

**Wayne Community College
Program Review and Outcome Assessments, 2020-21
(Previous Program Review Cycle, 2017-18)**

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 the skills for employment in diverse computer technology environments.

Provide narrative for the analysis of the mission/purpose statement. *(Are you planning to revise your mission/purpose statement? If so, please provide your revised mission/purpose statement and reason for the change.)*

Computer Programming and Development is a technical path within the Information Technology (IT) curriculum which prepares graduates for employment in the technology sector as designers, testers, support technicians, system administrators, developers, or programmers who use computer software and/or hardware to design, process, implement and manage information systems in specialties such as database services, security, business intelligence, healthcare informatics and others depending on the technical path selected within this curriculum.

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 aligns 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

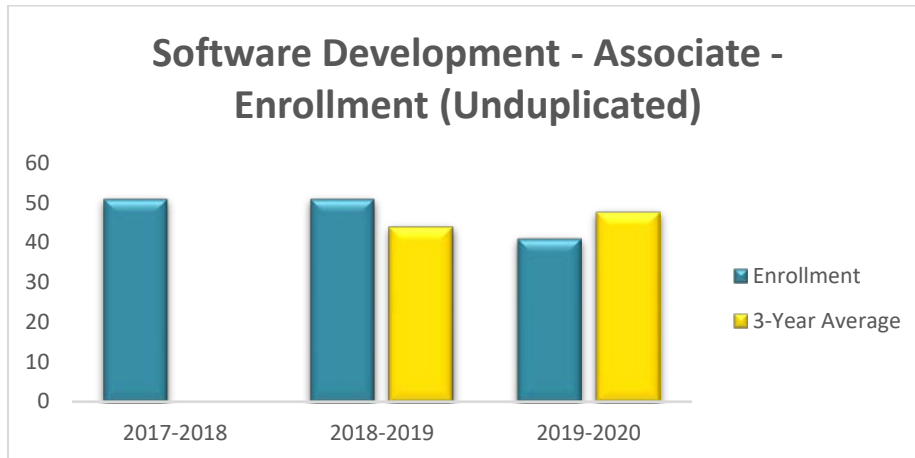
Instructors ensure program excellence by examining rigor, relevance, and quality each semester in all of their courses. This is only intensified by the feedback from the Advisory Committee to ensure the content is up-to-date, competitive, and relevant to the world of work.

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

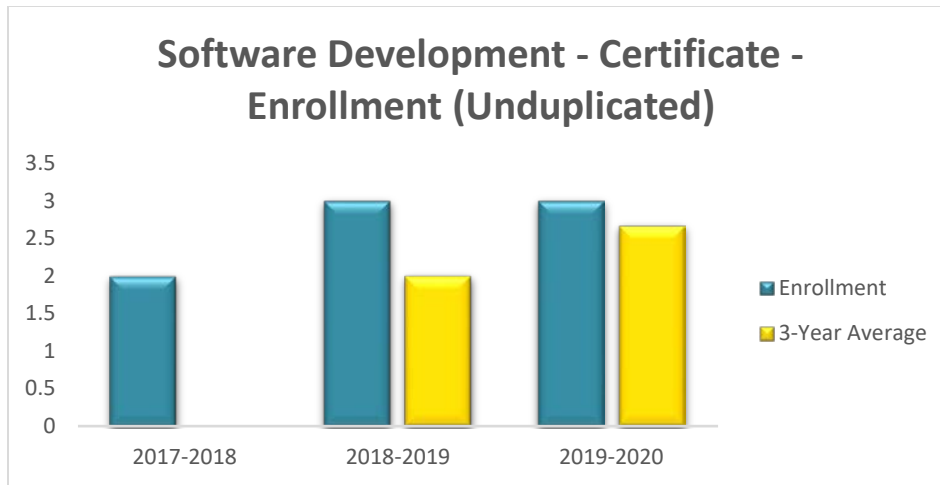
Program Type (Associate, Diploma, Certificate, or Pathway)	Program Title
Associate	Software Development A25590C
Certificate	Application Development Certificate C25590AD
Certificate	Computer Programming Certificate C25590CP
Certificate	Java Programming Certificate C25590JP
Certificate	Mobile Web Development Certificate C25590MW
Certificate	Systems and Hardware Support (CCP) C25590HX
Certificate	Web Development Certificate C25590WD
Certificate	Web Programming Certificate C25590WP

