             | 2           | 52.6%                   |
| 2017-2018 | 36              | 6     | 19     | 11             | 69.4%             | 0           | 69.4%                   |



#### Fall-to-Spring

| Year      | Fall Enrollment | Grads | Return | Non-Completers | Program Retention | New Program | Institutional Retention |
|-----------|-----------------|-------|--------|----------------|-------------------|-------------|-------------------------|
| 2015-2016 | 37              | 1     | 34     | 2              | 94.6%             | 0           | 94.6%                   |
| 2016-2017 | 38              | 0     | 35     | 3              | 92.1%             | 0           | 92.1%                   |
| 2017-2018 | 36              | 1     | 29     | 6              | 83.3%             | 0           | 83.3%                   |



**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.)*

As an institution WCC promotes the highest level of education available. Students are steered into degree programs or Diploma programs, our program is a labor intensive 6 semester program. Many students' sign on to these higher level degree programs but never complete any of the requirements. It is not uncommon for the student to complete the Aviation curriculum and move on to the work force and not complete the degree program, these students are counted as non-completers even though they have completed the certificate program successfully.

**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 of 54%. Standard was set at 55% and target was set at 58%.

## Completions

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

### Data/Results:

| Number of Graduates (Completions) <i>Unduplicated</i> |        |         |             |       |
|---|--------|---------|-------------|-------|
|   | Degree | Diploma | Certificate | Total |
| 2015-16   | 12     |         |             | 12    |
| 2016-17   | 9      | 2       |             | 11    |
| 2017-18   | 12     | 0       |             | 12    |

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

As an institution WCC promotes the highest level of education available. Students are steered into degree programs or Diploma programs, our program is a labor intensive 6 semester program. Many students' sign on to these higher level degree programs but never complete any of the requirements. It is not uncommon for the student to complete the Aviation curriculum and move on to the work force and not complete the degree program, these students are counted and non-completers even though they have complete the certificate program successfully.

**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.*)

Completion standard and target was set based on the three-year baseline data from 2015-16, 2016-17, and 2017-18 completers of 11. Standard was set for 12 completers and target was set for 13 completers.



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

**Baseline:** 2 (Average number employed for the last three years – 2015-16; 2016-17; 2017-18)  
**Standard:** 3  
**Target:** 4

**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           | 12        | 0                        | 3                                      | 25%                                 | 9       |                |
| 2016-17           | 11        | 3                        | 2                                      | 45%                                 | 6       |                |
| 2017-18           | 12        | 2                        | 0                                      | 17%                                 | 10      |                |

**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?)

The program indicates that there has not been a formal process of tracking student employment, only those students who have self-reported employment.

Aviation field forecasts indicate jobs are available for graduates upon completion of coursework and certifications. Forecasts also indicate a shortage in supply in the coming years. We would assume that our graduates would be more likely to find employment across the United States than a narrowed focus in the state of North Carolina.

**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 job placement/employment standard and target was set based on the three-year baseline data from 2015-16, 2016-17, and 2017-18 of two students obtaining employment. Standard was set at three and target was set at four.

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

Aviation mechanics are forecast to be in short supply in the coming years. Between 2018 and 2036, there will likely be a cumulative shortage of 40,613 certified aviation mechanics in the United States, according to a recent study by the University of North Dakota (UND) in collaboration with the Helicopter Association International (HAI) and the Helicopter Foundation International (HFI).

Presented at the recent HAI Heli-Expo in Las Vegas, Nevada, the study states, “Unless there are some fundamental changes in policy, outreach, scholarships, and access to financing, the industry faces largescale deficits in the amount of available and qualified licensed and certificated pilots and mechanics.” Although the focus was on the helicopter industry, the warning applies to a wider audience in the commercial aircraft and maintenance, repair, and overhaul (MRO) segments. More than 67% of survey respondents in the study indicated they are experiencing difficulties finding qualified mechanics. More than 60% reported hiring

mechanics with less experience than they hired in previous years, and more than 50% said in the next five years, the inability to hire capable mechanics will interfere with their ability to expand.

A graph from the report begins with a gradual decline in aviation mechanics in the U.S., reaching a shortage of 5,000 by 2026. From there, the plot shows a steep decline from 2028, with the mechanic deficit growing from 10,000 to more than 40,000 by 2036.

