Wayne Community College
Program Review – 2021-2022

Name of Program: Aviation Systems Technology

Section 1: Program Overview

Mission/Purpose: ***As part of the review cycle, programs are asked to formally evaluate their mission/purpose statement.***

Please provide your current mission/purpose statement.

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.

Are you planning to revise your mission/purpose statement? If so, please provide your revised mission/purpose statement and reason for the change.

- No change.

Describe how the program's mission aligns with the College's vision, mission, core values, and strategic goals. Identify which Institutional Goal(s) best align with your program and explain why.

WCC Aviation Systems Technology (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.

Goal 1: Increase Student Access
Access is already very simple for persons who have graduated from High School. Application and acceptance to WCC is simple and quick. As long as seats are available (25 per class), student may join the program. Efforts are continuously underway to ensure that prospective WCC students have knowledge of the ease of access.

Goal 2: Ensure Program Excellence
Planning objectives/increases in number and quality of training aids. Continuous instructor training regarding changes in industry and equipment as well as regular refresher training. Continuous addition and refinement of academic classroom training and hands-on projects.

Goal 3: Improve Student Success
Have always projected a high expectation of knowledge and quality of workmanship. Continuously challenge students to stretch themselves beyond their current knowledge and abilities. Empower students to push themselves in certain areas, within safety guidelines, in ways to improve confidence in the results of their work. This is usually in the area of operating equipment they have assembled or repaired.

Associates, Diplomas, Certificates, and Pathways Offered: Please list all associates, diplomas, certificates, and pathways offered in the table below.

Program Type (Associate, Diploma, Certificate, or Pathway)	Program Title
Associate (A60200)	Associate of Applied Science Degree-Aviation Systems Technology
Diploma (D60200A)	Aviation Systems Technology – Airframe Diploma
Diploma (D60200P)	Aviation Systems Technology – Powerplant Diploma
Certificate (FAA Part 147)	Certificate of Completion - Airframe
Certificate (FAA Part 147)	Certificate of Completion - Powerplant

Activities to ensure program is current (2019-20; 2020-21; 2021-22 – Academic Year, Fall, Spring, Summer)
List program curriculum changes, revisions, and/or deletions.

Curriculum Changes	Date – Updated / Revised / Deleted
Negligible subject matter realignment	9/21/2022

Provide an overview of the significance of the program changes and improvements that occurred over the past three years. *(What were the program's / discipline's goals and rationale for expanding and improving student learning, including new courses, program degrees, certificates, diplomas, and/or delivery methods?)*

No significant changes other than the few pieces of equipment added within the last three years through submission of planning objectives.

Advisory Committee: dates, summary of minutes, activities (2019-20; 2020-21; 2021-22 – Academic Year – Fall, Spring, Summer)

Summary of Advisory Committee Activities

Year	Meeting Dates	Recommendations / Activities
2019-2020	10/8/2019	FAA Written test center added near our facility
2020-2021	N/A	Meeting not held due to COVID restrictions
2021-2022	4/26/2022	• Continuing work with FAA toward new OpSpecs required for continued FAR Part 147 compliance • Investigate hybrid class offerings and opportunities • Staff to prepare tables, spreadsheets, etc. to show alignment with new FAA ACS • Staff to investigate potential need for additional test equipment for training

(Ensure that Advisory Committee Meeting Minutes are filed in the IE Shared Program Folder.)

Provide narrative for analysis of trends in the field or industry (emerging needs) that contribute to maintaining program relevance. *(Based on advisory committee suggestions, environmental scans, industry demands, and other sources external to the program/discipline, how well is the program/discipline responding to the current and emerging needs of the industry and/or community? What resources might your program need?*

Industry demand for qualified entry level mechanics continues to expand while WCC's capacity to train these mechanics remains static. An increase in personnel, training floor space, and equipment will be crucial in increasing that capacity. More runs of each class will be required. Due to the FAA mandated cap of 25 students per instructor, an increase in staff level will be mandatory to correspond with this increase.

Much of the equipment and training aids on hand are aged and outdated. More modern equipment is needed to bring our training into alignment with current industry standards and practices.

