Wayne Community College
Program Review – 2021-2022

Name of Program: Software Development

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 Information Systems Technology Department is to provide graduates with the skills for employment in diverse computer technology environments.

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

The current mission/purpose statement accurately reflects the aims of the department's work.

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: Increase Student Access
The Software Development program's mission directly correlates to WCC's values and goals. Communication, excellence, integrity, leadership, learning, and teamwork are some of the values that are directly woven into the curriculum, being taught, and modeled to students from the moment they enter the program. SD student access is increased by making the program 100% online accessible as well as offering courses in the classroom (day and night).

Goal #2: Ensure Program Excellence
Instructors ensure program excellence by examining rigor, relevance, and quality each semester in all of their courses. This is only intensified by the feedback from the Advisory Committee to ensure the content is up-to-date, competitive, and relevant to the world of work.

Goal #3: Improve Student Success
Open lab opportunities allow additional time for students to complete assignments and seek assistance.

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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	Software Development A25590C
Certificate	Application Development Certificate C25590AD
Certificate	Computer Programming Certificate C25590CP
Certificate	Java Programming Certificate C25590JP
Certificate	Mobile Web Development Certificate C25590MW
Certificate	Systems and Hardware Support (CCP) C25590HX
Certificate	Web Development Certificate C25590WD
Certificate	Web Programming Certificate C25590WP

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
Web Programming Certificate	Replace CSC 227 with WEB 151, which utilizes app-centric development methodology using HTML5 and JavaScript
Math Elective	Moved to 2nd semester to better align for student success
Second Semester Elective	Remove CTI 115 as Elective. Students will take CTS 120, which better aligns with the skillset needed in industry.

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?)*

Regarding the Web Programming Certificate, the past app development process tended to be specific to a platform in the native application development environment such as Objective-C or Swift for Apple iOS, or Java for Google's Android. While some apps still need to be developed in the native development environment, the emergence of HTML5 and JavaScript-based jQuery and Node.js makes it possible to develop apps that can run on most communication devices. The WEB 151 course follows the state's objective to remove a particular SDK from the course description.

Moving the Math elective to the second semester better aligns for student success within the degree program. Students waiting to take the Math elective in the later semesters faced a barrier to their success and completion of the program.

Changing the second semester elective to only CTS 120 better aligns with the skillset needed in industry and is an efficient use of faculty resources.

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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	Oct. 29, 2019	The fall meeting covered recommended hard skills for courses related to service desk, tech support, system admin, cybersecurity, storage, and virtualization. During the webinar, there was discussion about the need for updated motion capture technology. Refer to the meeting minutes on file for more details.
2020-2021	March 31, 2021	The meeting focused on being productive and successful in IT now that the workplace has changed because of the pandemic
2021-2022	October 27, 2021	Cyberbit Range implementation

(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 IST faculty have identified several industry trends through various professional development opportunities as well as advisory feedback from local industry partners and the members of the advisory committee. Input from advisory members covers a broad range of technologies, hard skills and soft skills. All of these recommendations are directly mapped to current industry trends and expectations. Campus policies, leadership, and funding have allowed the program maximum flexibility to adapt to rapid changes within the industry. Planning objectives are based upon advisory input. As a result, the program learning environment stays aligned with preparing students for workforce needs.

- Soft skills continue to be one of the highest demanded skill sets.
- Graduates need to be flexible and adaptive in their everyday work environment
- Graduates should be able to collaborate in multiple modalities such as Zoom, Google Meet, and Microsoft Teams
- Graduates should have basic computer skills as well as the ability to learn new software and troubleshooting problem areas.
- Need to be autonomous and able to maintain professionalism across a multi-setting environment.

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Section 2: Program Outcomes

Outcome #1: Enrollment *(unduplicated)*

Baseline: **54** # (*Average of total enrollment for the last three years – 2018-19; 2019-20; 2020-21*)
Standard: **56** #
Target: **58** #

Program Enrollment

Program Enrollment (unduplicated)	
Academic Year (Fall, Spring, Summer)	**Enrollment**
2018-2019	54
2019-2020	44
2020-2021	46

Enrollment by Ethnicity, Gender, and Age

Ethnicity & Gender	2018-2019		2019-2020		2020-2021	
	N	%	N	%	N	%
African American, Female	2	3.7%	3	6.8%	2	4.3%
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	4	7.4%	3	6.8%	4	8.7%
Hawaiian/Other Pacific Islander, Female	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Female	3	5.6%	3	6.8%	3	6.5%
Two or More Races, Female	1	1.9%	0	0.0%	2	4.3%
Unknown, Female	0	0.0%	0	0.0%	0	0.0%
Female Total	10	18.5%	9	20.5%	11	23.9%
African American, Male	8	14.8%	7	15.9%	10	21.7%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	0	0.0%	1	2.3%	2	4.3%
Caucasian, Male	29	53.7%	20	45.5%	15	32.6%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	7	13.0%	5	11.4%	5	10.9%
Two or More Races, Male	0	0.0%	2	4.5%	3	6.5%
Unknown, Male	0	0.0%	0	0.0%	0	0.0%
Male Total	44	81.5%	35	79.5%	35	76.1%
Total	54	100.0%	44	100.0%	46	100.0%