Boeing, in its recent Pilot & Technician Outlook, predicts the need for 648,000 new commercial airline technicians worldwide from 2017 to 2036. Nearly 40% of this need – 256,000 – will be in the Asia Pacific region – more than North America and Europe combined (229,000).

It will be difficult enough to train homegrown technicians, but the UND/HAI/HFI study points out another potential problem. Given China’s announced intentions to grow its civil aviation capabilities, the study states, “There will likely be a corresponding need for expat pilots and mechanics from other countries.” The study’s authors cannot quantify the exact number of foreign workers required but note this trend could produce an additional shortage of pilots and mechanics in other countries. This potential talent drain was not considered in the forecast and could make the technician shortage in the U.S. even more acute. To help mitigate a technician shortage, the study recommends the industry engage in more modern outreach techniques targeting Generation Z – digital natives who live and interact online.

In the U.S., the study proposes policy reform to ease the transition of military mechanics to civilian roles and lessen the liability surrounding aviation mechanics and their work. The number of MRO scholarships is growing, but there needs to be more, and educational-industry partnerships must expand. Financing training is a topic for another time.

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

- Baseline:** 87% (Average percent passing for Aviation-General; 2014-15, 2015-16, and 2016-17)  
 96% (Average percent passing for Aviation-Airframe; 2014-15, 2015-16, and 2016-17)  
 95% (Average percent passing for Aviation-Power Plant; 2014-15, 2015-16, and 2016-17)
- Standard:** Not applicable, see explanation below in analysis.
- Target:** Not applicable, see explanation below in analysis.

#### Data/Results:

##### Aviation-General

| NCCCS Report | Exam Year | # Tested   | # Passed | % Passing |
|--------------|-----------|--|----------|-----------|
| 2013         | 2011-12   | <i>Exam not included in state mandated exams for performance measures.</i> |          |           |
| 2014         | 2012-13   | 6  | 6        | 100%      |
| 2015         | 2013-14   | 7  | 6        | 86%       |
| 2016         | 2014-15   | 6  | 5        | 83%       |
| 2017         | 2015-16   | 29   | 27       | 93%       |
| 2018         | 2016-17   | 7  | 6        | 86%       |
| 2019         |           | <i>Exam not included in state mandated exams for performance measures.</i> |          |           |

### Aviation-Airframe

| NCCCS Report | Exam Year | # Tested   | # Passed | % Passing |
|--------------|-----------|--|----------|-----------|
| 2013         | 2011-12   | <i>Exam not included in state mandated exams for performance measures.</i> |          |           |
| 2014         | 2012-13   | 4  | 4        | 100%      |
| 2015         | 2013-14   | 6  | 6        | 100%      |
| 2016         | 2014-15   | 5  | 5        | 100%      |
| 2017         | 2015-16   | 28   | 28       | 100%      |
| 2018         | 2016-17   | 8  | 7        | 88%       |
| 2019         |           | <i>Exam not included in state mandated exams for performance measures.</i> |          |           |

### Aviation-Power Plant

| NCCCS Report | Exam Year | # Tested   | # Passed | % Passing |
|--------------|-----------|--|----------|-----------|
| 2013         | 2011-12   | <i>Exam not included in state mandated exams for performance measures.</i> |          |           |
| 2014         | 2012-13   | 4  | 4        | 100%      |
| 2015         | 2013-14   | 6  | 5        | 83%       |
| 2016         | 2014-15   | 8  | 8        | 100%      |
| 2017         | 2015-16   | 30   | 26       | 87%       |
| 2018         | 2016-17   | 8  | 8        | 100%      |
| 2019         |           | <i>Exam not included in state mandated exams for performance measures.</i> |          |           |

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

Yes, the data available list the student that test within the first 60 days after completion and on list the first try. Students who are not successful on the first try, but who are successful on subsequent attempts are not included in the statistics.

These exams; Aviation General, Aviation Airframe, and Aviation Power Plant, are not included in the North Carolina Community College System state mandated exams for Performance Measures for Student Success in the 2019 North Carolina Community College System Performance Measures for Student Success Report. The licensure and certification performance measure criteria and calculation was modified in 2019, dividing exams into tiers and weighted measures, which excluded the Aviation exams as part of the measure.

**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.)*

No standards and targets were identified. These exams; Aviation General, Aviation Airframe, and Aviation Power Plant, are not included in the North Carolina Community College System state mandated exams for Performance Measures for Student Success in the 2019 North Carolina Community College System Performance Measures for Student Success Report. The licensure and certification performance measure criteria and calculation was modified in 2019, dividing exams into tiers and weighted measures, which excluded the Aviation exams as part of the measure.

