

**Wayne Community College
Program Review – 2021-2022**

Name of Program: Industrial 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 mission of the Industrial Systems Technology Program is to prepare individuals to safely service, maintain, repair, or install equipment through instruction including theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems.

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

No revision

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 Industrial Systems Technology Program ensures student access by offering a certificate, diploma and AAS degree program. These program offerings allow options for students with a variety of schedules and educational needs. Students may arrange to use training equipment outside of the normal lab time. This allows students to have extra hands-on time, when needed.

Goal 2: The Industrial Systems Technology Program strives to meet the educational and training needs of our local industries and employers. We do this by maintaining open dialog with our students and those that will employ them. Through dialog, visits, and advisory board meetings, industry trends and needs are incorporated into our curriculum.

Goal 3: The Industrial Systems Technology Program meets the students at their beginning skill level and provides them with the skills needed to become successful employees in their field, as well as productive members of their communities.

Goal 4: By achieving the previously mentioned goals of 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
Associate of Applied Science	A50240 Industrial Systems Technology, AAS
Diploma	D50240 Industrial Systems Technology Diploma
Certificate	C50240 Industrial Systems Certificate
Certificate	C50240IA Industrial Automation Certificate
Certificate	C50240MS Mechanical Systems Certificate

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
Deleted EGR-110 Intro to Engineering Technology	Fall 2022
Added AHR-120 HVACR Maintenance	Fall 2022 (first offering will be Spring 2023)

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?)

Our industry apprenticeship partners requested an introductory heating/refrigeration course be added to the program. After looking at the needs of many of our local industries, we recognized that this was a component of maintenance that we were missing. Upon a review of the total program hours, it was decided that the needs of the students would be better served by the new class rather than the Intro to Engineering class.

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	09/14/19	Soft skills. All need more maintenance personnel.
2020-2021	12/07/21	Strong employment opportunities. Apprenticeship possibilities.
2021-2022	05/04/22	Student Showcase in WLC

(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?)*

Local industries are satisfied with our students that are being employed. The main complaint is that there are not enough of them. This point is being emphasized during our recruiting activities. We are also planning program revisions to allow more lab time and concentrate on the skills sets to better serve local industry. Tying the student showcase with the advisory board meetings allows the members to interact with our students and see some of their work. There were students that received job offers during the showcase.

Section 2: Program Outcomes

Outcome #1: Enrollment (*unduplicated*)

Baseline: 51 # (*Average of total enrollment for the last three years – 2018-19; 2019-20; 2020-21*)

Standard: 53 #

Target: 55 #

Program Enrollment

Program Enrollment (unduplicated)	
Academic Year (Fall, Spring, Summer)	Enrollment
2018-2019	39
2019-2020	47
2020-2021	68

Enrollment by Ethnicity, Gender, and Age

Ethnicity & Gender	2018-2019		2019-2020		2020-2021	
	N	%	N	%	N	%
African American, Female	2	5.1%	1	2.1%	1	1.5%
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%	1	1.5%
Hawaiian/Other Pacific Islander, Female	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Female	1	2.6%	2	4.3%	1	1.5%
Two or More Races, Female	0	0.0%	0	0.0%	0	0.0%
Unknown, Female	0	0.0%	0	0.0%	1	1.5%
Female Total	3	7.7%	3	6.4%	4	5.9%
African American, Male	8	20.5%	11	23.4%	17	25.0%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	1	1.5%
Asian, Male	0	0.0%	1	2.1%	0	0.0%
Caucasian, Male	24	61.5%	21	44.7%	29	42.6%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	4	10.3%	10	21.3%	15	22.1%
Two or More Races, Male	0	0.0%	0	0.0%	0	0.0%
Unknown, Male	0	0.0%	1	2.1%	2	2.9%
Male Total	36	92.3%	44	93.6%	64	94.1%
Total	39	100.0%	47	100.0%	68	100.0%