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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%	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	6	11.1%	3	6.8%	6	13.0%
American Indian/Alaskan Native, 18-24	0	0.0%	0	0.0%	0	0.0%
Asian, 18-24	0	0.0%	1	2.3%	1	2.2%
Caucasian, 18-24	20	37.0%	17	38.6%	14	30.4%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	9	16.7%	7	15.9%	6	13.0%
Two or More Races, 18-24	1	1.9%	1	2.3%	3	6.5%
Unknown, 18-24	0	0.0%	0	0.0%	0	0.0%
18-24 Total	36	66.7%	29	65.9%	30	65.2%
African American, 25-44	3	5.6%	6	13.6%	4	8.7%
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	10	18.5%	5	11.4%	5	10.9%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	1	1.9%	1	2.3%	2	4.3%
Two or More Races, 25-44	0	0.0%	1	2.3%	2	4.3%
Unknown, 25-44	0	0.0%	0	0.0%	0	0.0%
25-44 Total	14	25.9%	13	29.5%	13	28.3%
African American, 45-64	1	1.9%	1	2.3%	2	4.3%
American Indian/Alaskan Native, 45-64	0	0.0%	0	0.0%	0	0.0%
Asian, 45-64	0	0.0%	0	0.0%	1	2.2%
Caucasian, 45-64	3	5.6%	1	2.3%	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	4	7.4%	2	4.5%	3	6.5%
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%	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	54	100.0%	44	100.0%	46	100.0%

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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.)*

Adverse weather events, financial aid loss, and the Covid-19 pandemic led to a lower enrollment. With stimulus funding from the government, less people enrolled in higher education. Opportunities for in-person recruiting events ceased due to gathering restrictions enforced by the State of North Carolina. For safety precautions, all existing and future classes were moved to the online format, including courses that originally met in the classroom. Efforts to increase/maintain enrollment included an intentional focus on current and new students with phone calls, virtual office meetings, emails, and registration assistance. Under the circumstances, enrollment was held mostly steady for the Software Development program.

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	Focused recruiting efforts targeting females and minorities.	Coordinate internal recruiting efforts through social media, marketing materials and recruitment opportunities.

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Outcome #2: Retention

Baseline: **42.2** % (*Average of last three years – 2018-19; 2019-20; 2020-21; program retention*)
Standard: **44** %
Target: **45** %

Year	Program Retention Rate
2018-2019	27.8%
2019-2020	44.1%
2020-2021	54.8%

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%	1	6.7%	1	5.9%
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	1	10.0%	1	6.7%	2	11.8%
Hawaiian/Other Pacific Islander, Female	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Female	0	0.0%	1	6.7%	2	11.8%
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	10.0%	3	20.0%	5	29.4%
African American, Male	1	10.0%	2	13.3%	3	17.6%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	0	0.0%	1	6.7%	1	5.9%
Caucasian, Male	7	70.0%	8	53.3%	6	35.3%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	1	10.0%	1	6.7%	1	5.9%
Two or More Races, Male	0	0.0%	0	0.0%	1	5.9%
Unknown, Male	0	0.0%	0	0.0%	0	0.0%
Male Total	9	90.0%	12	80.0%	12	70.6%
Total	10	100.0%	15	100.0%	17	100.0%

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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	1	10.0%	1	6.7%	3	17.6%
American Indian/Alaskan Native, 18-24	0	0.0%	0	0.0%	0	0.0%
Asian, 18-24	0	0.0%	1	6.7%	1	5.9%
Caucasian, 18-24	5	50.0%	6	40.0%	6	35.3%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	1	10.0%	2	13.3%	2	11.8%
Two or More Races, 18-24	0	0.0%	0	0.0%	1	5.9%
Unknown, 18-24	0	0.0%	0	0.0%	0	0.0%
18-24 Total	7	70.0%	10	66.7%	13	76.5%
African American, 25-44	0	0.0%	1	6.7%	1	5.9%
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	2	20.0%	3	20.0%	2	11.8%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	0	0.0%	0	0.0%	1	5.9%
Two or More Races, 25-44	0	0.0%	0	0.0%	0	0.0%
Unknown, 25-44	0	0.0%	0	0.0%	0	0.0%
25-44 Total	2	20.0%	4	26.7%	4	23.5%
African American, 45-64	0	0.0%	1	6.7%	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	10.0%	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	1	10.0%	1	6.7%	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	10	100.0%	15	100.0%	17	100.0%