### Third-Party Credentials (if applicable)

**Baseline:** Not applicable  
**Standard:** Not applicable  
**Target:** Not applicable

**Data/Results:** Not applicable to program. No third-party credentials offered for the Aviation Systems Technology program.

### Third-Party Credentials

| Year    | Credentials for Program of Study | # Tested | # Completers |
|---------|----------------------------------|----------|--------------|
| 2015-16 | n/a                              |          |              |
| 2016-17 | n/a                              |          |              |
| 2017-18 | n/a                              |          |              |

**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 to program. No third-party credentials offered for the Aviation Systems Technology program.

**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.)*

Not applicable to program. No third-party credentials offered for the Aviation Systems Technology program.

### 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?)*

Traditionally the students struggle in the beginning of AVI 110, we attribute this to the fact that most of the students are returning to school after other life circumstances and have to relearn the methods and practices of a college environment. After a few weeks we notice a trend upward in the student's success.

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

| <b>Course Success Rates by Method of Instruction</b> |                   |                      |                  |                              |
|--|-------------------|----------------------|------------------|------------------------------|
| <b>Semester</b>                                      | <b>Department</b> | <b>Course Number</b> | <b>% Success</b> | <b>Method of Instruction</b> |
| Fall 2015  | Aviation Systems  | AVI-110              | 86%              | Traditional                  |
| Fall 2015  | Aviation Systems  | AVI-230              | 94%              | Traditional                  |
| Fall 2015  | Aviation Systems  | AVI-240              | 100%             | Traditional                  |
| Fall 2016  | Aviation Systems  | AVI-240              | 100%             | Hybrid                       |
| Fall 2016  | Aviation Systems  | AVI-110              | 95%              | Web Support/Assisted         |
| Fall 2016  | Aviation Systems  | AVI-230              | 100%             | Web Support/Assisted         |
| Spring 2016  | Aviation Systems  | AVI-120              | 95%              | Web Support/Assisted         |
| Spring 2016  | Aviation Systems  | AVI-250              | 100%             | Web Support/Assisted         |
| Summer 2016  | Aviation Systems  | AVI-130              | 100%             | Traditional                  |
| Summer 2016  | Aviation Systems  | AVI-260              | 100%             | Traditional                  |
| Fall 2017  | Aviation Systems  | AVI-110              | 95%              | Traditional                  |
| Fall 2017  | Aviation Systems  | AVI-230              | 100%             | Traditional                  |
| Fall 2017  | Aviation Systems  | AVI-240              | 94%              | Traditional                  |
| Spring 2017  | Aviation Systems  | AVI-120              | 94%              | Web Support/Assisted         |
| Spring 2017  | Aviation Systems  | AVI-250              | 95%              | Web Support/Assisted         |
| Summer 2017  | Aviation Systems  | AVI-130              | 100%             | Traditional                  |
| Summer 2017  | Aviation Systems  | AVI-260              | 100%             | Traditional                  |
| Spring 2018  | Aviation Systems  | AVI-120              | 100%             | Traditional                  |
| Spring 2018  | Aviation Systems  | AVI-250              | 85%              | Traditional                  |
| Summer 2018  | Aviation Systems  | AVI-130              | 100%             | Traditional                  |
| Summer 2018  | Aviation Systems  | AVI-260              | 100%             | Traditional                  |

**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?)*

Historically, the Aviation Systems Technology program does not offer hybrid or online course offerings. The above Fall 2016 semester indicates a hybrid course offering of AVI 240. This course offering is a result of a campus-wide “make-up” for class-time loss during the college closure due to hurricane.

**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.
- Document changes to the program learning outcomes and/or assessment cycle.

| <b>Assessment Cycle</b> | <b>Program Learning Outcomes</b> |
|-------------------------|----------------------------------|
| 2018-19                 | PLO2                             |
| 2019-20                 | PLO3                             |
| 2020-21                 | PLO1                             |
| 2021-22                 | PLO2                             |

## Other Assessments

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

#### **Provide narrative for analysis of program-specific graduate survey data**

We are also filling our current facility to its maximum with students and equipment, it is becoming imperative that more space be made available for AST program to expand to meet the needs of the community and our students. Our maximum student load with current staff is 50 we are at 42 now, the equipment required to support a full complement of students is taking up all our room for storage and leaving little room for actual training. It has now become a necessity that we expand our footprint in order to serve our students.

