Wayne Community College
Program Review – 2021-2022

Name of Program: Mechatronics Engineering 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 mission of the Mechatronics Engineering Technology Program is to prepare students to use basic engineering principles and technical skills in developing, integrating and testing automated, serve mechanical, and other electromechanical systems.

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

NA

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.

Goal 1: Increase Student Access
Goal 2: Ensure Program Excellence
Goal 3: Improve Student Success
Goal 4: Ensure Institutional Quality

Goal 1: The Mechatronic Engineering Technology Program ensures student access by offering a certificate and AAS degree program. The program has opened unused classrooms to allow students to use training equipment outside of the normal Lab time. This variety of program offerings accommodates students with a variety of schedules and learning styles. This allows students to have hands-on time in a manner that best suits their work and life schedules.

Goal 2: The Mechatronic Engineering Technology Program strives to ensure program excellence. The faculty of the program continuously review program retention and student success in the program courses in an effort to determine what worked well in the course and any necessary improvements. Other efforts to ensure program excellence include professional development and building relationships with industry partners to ensure the program reflects current industry needs and trends.

Goal 3: In addition to reviewing student success in the program courses, the faculty of The Mechatronic Engineering Technology Program have incorporated various techniques and updates to courses in an effort to improve student success rates. The faculty updates courses in a manner to improve course rigor and maintain the standards set by the industry in which students seek employment.

Goal 4: By achieving the previously mentioned goals toward student access, program excellence and student success; we are contributing to the goals related to institutional quality.

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
Associates in Applied Science	Mechatronics Engineering Technology (A40350)
Certificate in Applied Science	Mechatronics Engineering Technology Certificate (A40350A)

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
N/A	

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?)*

Not applicable.

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	April 11/Nov 14	Program updates/student showcase
2020-2021	Nov 24	Program updates/student showcase
2021-2022	May 4	Program updates/student showcase

(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?*

The Mechatronics Engineering Program and the Advisory Board members have identified multiple trends as a result of professional development opportunities taken by faculty as well as collaborative meetings with local industry partners and the members of the advisory committee.

- Soft skills continue to be one of the highest demanded skill sets.
- Graduates should have basic computer skills as well as the ability to learn new software.
- Graduates need to be flexible and adaptive in their everyday work environment
- Graduates should have knowledge of software to program PLCs

Section 2: Program Outcomes

Outcome #1: Enrollment *(unduplicated)*

Baseline: **25** # (*Average of total enrollment for the last three years – 2018-19; 2019-20; 2020-21*)
Standard: **27** #
Target: **28** #

Program Enrollment

Program Enrollment (unduplicated)	
Academic Year (Fall, Spring, Summer)	**Enrollment**
2018-2019	24
2019-2020	29
2020-2021	22

Enrollment by Ethnicity, Gender, and Age

Ethnicity & Gender	2018-2019		2019-2020		2020-2021	
	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	0	0.0%	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	0	0.0%	0	0.0%	0	0.0%
African American, Male	2	8.3%	4	13.8%	3	13.6%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	1	4.2%	1	3.4%	0	0.0%
Caucasian, Male	13	54.2%	14	48.3%	10	45.5%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	6	25.0%	8	27.6%	7	31.8%
Two or More Races, Male	0	0.0%	0	0.0%	0	0.0%
Unknown, Male	2	8.3%	2	6.9%	2	9.1%
Male Total	24	100.0%	29	100.0%	22	100.0%
Total	24	100.0%	29	100.0%	22	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%	1	3.4%	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%	1	3.4%	0	0.0%
African American, 18-24	1	4.2%	1	3.4%	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	20.8%	5	17.2%	6	27.3%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	3	12.5%	3	10.3%	2	9.1%
Two or More Races, 18-24	0	0.0%	0	0.0%	0	0.0%
Unknown, 18-24	1	4.2%	0	0.0%	1	4.5%
18-24 Total	10	41.7%	9	31.0%	9	40.9%
African American, 25-44	1	4.2%	2	6.9%	2	9.1%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	0	0.0%
Asian, 25-44	1	4.2%	1	3.4%	0	0.0%
Caucasian, 25-44	7	29.2%	7	24.1%	3	13.6%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	3	12.5%	5	17.2%	5	22.7%
Two or More Races, 25-44	0	0.0%	0	0.0%	0	0.0%
Unknown, 25-44	1	4.2%	2	6.9%	1	4.5%
25-44 Total	13	54.2%	17	58.6%	11	50.0%
African American, 45-64	0	0.0%	1	3.4%	1	4.5%
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	1	4.2%	1	3.4%	0	0.0%
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	1	4.2%	2	6.9%	1	4.5%
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%	1	4.5%
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%	1	4.5%
Total	24	100.0%	29	100.0%	22	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.)*

My enrollment decreased. A major factor of this decline was due to COVID outbreak. I plan to work with the office of communications to create new flyers and social media advertisements

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 outreach for recruitment	Work with the office of communication to create recruitment materials.