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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.)*

Software Development was offered 100% online in Fall 2020. It is likely numbers will increase in the future because of this implementation. The program offers multiple delivery modalities (hybrid, evening, online) to meet student needs. Faculty continue to strive for increased retention through multiple means such as early alerts, referral to the academic skills center and increased advising efforts. Retention efforts have been focused toward new and current students within the Software Development curriculum. Advisors consistently reach out to students to encourage them to register for classes and meet their goals of completing their degree and certificate programs.

With Covid-19 impacts diminishing, increased recruiting efforts at in-person events will advertise and market 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	Inform students of the next credential eligibility to reinforce retention.	Faculty will create an advising sheet which will notify students of their earned credentials (certificates, diploma, or degree) each semester to motivate and encourage students to stay enrolled.

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

Baseline: **13 #** (*Average of total completers for the last three years – 2019-20; 2020-21; 2021-22*)
Standard: **14 #**
Target: **15 #**

Number of Completers (*unduplicated*) – Graduation Year – Summer, Fall, Spring	
Graduation Year	**Total Completers**
2019-2020	12
2020-2021	11
2021-2022	16

Completers by Ethnicity, Gender, and Age

Ethnicity & Gender	2019-2020		2020-2021		2021-2022	
	N	%	N	%	N	%
African American, Female	2	16.7%	1	9.1%	2	12.5%
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%	1	9.1%	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	6.3%
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	16.7%	2	18.2%	3	18.8%
African American, Male	1	8.3%	2	18.2%	6	37.5%
American Indian/Alaskan Native, Male	0	0.0%	0	0.0%	0	0.0%
Asian, Male	0	0.0%	1	9.1%	1	6.3%
Caucasian, Male	7	58.3%	6	54.5%	4	25.0%
Hawaiian/Other Pacific Islander, Male	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, Male	2	16.7%	0	0.0%	1	6.3%
Two or More Races, Male	0	0.0%	0	0.0%	1	6.3%
Unknown, Male	0	0.0%	0	0.0%	0	0.0%
Male Total	10	83.3%	9	81.8%	13	81.3%
Total	12	100.0%	11	100.0%	16	100.0%

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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	2	16.7%	0	0.0%	3	18.8%
American Indian/Alaskan Native, 18-24	0	0.0%	0	0.0%	0	0.0%
Asian, 18-24	0	0.0%	1	9.1%	1	6.3%
Caucasian, 18-24	4	33.3%	4	36.4%	2	12.5%
Hawaiian/Other Pacific Islander, 18-24	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 18-24	2	16.7%	0	0.0%	2	12.5%
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	8	66.7%	5	45.5%	8	50.0%
African American, 25-44	1	8.3%	3	27.3%	3	18.8%
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	3	25.0%	3	27.3%	4	25.0%
Hawaiian/Other Pacific Islander, 25-44	0	0.0%	0	0.0%	0	0.0%
Hispanic/Latino, 25-44	0	0.0%	0	0.0%	0	0.0%
Two or More Races, 25-44	0	0.0%	0	0.0%	1	6.3%
Unknown, 25-44	0	0.0%	0	0.0%	0	0.0%
25-44 Total	4	33.3%	6	54.5%	8	50.0%
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	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	12	100.0%	11	100.0%	16	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?)*

Retention efforts focused toward new and current students within the Software Development curriculum led to program completers increasing significantly by 45% from the 2019-2020 academic year to the 2020-2021 academic year. The program has not suffered adversely from COVID-19 related factors yet. Other factors for non-completer students include employment-related changes, relocation, mental health, and loss of financial aid.

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	Continue providing excellent customer service to retain and recruit students	Fall and Spring graduate data
2	Verify student performance in classes	Faculty will track student progress and contact students who need additional assistance

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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.)*

The department periodically administers surveys to IST students to gather feedback about the best delivery methods and times of day preferences for class meetings. The program has three program learning outcomes that are representative of skill mastery of program participants; each is assessed via signature assignment during a three-year cycle. The rubrics have multiple dimensions that allow assessors to isolate areas that warrant improvement action items. All instructors have open communication with students and solicit at least informal feedback about all aspects of learning; this information is used to make rapid modifications to any warranted aspect of learning. All courses have formal online course feedback surveys that are administered near the end of the semester to allow students to express their experiences that relate to all aspects of learning. At the very least, the department chair reviews the course surveys and takes actions as warranted to enhance learning. The Office of Institutional Effectiveness congregates data from advisory committees, employer, and graduate surveys and shares them with the department which in turn uses them as opportunities to take improvement actions.