Floor space in our current facility is exhausted. We are currently using a lift to elevate aircraft to make room in our hangar facility. The lack of adequate floor space is becoming an impediment to the capabilities of our facility. Increases in floor space as well as advances in training aids, equipment, and personnel will not only result in gains in capability, but also make our facility more appealing to prospective students as we market the program.

Section 2: Program Outcomes

Outcome #1: Enrollment *(unduplicated)*

Baseline: **38** # (*Average of total enrollment for the last three years – 2018-19; 2019-20; 2020-21*)
Standard: **42** #
Target: **50** #

Program Enrollment

Program Enrollment (unduplicated)	
Academic Year (Fall, Spring, Summer)	**Enrollment**
2018-2019	47
2019-2020	34
2020-2021	34

Enrollment by Ethnicity, Gender, and Age

	2018-2019		2019-2020		2020-2021	
Ethnicity & Gender	N	%	N	%	N	%
African American, Female	1	2.1%	0	0.0%	1	2.9%
American Indian/Alaskan Native, Female	0	0.0%	0	0.0%	0	0.0%
Asian, Female	0	0.0%	0	0.0%	0	0.0%
Caucasian, Female	2	4.3%	1	2.9%	1	2.9%
Hawaiian/Other Pacific Islander, Female	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Female	0	0.0%	0	0.0%	1	2.9%
Two or More Races, Female	1	2.1%	0	0.0%	0	0.0%
Unknown, Female	0	0.0%	0	0.0%	0	0.0%
Female Total	4	8.5%	1	2.9%	3	8.8%
African American, Male	4	8.5%	4	11.8%	7	20.6%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	2	4.3%	2	5.9%	0	0.0%
Caucasian, Male	33	70.2%	24	70.6%	21	61.8%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	3	6.4%	2	5.9%	0	0.0%
Two or More Races, Male	1	2.1%	0	0.0%	1	2.9%
Unknown, Male	0	0.0%	1	2.9%	2	5.9%
Male Total	43	91.5%	33	97.1%	31	91.2%
Total	47	100.0%	34	100.0%	34	100.0%

Ethnicity & Age Range	2018-2019		2019-2020		2020-2021	
	N	%	N	%	N	%
African American, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Asian, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Caucasian, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Under the age of 18	0	0.0%	1	2.9%	0	0.0%
Two or More Races, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Unknown, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Under the age of 18 Total	0	0.0%	1	2.9%	0	0.0%
African American, 18-24	4	8.5%	1	2.9%	3	8.8%
American Indian/Alaskan Native, 18-24	0	0.0%	0	0.0%	0	0.0%
Asian, 18-24	0	0.0%	0	0.0%	0	0.0%
Caucasian, 18-24	16	34.0%	10	29.4%	8	23.5%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	1	2.1%	0	0.0%	1	2.9%
Two or More Races, 18-24	0	0.0%	0	0.0%	1	2.9%
Unknown, 18-24	0	0.0%	0	0.0%	2	5.9%
18-24 Total	21	44.7%	11	32.4%	15	44.1%
African American, 25-44	1	2.1%	3	8.8%	5	14.7%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	0	0.0%
Asian, 25-44	2	4.3%	2	5.9%	0	0.0%
Caucasian, 25-44	14	29.8%	9	26.5%	10	29.4%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	2	4.3%	1	2.9%	0	0.0%
Two or More Races, 25-44	2	4.3%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	1	2.9%	0	0.0%
25-44 Total	21	44.7%	16	47.1%	15	44.1%
African American, 45-64	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 45-64	0	0.0%	0	0.0%	0	0.0%
Asian, 45-64	0	0.0%	0	0.0%	0	0.0%
Caucasian, 45-64	4	8.5%	5	14.7%	4	11.8%
Hawaiian/Other Pacific Islander, 45-64	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 45-64	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 45-64	0	0.0%	0	0.0%	0	0.0%
Unknown, 45-64	0	0.0%	0	0.0%	0	0.0%
45-64 Total	4	8.5%	5	14.7%	4	11.8%
African American, 65+	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 65+	0	0.0%	0	0.0%	0	0.0%
Asian, 65+	0	0.0%	0	0.0%	0	0.0%
Caucasian, 65+	1	2.1%	1	2.9%	0	0.0%
Hawaiian/Other Pacific Islander, 65+	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 65+	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 65+	0	0.0%	0	0.0%	0	0.0%
Unknown, 65+	0	0.0%	0	0.0%	0	0.0%
65+ Total	1	2.1%	1	2.9%	0	0.0%
Total	47	100.0%	34	100.0%	34	100.0%