Ethnicity & Age Range	2018-2019		2019-2020		2020-2021	
	N	%	N	%	N	%
African American, Under the age of 18	0	0.0%	1	2.1%	1	1.5%
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%	2	2.9%
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	2.1%	3	4.4%
African American, 18-24	3	7.7%	0	0.0%	1	1.5%
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	12	30.8%	8	17.0%	8	11.8%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	2	5.1%	5	10.6%	5	7.4%
Two or More Races, 18-24	0	0.0%	0	0.0%	0	0.0%
Unknown, 18-24	0	0.0%	1	2.1%	1	1.5%
18-24 Total	17	43.6%	14	29.8%	15	22.1%
African American, 25-44	6	15.4%	9	19.1%	13	19.1%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	1	1.5%
Asian, 25-44	0	0.0%	1	2.1%	0	0.0%
Caucasian, 25-44	10	25.6%	10	21.3%	16	23.5%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	2	5.1%	5	10.6%	9	13.2%
Two or More Races, 25-44	0	0.0%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	0	0.0%	2	2.9%
25-44 Total	18	46.2%	25	53.2%	41	60.3%
African American, 45-64	1	2.6%	2	4.3%	3	4.4%
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	5.1%	3	6.4%	4	5.9%
Hawaiian/Other Pacific Islander, 45-64	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 45-64	1	2.6%	2	4.3%	2	2.9%
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	10.3%	7	14.9%	9	13.2%
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	39	100.0%	47	100.0%	68	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.)*

Our enrollment is increasing and has now exceeded our 2015-2016 enrollment, which was the enrollment prior to the Mechatronics Engineering program. The increase is due to local industry's participation in the Industrial Systems apprenticeship program. Due to their buy-in to the program, they are supplying enough students to run course sections just for them. We have also worked to differentiate the Industrial System program from the Mechatronics program. This has helped students better understand the difference in job skills and choose the one that best fits their goals and aptitude. Program updates will be presented to the curriculum committee for the Fall 2023 catalog that will continue this trend.

Ethnicity, gender, and age disparities are typical of this career field.

Identify Enrollment Action Items

Item	Action Items <i>(What actions can be taken to increase enrollment in your program?)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>
1	Create an "exploratory" certificate for CCP to allow younger students to sample the program.	Watch enrollment numbers for the under 18 and 18-24 age group to see if there is an increase.
2	Increase outreach for recruitment by working with the office of communication to create recruitment materials.	Poll students as to how they found out about the program.

Outcome #2: Retention**Baseline:** 68.3 % (Average of last three years – 2018-19; 2019-20; 2020-21; program retention)**Standard:** 69 %**Target:** 70 %

Year	Program Retention Rate
2018-2019	65.5%
2019-2020	72.2%
2020-2021	67.3%

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	1	5.3%	1	3.8%	1	3.0%
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	1	5.3%	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%	1	3.0%
Female Total	2	10.5%	1	3.8%	2	6.1%
African American, Male	2	10.5%	7	26.9%	9	27.3%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	1	3.0%
Asian, Male	0	0.0%	0	0.0%	0	0.0%
Caucasian, Male	12	63.2%	13	50.0%	13	39.4%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	3	15.8%	4	15.4%	7	21.2%
Two or More Races, Male	0	0.0%	0	0.0%	0	0.0%
Unknown, Male	0	0.0%	1	3.8%	1	3.0%
Male Total	17	89.5%	25	96.2%	31	93.9%
Total	19	100.0%	26	100.0%	33	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	8	42.1%	4	15.4%	3	9.1%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	1	5.3%	1	3.8%	2	6.1%
Two or More Races, 18-24	0	0.0%	0	0.0%	0	0.0%
Unknown, 18-24	0	0.0%	1	3.8%	0	0.0%
18-24 Total	9	47.4%	6	23.1%	5	15.2%
African American, 25-44	3	15.8%	7	26.9%	8	24.2%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	1	3.0%
Asian, 25-44	0	0.0%	0	0.0%	0	0.0%
Caucasian, 25-44	2	10.5%	6	23.1%	8	24.2%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	2	10.5%	2	7.7%	4	12.1%
Two or More Races, 25-44	0	0.0%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	0	0.0%	2	6.1%
25-44 Total	7	36.8%	15	57.7%	23	69.7%
African American, 45-64	0	0.0%	1	3.8%	2	6.1%
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	10.5%	3	11.5%	2	6.1%
Hawaiian/Other Pacific Islander, 45-64	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 45-64	1	5.3%	1	3.8%	1	3.0%
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	3	15.8%	5	19.2%	5	15.2%
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	19	100.0%	26	100.0%	33	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.)*

Retention rates were an action item from the 2018 -19 program review. At that time, our baseline retention rate was 56%. We have exceeded our previous goal of 59% for the past three years. We will continue our present strategies to try to reach our updated goal.