Outcome #2: Retention

Baseline: **65.9** % (*Average of last three years – 2018-19; 2019-20; 2020-21; program retention*)
Standard: **67** %
Target: **69** %

Year	Program Retention Rate
2018-2019	68.2%
2019-2020	47.6%
2020-2021	81.8%

Retention by Ethnicity, Gender, and Age

Ethnicity & Gender	Fall 2018 to Fall 2019		Fall 2019 to Fall 2020		Fall 2020 to Fall 2021	
	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	0	0.0%	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	0	0.0%	0	0.0%	0	0.0%
African American, Male	0	0.0%	0	0.0%	1	11.1%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	1	6.7%	1	10.0%	0	0.0%
Caucasian, Male	8	53.3%	6	60.0%	5	55.6%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	4	26.7%	3	30.0%	3	33.3%
Two or More Races, Male	0	0.0%	0	0.0%	0	0.0%
Unknown, Male	2	13.3%	0	0.0%	0	0.0%
Male Total	15	100.0%	10	100.0%	9	100.0%
Total	15	100.0%	10	100.0%	9	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	0	0.0%	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	4	26.7%	3	30.0%	3	33.3%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	2	13.3%	1	10.0%	1	11.1%
Two or More Races, 18-24	0	0.0%	0	0.0%	0	0.0%
Unknown, 18-24	1	6.7%	0	0.0%	0	0.0%
18-24 Total	7	46.7%	4	40.0%	4	44.4%
African American, 25-44	0	0.0%	1	10.0%	1	11.1%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	0	0.0%
Asian, 25-44	1	6.7%	0	0.0%	0	0.0%
Caucasian, 25-44	3	20.0%	3	30.0%	2	22.2%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	2	13.3%	2	20.0%	2	22.2%
Two or More Races, 25-44	0	0.0%	0	0.0%	0	0.0%
Unknown, 25-44	1	6.7%	0	0.0%	0	0.0%
25-44 Total	7	46.7%	6	60.0%	5	55.6%
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	1	6.7%	0	0.0%	0	0.0%
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	1	6.7%	0	0.0%	0	0.0%
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	15	100.0%	10	100.0%	9	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.)*

I have continued to have great communication with my students through email, text messages, and phone calls to share information about registration and other important information.

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	Increase student communication	Emails, Phone Calls, Face to Face meetings

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

Baseline: **7** # (*Average of total completers for the last three years – 2019-20; 2020-21; 2021-22*)
Standard: **8** #
Target: **9** #

Number of Completers (*unduplicated*) – *Graduation Year – Summer, Fall, Spring*	
Graduation Year	**Total Completers**
2019-2020	6
2020-2021	7
2021-2022	7

Completers by Ethnicity, Gender, and Age

Ethnicity & Gender	2019-2020		2020-2021		2021-2022	
	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	0	0.0%	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	0	0.0%	0	0.0%	0	0.0%
African American, Male	0	0.0%	1	14.3%	1	14.3%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	1	16.7%	0	0.0%	0	0.0%
Caucasian, Male	4	66.7%	4	57.1%	3	42.9%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	1	16.7%	2	28.6%	2	28.6%
Two or More Races, Male	0	0.0%	0	0.0%	0	0.0%
Unknown, Male	0	0.0%	0	0.0%	0	0.0%
Male Total	6	100.0%	7	100.0%	6	85.7%
Total	6	100.0%	7	100.0%	6	85.7%

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	0	0.0%	1	14.3%	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	1	16.7%	2	28.6%	1	14.3%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	0	0.0%	1	14.3%	2	28.6%
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	1	16.7%	4	57.1%	3	42.9%
African American, 25-44	0	0.0%	0	0.0%	1	14.3%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	0	0.0%
Asian, 25-44	1	16.7%	0	0.0%	0	0.0%
Caucasian, 25-44	3	50.0%	2	28.6%	2	28.6%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	1	16.7%	1	14.3%	0	0.0%
Two or More Races, 25-44	0	0.0%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	0	0.0%	1	14.3%
25-44 Total	5	83.3%	3	42.9%	4	57.1%
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	0	0.0%	0	0.0%	0	0.0%
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	0	0.0%	0	0.0%	0	0.0%
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	6	100.0%	7	100.0%	7	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?)*

My number in completers is always going to fluctuate. The reason it's this way is because lots of my students are already working, and work schedules affect when students take classes. Students that have trouble with higher level Math and Physics requirements. A student on track to complete this degree or certificate may switch to the Industrial Systems Technologies Programs which does not require Physics.