Provide narrative for analysis of program enrollment. *(Is enrollment increasing or decreasing? What are possible reasons for increase/decrease? Describe any action plans to improve or increase program enrollment.)*

The program has a variety of ages and ethnicity. The FAA limits the number of students per instructor to 25. The program is working to increase the number of students enrolling in the program. Marketing materials are being developed, along with social media presence is being addressed.

Identify Enrollment Action Items

Item	**Action Items** *(What actions can be taken to increase enrollment in your program?)*	**Assessment of Action Items** *(How will you assess the results of action items?)*
1	Increase social media presence	Work with Office of Communications to revamp social media. Certainly Facebook, possibly solicit student involvement with Instagram
2	Update and make more frequent use of 'one pager' information flyer.	Verify current information. Update photos. Current equipment, recent students, etc.

Outcome #2: Retention

Baseline: **57.8** % (*Average of last three years – 2018-19; 2019-20; 2020-21; program retention*)
Standard: **60** %
Target: **70** %

Year	Program Retention Rate
2018-2019	72.1%
2019-2020	53.1%
2020-2021	48.1%

Retention by Ethnicity, Gender, and Age

	Fall 2018 to Fall 2019		Fall 2019 to Fall 2020		Fall 2020 to Fall 2021	
Ethnicity & Gender	N	%	N	%	N	%
African American, Female	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, Female	0	0.0%	0	0.0%	0	0.0%
Asian, Female	0	0.0%	0	0.0%	0	0.0%
Caucasian, Female	2	6.5%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, Female	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Female	0	0.0%	0	0.0%	1	7.7%
Two or More Races, Female	0	0.0%	0	0.0%	0	0.0%
Unknown, Female	0	0.0%	0	0.0%	0	0.0%
Female Total	2	6.5%	0	0.0%	1	7.7%
African American, Male	2	6.5%	1	5.9%	2	15.4%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	2	6.5%	0	0.0%	0	0.0%
Caucasian, Male	22	71.0%	15	88.2%	9	69.2%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	2	6.5%	1	5.9%	0	0.0%
Two or More Races, Male	1	3.2%	0	0.0%	1	7.7%
Unknown, Male	0	0.0%	0	0.0%	0	0.0%
Male Total	29	93.5%	17	100.0%	12	92.3%
Total	31	100.0%	17	100.0%	13	100.0%