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

#### **Provide narrative for analysis of program-specific employer survey data.**

All employers expressed a desire for more people of all skill levels. We are also filling our current facility to its maximum with students and equipment, it is becoming imperative that more space be made available for AST program to expand to meet the needs of the community and our students.

## 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.**

The WCC AST program is under the oversight of the Federal Aviation Administration, we current have two formal inspections per year, the last one was concluded during the fall 2018 semester, we are in good standing with no issues.

## Resources

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

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

We are also filling our current facility to its maximum with students and equipment, it is becoming imperative that more space be made available for AST program to expand to meet the needs of the community and our students. Our maximum student load with current staff is 50 we are at 42 now, the equipment required to support a full complement of students is taking up all our room for storage and leaving little room for actual training. It has now become a necessity that we expand our footprint in order to serve our students.

### **Library resources**

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

Not applicable.

**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.
- 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.

**Summary of Planning Objectives**

| <b>Planning Year</b> | <b>Objective(s) Submitted</b>  | <b>Use of Results</b>  |
|----------------------|--|--|
| 2015-16              | 1) Mobile aircraft ground power unit<br>2) Piper Senaca, Light Twin Piston Aircraft, with Retractable landing gear | 1) Received GPU and began implementing into the curriculum. The unit has proven invaluable in instruction and lab exercises as the course material is written around lab exercises on aircraft. Approximately 25 students in each AMT course will perform a multitude of lab exercises using this unit from this point forward.<br>2) Aircraft received and is beginning to be incorporated into all AVI courses, Summer semester. The aircraft has proven invaluable in instruction and lab exercises as the course material is written around lab exercises on aircraft. Approximately 25 students in each AMT course will perform a multitude of lab exercises using this aircraft from this point forward. |
| 2016-17              | 1 Robinson Helicopter  | The unit has proven invaluable in instruction and lab exercises as the course material is written around lab exercises on-aircraft . Approximately 25 students in each AMT course will perform a multitude of lab exercises using this unit from this point forward.   |
| 2017-18              | 1) MicroVib II Aircraft Balancer/Analyzer<br>2) 3 JT15D Teardown Engines , JT15D Engine Test cell                  | 1) Approved, equipment was received Fall 2018. Objective was carried forward to 2018-19 to report assessment of objective.<br>2) Not approved, plan to resubmit in 2018-19.  |

### Overall analysis of the strengths of the program

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

The strength of WCC AST is the personnel operating the program. The team runs like a well-oiled machine, everyone is capable of doing all the jobs required. This lends itself to no gaps in operations when circumstances arise that call someone away for a personal matter or needs to go for professional development training.

### Overall analysis of the weaknesses of the program

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

The program has expanded to its physical limits, this is taking away from the maximum learning potential for the students.

### 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: Aviation Systems 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 – Fall to Fall<br>Baseline: 54%<br>Standard: 55%<br>Target: 58%                         | Fall 2022   | Work with Counseling Services to code associate and diploma students properly.  |
| Completions –<br>Baseline: 11<br>Standard: 12<br>Target: 13                                       | Fall 2022   | Work with Counseling Services to code associate and diploma students properly.  |
| Job Placement –<br>Baseline: 2<br>Standard: 3<br>Target: 4  | Fall 2020   | Maintain an internal mechanism for tracking graduates' employment. Tracking database begins with 2020 graduates (2019SU, 2019FA, and 2020SP). |
| Licensure/Certification Passing Rates (if applicable) –<br>Not applicable.                        | N/A   | N/A   |
| Third-Party Credentials (if applicable) -<br>Not applicable.                                      | N/A   | N/A   |



|  |                  |  |
|--|------------------|--|
|  |                  |  |
| <p>Additional Recommendation –</p> <p>Include soft skills component in coursework / syllabi.</p> | <p>Fall 2020</p> | <p>Revise course syllabi to include soft skills training. Coordinate with Nicole Brown to schedule an ongoing course component of soft skills.</p> |

**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: DocuSigned by:  
*Dorothy Moore*  
C63FA9C7DD30473... 5/7/2020

Administrator Approval / Date: DocuSigned by:  
*Patty Pfeiffer*  
6FEB32F14792429... 5/7/2020