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	Communication with students to complete degree or certificate	Number of students completing program
2	Student services adding Physics Tutor or new Instructors	Students scoring at least C's

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.)*

Certifications by Class	Classes Certifications are taught.	
Fanuc Robotics CERT Cell Programming	ATR-280	Fanuc Test
Festo Fundamentals of Industry 4.0	ELC-127	NC3 Course
Festo Fundamentals of PLCs Allen Bradley	ELC-127	NC3 Course
Festo Fundamentals of Electricity DC	ELC-111	NC3 Course
Festo Fundamentals of Electricity AC	ELC-111	NC3 Course
Festo Fundamentals of Mechanical Systems	MEC-130	NC3 Course
Festo Fundamentals of Fluid Power Pneumatics	HYD-110	NC3 Course
Festo Fundamentals of Fluid Power Hydraulics	HYD-110	NC3 Course
Festo Introduction to Mechatronics	ATR-218	NC3 Course
Festo Fundamentals of Sensor Technology	ATR-112	NC3 Course
Snap On Hand Tool Safety	ELC-120	NC3 Course
Snap On Electrical Safety	ELC-120	NC3 Course
Snap-On 575 Multimeter	ELC-120	NC3 Course
If ALL 9 Festo Certs are Passed, then you can take		
Industry 4.0 Certified Associate	Only 4 schools can provide this in USA. Only school in NC!	

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	Engineering & Manufacturing - (1) Laptop Cart with (20) Laptops	Awaiting receipt. Unable to assess objective due to COVID campus shut-down, stay-at-home orders. Carry forward to the 2020-21 Plan to report assessment. 2020-21 Status Report: Laptops were purchased and housed on campus of WSE. The laptops were being used for students taking CAD classes while WCC classes were being offered remotely. 2020-21 Use of Results / Assessment: Results of assessed classes will improve by enabling WSE students to have full access to software utilized and required by the college classes. 2021-22 Status Report: Computers

		moved to WCC Campus for Mechatronics Program.
2020-21	Engineering & Manufacturing /IST / Mechatronics - Base model mechanical trainer from Festo/Labvolt	Purchased complete training system and utilized new equipment in MEC 130 in the Fall 2020 semester. This purchase allowed students more hands-on time for each lab component which improves overall student learning goals.
2021-22	1. Engineering and Manufacturing - Mechatronics Engineering Technology – 5, 3355 Allen-Bradley Advanced PLC Training System 2. Engineering and Manufacturing - Mechatronics Engineering Technology - 5) TP1311 equipment set, Sensors for object detection with workstation and curriculum	1. Submitted for purchase by Purchasing Director. Trainers have not been received as of 12/13/2020. Trainers are being incorporated into ELC-260. Students are being exposed to newer Rockwell PLCs and the latest software. 2. Remains outstanding at the moment. Carry forward to the 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.

5) 3355 Allen-Bradley Advanced PLC Training System	New trainers be used in ELN-260 Programable Logic Controllers. They would be housed in the new PLC lab in Magnolia.	These are newer PLCs than our present trainers and would allow students to work with the latest Rockwell software. All students in ELN-260 would be able to use the trainers to obtain their NC3 Applied PLCs. This trainer is also required for WCC to become a Festo NC3 Center of Excellence.	Improved student outcomes in ELC-260, with more efficient lab exercises. Students will be able to take the NC3 Applied PLCs - Allen-Bradley certification.

5) TP1311 equipment set, Sensors for object detection with workstation and curriculum	These stations could be incorporated into ELC-128, ELN-260, ELC-213, ATR112, ELC-130, HYD-110 and ATR-218.	Students would be able to participate in a more focused training on sensor identification, types and capabilities. Students would be able to use the trainers to obtain their NC3 Festo Fundamentals of Sensor Technology certificate. This trainer is also required for WCC to become a Festo NC3 Center of Excellence	Students would be able to use the trainers to obtain their NC3 Festo Fundamentals of Sensor Technology certificate.

4) Double-sided workbench with TP 101 America Pneumatics and TP 201 America Electro-pneumatics with curriculum	New trainers would allow expansion of the pneumatics portion of HYD-110 (Intro to hydraulics/pneumatics. Trainers would be housed in the new Hyd/ Pneu. lab in Magnolia.	Hands on portion of pneumatics would be greatly expanded. This would benefit students, in that many local industries rely heavily on-air powered systems. This trainer is also required for WCC to become a Festo NC3 Center of Excellence. Trainers could accommodate 16 students/section. If social distancing is reinstated students could be split between hydraulic and pneumatic trainers.	Improved student outcomes in HYD-110, with more efficient lab exercises. Students will be able to take the NC3 Fundamentals of Fluid Power - Pneumatics and NC3 Applied Fluid Power certifications

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

The Mechatronics Program needs an Adjunct Instructor immediately. With the growth of the apprenticeship program another 9-month Instructor to keep up with enrollment.

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

The Mechatronics Program and Engineering & Manufacturing Department is in serious need of more lab/class space. The Advance Manufacturing Center has had to be delayed during the COVID pandemic. This will improve student success and allow for more students to access the training equipment.

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

The Mechatronics Program and Engineering & Manufacturing Department students need access to Physics Tutors. Every year all students are struggling to pass Phy-131. Students who are top of their class straight As, until they take Phy-131.

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

The Mechatronics Engineering program's weakness is the limited space to work in. More space would allow for better lab utilization.

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

Bobby McArthur, Mechatronics Instructor
Todd King, Department Chair

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 11/22/2022

Dean, Director, or AVP / Date: Dr. Ernie White 11/22/2022

Administrator Approval / Date: Dr. Brandon M. Jenkins 11/22/2022