Ethnicity & Age Range	Fall 2018 to Fall 2019		Fall 2019 to Fall 2020		Fall 2020 to Fall 2021	
	N	%	N	%	N	%
African American, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Asian, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Caucasian, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Two or More Races, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Unknown, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Under the age of 18 Total	0	0.0%	0	0.0%	0	0.0%
African American, 18-24	2	6.5%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 18-24	0	0.0%	0	0.0%	0	0.0%
Asian, 18-24	0	0.0%	0	0.0%	0	0.0%
Caucasian, 18-24	10	32.3%	8	47.1%	5	38.5%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	0	0.0%	0	0.0%	1	7.7%
Two or More Races, 18-24	0	0.0%	0	0.0%	1	7.7%
Unknown, 18-24	0	0.0%	0	0.0%	0	0.0%
18-24 Total	12	38.7%	8	47.1%	7	53.8%
African American, 25-44	0	0.0%	1	5.9%	2	15.4%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	0	0.0%
Asian, 25-44	2	6.5%	0	0.0%	0	0.0%
Caucasian, 25-44	11	35.5%	3	17.6%	1	7.7%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	2	6.5%	1	5.9%	0	0.0%
Two or More Races, 25-44	1	3.2%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	0	0.0%	0	0.0%
25-44 Total	16	51.6%	5	29.4%	3	23.1%
African American, 45-64	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 45-64	0	0.0%	0	0.0%	0	0.0%
Asian, 45-64	0	0.0%	0	0.0%	0	0.0%
Caucasian, 45-64	2	6.5%	4	23.5%	3	23.1%
Hawaiian/Other Pacific Islander, 45-64	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 45-64	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 45-64	0	0.0%	0	0.0%	0	0.0%
Unknown, 45-64	0	0.0%	0	0.0%	0	0.0%
45-64 Total	2	6.5%	4	23.5%	3	23.1%
African American, 65+	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 65+	0	0.0%	0	0.0%	0	0.0%
Asian, 65+	0	0.0%	0	0.0%	0	0.0%
Caucasian, 65+	1	3.2%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, 65+	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 65+	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 65+	0	0.0%	0	0.0%	0	0.0%
Unknown, 65+	0	0.0%	0	0.0%	0	0.0%
65+ Total	1	3.2%	0	0.0%	0	0.0%
Total	31	100.0%	17	100.0%	13	100.0%

Provide narrative for analysis of program retention data. *(Based on the data, provide a narrative of your analysis of retention. Indicate factors that may have affected your retention. State any changes you plan to make to improve retention.)*

Aviation systems are complex and broad in scope. Many students enter the program expecting it to be similar to other programs. A number of them start the program, then struggle to keep up with its demands.

Conversely, a small number of our students have been attracted by job offers during their tenure with WCC. In some of these cases, either the schedules or the location made it impossible for them to complete the program.

Retention improvement may be more complex for this program. A number of efforts are being discussed that will hopefully yield a significant increase in interest in the AST program. Part of the discussion regarding recruiting has been geared toward assessing the aptitude and abilities of the prospective students to hopefully improve their chances of successfully completing the program.

Identify Retention Action Items

Item	**Action Items** *(What actions can be taken to increase program retention?)*	**Assessment of Action Items** *(How will you assess the results of action items?)*
1	More recruiting efforts as well as assessments of potential students during the recruiting phase.	Higher success rate of students during their tenure, which is expected to result in their ability to stay in the program as well as increasing the students' desire to remain in the program.

Outcome #3: Completers *(unduplicated) (Degree level, highest level of attainment)*

Baseline: **11** # (*Average of total completers for the last three years – 2019-20; 2020-21; 2021-22*)
Standard: **12** #
Target: **13** #

Number of Completers (*unduplicated*) – *Graduation Year – Summer, Fall, Spring*	
Graduation Year	**Total Completers**
2019-2020	18
2020-2021	11
2021-2022	5

Completers by Ethnicity, Gender, and Age

	2019-2020		2020-2021		2021-2022	
Ethnicity & Gender	N	%	N	%	N	%
African American, Female	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, Female	0	0.0%	0	0.0%	0	0.0%
Asian, Female	0	0.0%	0	0.0%	0	0.0%
Caucasian, Female	1	5.6%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, Female	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Female	0	0.0%	0	0.0%	0	0.0%
Two or More Races, Female	0	0.0%	0	0.0%	0	0.0%
Unknown, Female	0	0.0%	0	0.0%	0	0.0%
Female Total	1	5.6%	0	0.0%	0	0.0%
African American, Male	2	11.1%	0	0.0%	0	0.0%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	0	0.0%	0	0.0%	0	0.0%
Caucasian, Male	13	72.2%	9	81.8%	5	100.0%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	1	5.6%	2	18.2%	0	0.0%
Two or More Races, Male	1	5.6%	0	0.0%	0	0.0%
Unknown, Male	0	0.0%	0	0.0%	0	0.0%
Male Total	17	94.4%	11	100.0%	5	100.0%
Total	18	100.0%	11	100.0%	5	100.0%