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	1) Information Systems Technology – Motion Capture Suit 2) Information Systems Technology – (9) SGD computers, with hardware that has the potential to support SGD activities 3) Information Systems Technology - (2) Laptops and (2) USB cameras	1) <u>2019-20 End-of-Year Status Report</u>: 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 End-of-Year Status Report and Use of Results</u>: Because of COVID-19 protocols, the devices will not be used until conditions change. The devices will likely be put into service during Spring 2022 at the latest. Carry forward to 2021-22 Plan to report assessment. 2) <u>2019-20 End-of-Year Status Report</u>: 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 End-of-Year Status Report and Use of Results</u>: Because of COVID-19 protocols, the devices will not be used until conditions change. The devices will likely be put into service during Spring 2022 at the latest. Carry forward to 2021-22 Plan to report assessment.

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		3) <u>2018-19 Status Report</u>: The laptops were received at the end of the Fall 2018 semester, just prior to the holiday break. They have not been configured by Red Hat; those tasks have to be completed before the laptops can be used for exam administration. The laptops required configurations from Red Hat. However, after months negotiating configuration start dates with Red Hat, the company informed Glenn the laptops received were not of the correct specs. This was Dell's error. The correct laptops were requested in late April 2019 and received in April 2019. However, they have not been configured by Dell. Carry forward to the 2019-20 Plan/Budget to report assessment of the objective. <u>2019-20 Status Report</u>: Submitted for purchase by Purchasing Director. 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>: Because of COVID-19 protocols, the devices will not be used until conditions change. The devices will likely be put into service during Spring 2022 at the latest<u>. 2020-21 Use of Results / Assessment</u>: Carry forward to the 2021-22 Plan to report assessment.
2020-21	Information Systems Technology – Game Art and Animation, Game and Automation Programming – HoloLens Device Units	<u>2020-21 End-of-Year Status Report</u>: The devices were received about two weeks before the end of the fall semester. However, because of COVID-19 protocols, the devices will not be used until conditions change. The devices will likely be put into service during Spring 2022. Carry forward to 2021-22 Plan to report assessment. <u>2021-22 Use of Results / Assessment</u>: Because of COVID-19 and transitioning SGD instructors, the technology will not be implemented until the 2022-23 academic year.
2021-22	Information Systems Technology – Cybersecurity – 15 Cyberbit cyber range licenses	Because of the delayed arrival of the licenses associated with the delayed state budget, the technology was not implemented during Spring 2022 as planned. The technology will be used during the 2022-23 academic year. 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.

Research and training are currently underway exploring the feasibility of developing mobile applications using the Swift programming language. Swift is a powerful and intuitive programming language for iOS, iPadOS, macOS, tvOS, and watchOS. While the Software Development curriculum typically does not require specialty equipment, there may be a requirement of up to twenty Mac computers. To develop mobile applications for iOS devices, the integrated development environment (IDE) XCode is not functional on a Windows platform.

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

The Software Development faculty include full-time and part-time personnel. The program is adequately staffed at this time. As the program continues to grow, there may be justification to add another Software development instructor position within the next three years.

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

If it is determined that the Swift curriculum will be used to develop mobile applications, the program will need a dedicated lab space for the necessary Mac equipment.

Due to the free and open-source software (FOSS) in the industry (and telecommuting), our students are able to successfully complete the program online at home. We are adequately able to service our seated students' needs as well. This combination allows us to differentiate instruction to create sustainable and engaging learning environments for all types of learners.

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

Wayne Community College offers a variety of student support services. All academic and support services have open communication with faculty and there is a unified effort to provide the best service to all stakeholders. There are readily accessible channels to address any issues in maximum effort to close any adequacy gaps and ensure mission success. The admissions, financial aid, counseling, and academic skills departments are all focused on student success. These services are adequately meeting our students' needs.

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

The Software Development faculty continually look for improvement opportunities. As technology continues to evolve, our aim is to provide excellent instruction to our students.

Strengths: On-campus and remote access labs provide students with the opportunity to train in software and equipment they are likely to encounter in the workforce. The Information Systems Technology (IST) department has an articulation agreement with ECU that provides 4-year degree completion. The relationships cultivated by the IST instructors with local and metro area employers provide internships and employment opportunities to students.

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Weakness and Opportunity: The IT industry is male dominated, as evidenced by the demographic information supplied. Continued efforts to recruit female students remains a priority.

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

Jenneth Honeycutt, Lead Instructor, Software Development

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 _____ 11/17/2022

Dean, Director, or AVP / Date: _____ Tracy M. Schmeltzer _____ 11/18/2022

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

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