The change in math requirements (adding the option of MAT 110) was one factor that helped with retention. Our retention is impacted by the fact that the job market for our students is extraordinarily strong. Students acquire skills in the first year that allow them to enter well-paying jobs. Anecdotal evidence seems to indicate that most of the students that do not return are not receiving financial aid. (This would be a valuable data point to include)

Identify Retention Action Items

Item	Action Items <i>(What actions can be taken to increase program retention?)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>
1	Continue to emphasize to students the long-term benefits of completing the program.	Evaluate retention rates in future reports
2		

Outcome #3: Completers (unduplicated) (Degree level, highest level of attainment)**Baseline:** 10 # (Average of total completers for the last three years – 2019-20; 2020-21; 2021-22)**Standard:** 11 #**Target:** 12 #

Number of Completers (unduplicated) – Graduation Year – Summer, Fall, Spring	
Graduation Year	Total Completers
2019-2020	10
2020-2021	8
2021-2022	12

Completers by Ethnicity, Gender, and Age

Ethnicity & Gender	2019-2020		2020-2021		2021-2022	
	N	%	N	%	N	%
African American, Female	0	0.0%	1	12.5%	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%	1	8.3%
Unknown, Female	0	0.0%	0	0.0%	0	0.0%
Female Total	0	0.0%	1	12.5%	1	8.3%
African American, Male	5	50.0%	1	12.5%	2	16.7%
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	3	30.0%	6	75.0%	8	66.7%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	2	20.0%	0	0.0%	1	8.3%
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	10	100.0%	7	87.5%	11	91.7%
Total	10	100.0%	8	100.0%	12	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	10.0%	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	2	20.0%	3	37.5%	4	33.3%
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%	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	3	30.0%	3	37.5%	4	33.3%
African American, 25-44	4	40.0%	2	25.0%	2	16.7%
American Indian/Alaskan Native, 25-44	0	0.0%	0	0.0%	0	0.0%
Asian, 25-44	0	0.0%	0	0.0%	0	0.0%
Caucasian, 25-44	1	10.0%	2	25.0%	3	25.0%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	1	10.0%	0	0.0%	1	8.3%
Two or More Races, 25-44	0	0.0%	0	0.0%	1	8.3%
Unknown, 25-44	0	0.0%	0	0.0%	0	0.0%
25-44 Total	6	60.0%	4	50.0%	7	58.3%
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%	1	12.5%	1	8.3%
Hawaiian/Other Pacific Islander, 45-64	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 45-64	1	10.0%	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	10.0%	1	12.5%	1	8.3%
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	10	100.0%	8	100.0%	12	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?)*

The high wages (> \$22/hr.) and many employment opportunities being offered to our students, entice them to enter the work force before completing their degrees. Even though this hurts our completion numbers, it is often a success for the student. They are beginning the same job as they would after completion.

When students notify us of their intentions to leave the program, we emphasize the long-term advantages of completion. These include possible higher starting wages, future promotions, and the personal sense of accomplishment. Some that leave early will return and take one or two classes per semester to complete their degrees.

Our students often struggle with Math and English courses. Students that begin with DMA/DRE courses become frustrated and occasionally leave the program. Others will complete their technical courses but will not complete because of the Math or English requirements. More in-person teaching with less reliance on computer math problems could help the students pass these courses.

Evening classes could possibly improve completion rates. This would allow working students to take classes during their off hours. It would, however, require more instructors and the budget to cover those hours.

Identify Completer Action Items

Item	Action Items <i>(What actions can be taken to increase student completion in your program?)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>
1	Counsel students that are considering leaving the program.	We will look for an increase in the completion numbers as an indicator of a valid strategy.
2	Work with employers, through the apprenticeship program, to encourage their participants to complete their degree.	Look specifically at apprenticeship completion numbers.

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.)

We use certifications developed by The National Coalition of Certification Centers (NC3). NC3 certifications can be applied across multiple industries creating flexible, stackable, and relevant credentials to students and employers of all kinds. NC3 certifications are built to be integrated into an existing technical program to enhance what is already being taught. By integrating NC3 industry certifications into existing courses, classrooms achieve the best of both worlds by introducing kinesthetic learning opportunities, industry-valued competencies, and providing students with employment opportunities and relevant job-ready skills.

The following certifications are being utilized:

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

In addition, students may earn the Fanuc Robotics CERT Cell Programming certification in ATR-280.

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. <u>2020-21 Status Report</u> : 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. <u>2020-21 Use of Results / Assessment</u> : Results of assessed classes will improve by enabling WSE students to have full access to software utilized and required by the college classes.
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	Engineering and Manufacturing - Industrial Systems Technology - 4) Double-sided workbench with TP 101 America Pneumatics and TP 201 America Electro-pneumatics with curriculum	Approved for 2 instead of 4 from State funds, for \$83,265. Have received the cabinets, however components have not been received due to manufacturing / shipping delays. 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.