Ethnicity & Age Range Table	2019-2020		2020-2021		2021-2022	
	N	%	N	%	N	%
African American, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Asian, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Caucasian, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Two or More Races, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Unknown, Under the age of 18	0	0.0%	0	0.0%	0	0.0%
Under the age of 18 Total	0	0.0%	0	0.0%	0	0.0%
African American, 18-24	1	5.6%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 18-24	0	0.0%	0	0.0%	0	0.0%
Asian, 18-24	0	0.0%	0	0.0%	0	0.0%
Caucasian, 18-24	5	27.8%	4	36.4%	2	40.0%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	0	0.0%	1	9.1%	0	0.0%
Two or More Races, 18-24	0	0.0%	0	0.0%	0	0.0%
Unknown, 18-24	0	0.0%	0	0.0%	0	0.0%
18-24 Total	6	33.3%	5	45.5%	2	40.0%
African American, 25-44	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 25-44	1	5.6%	0	0.0%	0	0.0%
Asian, 25-44	0	0.0%	0	0.0%	0	0.0%
Caucasian, 25-44	7	38.9%	2	18.2%	2	40.0%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	1	5.6%	1	9.1%	0	0.0%
Two or More Races, 25-44	1	5.6%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	0	0.0%	0	0.0%
25-44 Total	10	55.6%	3	27.3%	2	40.0%
African American, 45-64	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 45-64	0	0.0%	0	0.0%	0	0.0%
Asian, 45-64	0	0.0%	0	0.0%	0	0.0%
Caucasian, 45-64	2	11.1%	3	27.3%	1	20.0%
Hawaiian/Other Pacific Islander, 45-64	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 45-64	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 45-64	0	0.0%	0	0.0%	0	0.0%
Unknown, 45-64	0	0.0%	0	0.0%	0	0.0%
45-64 Total	2	11.1%	3	27.3%	1	20.0%
African American, 65+	0	0.0%	0	0.0%	0	0.0%
American Indian/Alaskan Native, 65+	0	0.0%	0	0.0%	0	0.0%
Asian, 65+	0	0.0%	0	0.0%	0	0.0%
Caucasian, 65+	0	0.0%	0	0.0%	0	0.0%
Hawaiian/Other Pacific Islander, 65+	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 65+	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 65+	0	0.0%	0	0.0%	0	0.0%
Unknown, 65+	0	0.0%	0	0.0%	0	0.0%
65+ Total	0	0.0%	0	0.0%	0	0.0%
Total	18	100.0%	11	100.0%	5	100.0%

Provide narrative for analysis of completers. *(Based on the data, provide a narrative of your analysis of completions. Indicate factors that may have affected your completions. How might you increase the number of completers in your program?)*

Students enter the AST program with the intention of completing the components that prepare and authorize them to take the FAA exams. Some do not take the courses associated with the available certificates and degrees. In this regard, these students complete the AST courses and receive certificates of completion, but show up in statistics as not completing the program.

For increasing number of completers - same approaches as discussed regarding retention.

Identify Completer Action Items

Item	**Action Items** *(What actions can be taken to increase student completion in your program?)*	**Assessment of Action Items** *(How will you assess the results of action items?)*
1	Increase quantity and quality of training aids.	Increased number of students receiving program degree and diplomas as well as FAA certificates of completion.
2	Active advising	Periodically meet with advisees, encouraging the completion of the program; explain the benefits of completion as it relates to employment.

Section 3: Other Assessments

Do you use other methods of assessment to evaluate the effectiveness of your program*, to include surveys, self-assessments, student licensure/certification, or third-party credentials?. If so, please explain how information collected from the(se) assessments can be used to improve the program.)*

FAA Airframe Mechanic Certificate
FAA Powerplant Mechanic Certificate

Each major subject area of the AST program (General, Airframe, Powerplant) is assessed after completion of that series of courses by a comprehensive exam. Data regarding success rates of those exams are retained for examination by AST staff. The exam is administered using software that has the capability to show students' results by subject area. This data helps the AST staff identify any subject areas that may show trends toward deficiencies. Staff can then focus on improvements in those areas.

Wayne Community College's Aviation Systems Technology program is accredited through the Federal Aviation Administration, Air Agency Certificate (U.S. Department of Transportation).

Planning Objectives (2019-20; 2020-21; 2021-22 – Fiscal Year, July 1-June 30)
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

Planning Year (Fiscal Year – July 1-June 30)	Objective(s) Submitted	Use of Results
2019-20	MicroVib II Aircraft Balancer/Analyzer	2017-18 Status Report: This tester has been ordered and will be ready for use for students for Fall 2018. The equipment has not shipped or arrived yet. It will be ready for use by Fall 2018. Carry forward to the 2018-19 Plan to report assessment and use of results. 2018-19 Status Report: Unit arrived just after period during which students would be familiarized with its use. Instructor familiarization in progress. Upon instructor familiarization and student introduction, system may be used as needed throughout the academic year for refresher training and for maintenance on runnable aircraft and run stands. Carry forward to the 2019-20 Plan/Budget to report assessment of the objective. 2019-20 Status Report: Carry forward to the 2020-21 Plan to report assessment. 2019-20 Use of Assessment: Carry forward to the 2020-21 Plan to report assessment. 2020-21 Status Report: Complete equipment and accessories were received in time for evolving integration beginning

		with the 2019-2020 year. Integration during that year was limited due to COVID related distance learning. System integration into the aviation program resumed upon return to in-person hands-on training. Associated software has been installed by WCC IT personnel on one lab laptop computer. The equipment was available to students for learning theory as well as hands-on training by the 2020-20201 year. 2020-21 Use of Results / Assessment: The class unit that focuses on the use of this tracking and balancing equipment is taught in the spring semester. Initial theory and hands-on training occurs then. Hands-on training was limited during the 2019-2020 year due to COVID restrictions. Limited theory instruction was available through online video demonstration and discussion. During 2020-2021 year, we integrated the track and balance theory into the course using the equipment. Class was able to observe and work out a balance solution using the simulator that was purchased as part of this set of equipment. The class was also able to view theory of tracking using the simulator. Applicable components of this equipment are currently installed on the helicopter and being used during the applicable class to demonstrate track and balance methods. Students' knowledge of this equipment should help improve scores on school assessments as well as assessments required for certification due to better understanding of the theory behind tracking and balancing. Those who employ our students will likely gain the greatest benefit due to students entering the workforce with a better understanding of tracking and balancing problems and their associated solutions. Employers who operate helicopters have been increasingly complaining about lack of helicopter training from airframe and powerplant schools. Knowledge of track and balance theory is of greater use and importance in helicopter systems.
2020-21	(1) JT15D Engine Test cell	2020-21 End-of-Year Status Report: This test cell is to be utilized as part of engine operation in AVI 250 Power-train Maintenance in the Spring Semester. Being the test cell has not arrived, it could be the next spring semester before it can be used. Carry forward to the 2021-22 Plan to report assessment. 2021-22 Status Report: Engine received February 2022. Given the point the unit was received, it was not fully integrated into the curriculum for Spring 2022. Unit was uncrated,

		inspected, serviced, and prepared for operation. Several successful operations of the unit have been completed. Although not fully implemented in the current cycle, Powerplant students were cycled through and involved in preparation and running of the engine to begin allowing them some familiarization with this type of engine (Turbofan). All mainline airlines and nearly all feeder (regional) airlines now only use aircraft with turbofan engines. This is the first working example of this type of engine used by the WCC AST program. 2021-22 Use of Results / Assessment: Students have now been exposed to and are gaining familiarity with a tangible working model of a turbofan engine. This will boost their understanding of the processes and system interactions of this type of engine. They are also gaining experience and visual representations of the importance of learning to work safely around turbofans. Their additional familiarization of this type of engine will boost their understanding and increase their performance on testing required for their certification. Familiarization and experience with this unit will also make these students better candidates for airline and business aviation jobs upon completion of their certifications.
2021-22	1) (1) One AeroLift Aircraft Lift 3500 lb capacity 2) 3 JT15D Teardown Engines	1) Lift has been received and assembled and is functional. Currently being used to elevate one aircraft that would otherwise use already scarce floor space. This allows students greater area to manipulate and work on other aircraft that are the subject of their most current hands-on project. Able to rotate which airplane is elevated as needed for particular projects. 2) Order for these engines were recently completed. Not yet received as of February 2023. Carry forward to 2022-23 Plan to report assessment.