<p>2) Double-sided workbench with TP 101 America Pneumatics and TP 201 America Electro-pneumatics with curriculum</p>	<p>Trainers would be used in AZA 108. They are needed for HYD-110 Hydraulic/ Pneumatics and a future course MNT-263 Electro-Pneumatic Components</p>	<p>Hands on portion of pneumatics would be greatly expanded. This would benefit students, in that many local industries rely heavily on air powered systems. Trainers could accommodate 16 students/section. Curriculum changes will increase the need for and utilization of the trainers.</p>	<p>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</p>
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<p>4) Double-sided Workbench with TP 501 American Hydraulics and TP601 American Electro-hydraulics Trainers with curriculum</p>	<p>Trainers would be used in AZA 108. They are needed for HYD-110 Hydraulic/Pneumatics</p>	<p>The present trainers are in need of upgrades or repairs. The new trainers are smaller, more student friendly and much cleaner to work with. This trainer is also used in the NC3 Certification series.</p>	<p>Improved student outcomes in HYD-110, with more efficient lab exercises. Students will be able to take the NC3 Fundamentals of Fluid Power - Hydraulics and NC3 Applied Fluid Power certifications</p>
<p>5) Double-sided LabVolt series 8036 Industrial Controls Training Systems with Motor Drive add-on and curriculum</p>	<p>Trainers would be used in HOC 140. They are needed for ELC-120 Intro to Wiring, ELC-130 Advanced Motor Controls and MNT-240 Industrial Equipment Troubleshooting</p>	<p>Present trainers were made in-house approximately 9 years ago. They are beginning to show their age. With larger class numbers, new trainers would be much more student friendly, as well as easier to use in an educational environment.</p>	<p>Improved student outcomes in ELC-120 Intro to Wiring, ELC-130 Advanced Motor Controls and MNT-240 Industrial Equipment Troubleshooting.</p>

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

Additional faculty is needed to meet the growing demands of the apprenticeship program. Due to the long contact hours of the courses in our program, it is becoming unmanageable with the present faculty. This is an excellent partnership between WCC and local industry. It would be quite a setback if we cannot meet this need, negating all the effort that has been dedicated to developing and nurturing this project.

Emphasis on workforce development will also require faculty in order meet this need. Partnerships between curriculum side and Workforce Continuing Education & Community Engagement has the potential to bring a large influx of students. We must be prepared to meet this need.

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

As student numbers increase, scheduling is becoming more difficult with our present facilities. This is exacerbated by the fact that three different programs (Industrial Systems Tech, Mechatronic Engineering Tech, and Mechanical Engineering) use many of the same lab spaces. For many of our technical classes, crowded labs are a safety

concern. New or updated facilities are also needed as a matter of aesthetics. Four of our present labs/classrooms are in modified garage bays leftover from the automotive department. A better, more spacious learning environment would enhance the learning experience. If students feel that the institution supports them, and are comfortable in a modern lab/classroom, they will be more willing to invest their time in completing their program of study.

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

The greatest need seems to be in the developmental math/English course times. These students usually prefer in-person courses, but the time for these often conflicts with other courses that they need. This results in longer completion times for their degree, or the math/English courses are not taken, which adds to the non-completion numbers. More in-person courses, especially in the evening, would be beneficial.

Because of the technical nature of our program, it is difficult for our students to get tutors for those subjects. Understandably, there are not tutors that are knowledgeable in all subjects. However, this is a complaint that we hear from students.

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

The Industrial Systems program has had excellent success in the employment of our students. The basic skills that are learned in the program are in high demand. Program feedback, both formal and informal, from our local employers have been quite positive. The relationship between instructors and students is one of our program's major strengths. Students are comfortable speaking with instructors about problems that may be having with their course work. These may be academic or personal. Many times, solutions are found that allow the students to continue with their educational goals.

A weakness over the last three years has been the constant change in lab and classroom spaces. Without the permanence of dedicated spaces, lab set-up and the general instructional environment has been compromised. Newer, modern educational spaces would accentuate the skills and professionalism of our students and faculty. It would also be a good recruiting tool, as well as a showcase for local industries to visit.

Informing potential students of the career opportunities that are available through the Industrial Systems program could be our best opportunity to continue the growth of the program. These skilled technicians are needed to keep industry in our local area. The challenge is to find those students with the amplitude and drive to fulfil this need.

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

James Carter, Lead Instructor, Industrial Systems Technology

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 11/16/2022

Dean, Director, or AVP / Date: Dr. Ernie White 11/16/2022

Administrator Approval / Date: Dr. Brandon M. Jenkins 1/13/2023