What planning objectives (equipment, supplies, software, etc.) do you anticipate needing over the next three years? Justify the need.

Flyable regional passenger aircraft such as Canadair CRJ or as large of an airliner as is able to land at GWW. This is needed in flyable condition for transport to GWW as well as to be in the most useful condition as possible as a training aid. Otherwise, would not fly once being inducted as a training aid.

Many of our students are finding their first employment with regional airlines. Many others are employed to maintain business class aircraft, which employ similar aircraft systems and engines to regional passenger aircraft. It is becoming more crucial for us to have these types of working systems for our students to use as training aids.

CFM-56 engines – Runnable trainers as well as assemble/disassemble engines. This engine is a popular choice for mid-size passenger airplanes. This is another working example that the students would be highly likely to be working on after they leave our program. This has similar advantages to the flyable airliner.

Flyable turbine engine helicopter. It would be preferable to purchase a helicopter with a FADEC (Full Authority Digital Engine Control). This is another necessity that results from changing industry needs. Numbers of turbine helicopter operators is steadily increasing. One easily recognized example is the air ambulance industry. Many helicopters are now using advanced materials and systems, including FADEC systems. Managers in the helicopter industry are continuously asking for more training on newer helicopter systems from Airframe and Powerplant schools.

VR (Virtual Reality), AR (Augmented Reality), and Full Motion Flight Training Devices (FTD). VR and AR are emerging technologies that are already being used by companies in the aviation industry for training. These technologies are continuing to mature into valuable training aids. VR and AR use less floor space to employ. Training on many aircraft systems can be more easily updated to modern equipment by software upgrade as opposed to physical equipment purchase.

Although AST training is not flight training per se, understanding of flight systems can greatly enhance an aircraft mechanic's understanding of flight controls and many other systems on aircraft. A Full Motion FTD would be hard to put a value on for students learning theory on aircraft systems.

What positions (faculty and/or staff) do you anticipate needing over the next three years? Justify the need.

2 more full-time instructors
For either a second run of each course during the day, or possibly for courses to be taught during evening hours.

1 adjunct
For incidental courses that would likely be taught as Con-Ed courses.

3 more lab assistants
To assist full-time instructors with additional runs of each course.

Provide narrative for your program facility needs over the next three years. If facilities are adequate, please confirm.

150'x150' or larger hangar/classroom building

Lack of floor space has been an impediment for some time. A larger hangar and additional instructional space is needed. Other AST programs within North Carolina have started using the hangar/classroom model for their training areas. A significant increase in floor space in the hangar and in classroom area is crucial to growing the AST program to meet industry demands.

Provide narrative for academic / student support services needs over the next three years. *(Are services adequate for your program/service?)*

Support in this area appears to be adequate.

Provide narrative for analysis of the program's / discipline's strengths, weaknesses, and opportunities.

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.

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

The larger classroom and hangar spaces would provide the adequate teaching spaces for the program giving the completers the skills needed for employment.

Review prepared and submitted by: *(Please list name(s) and titles)*

Mike Crumpler, Aviation Systems Technology Instructor
Kenneth Creech, Aviation Systems Technology Instructor

Approvals

1. Using DocuSign (electronic signature), the Office of Institutional Effectiveness (IE) will review and approve the Program/Service Review when completed by the responsible program/service personnel.
2. Using DocuSign (electronic signature), appropriate Division Dean, Director, or AVP is asked to read and approve the Review.
3. Using DocuSign (electronic signature), appropriate Vice President/Associate Vice President is asked to read and approve the Review.

IE Acceptance / Date: Dorothy Moore 2/15/2023

Dean, Director, or AVP / Date: Dr. Ernie White 2/15/2023

Administrator Approval / Date: Dr. Brandon M. Jenkins 2/16/2023