**Program Enrollment (Academic Year - Fall, Spring, Summer) – for each degree level
(Associate, Diploma, Certificate, and Pathway)**

Program Enrollment (Associate) (<i>unduplicated</i>)		
Academic Year (Fall, Spring, Summer)	Enrollment	3-Year Average
2017-2018	51	
2018-2019	51	44
2019-2020	41	48



Program Enrollment (Certificate) (<i>unduplicated</i>)		
Academic Year (Fall, Spring, Summer)	Enrollment	3-Year Average
2017-2018	2	
2018-2019	3	2
2019-2020	3	3



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

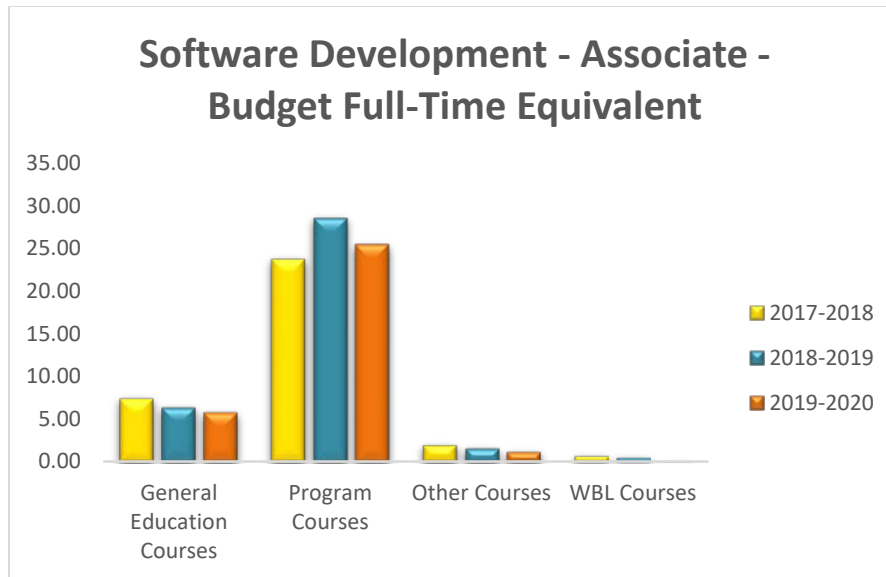
Adverse weather events, financial aid loss, and a stable economy led to a lower enrollment. The healthy economy produced an abundance of filled jobs; therefore less people enrolled in higher education.

Opportunities for in-person recruiting events were 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 held mostly steady for the Software Development program.

Program Budget Full-Time Equivalent (BTFE) (Academic Year - Fall, Spring, Summer) – (highest level only)

Academic Year (Fall, Spring, Summer)	General Education Courses	Program Courses	Other Courses	WBL Courses	Total
2017-2018	7.50	23.81	2.00	0.75	34.06
2018-2019	6.45	28.63	1.63	0.53	37.24
2019-2020	5.84	25.47	1.22	0.06	32.59
Total	19.79	77.91	4.85	1.34	103.89



Analysis of program budget full-time equivalent (BFTE) (What is the program budget FTE data indicating? Is the program budget FTE increasing or decreasing? What are possible reasons for increase/decrease? Describe any plans to increase program budget FTE.)

FTE (Full-time Equivalent) is a measure based on student membership hours that is used for state funding to the community college. The program budget FTE data has remained steady for the 3-year term. This data parallels the enrollment numbers. Program budget FTE will hopefully increase with continued recruiting efforts to the Software Development program. WBL is a significant FTE generator. The program lead instructor will grow partnerships with employers to expand internships that produce increased WBL enrollment.

Activities to ensure program is current (2017-18; 2018-19; 2019-20 – Academic Year, Fall, Spring, Summer)

List program curriculum changes, revisions, and/or deletions.

Course Title	Date – Updated / Revised / Deleted
Mobile Web Development Certificate C25590MW	Updated to add CSC 151 in the Spring semester instead of CSC 134 as prereq to WEB 151 in the degree. CSC 151 is more applicable to the certificate.
Web Programming Certificate C25590WP	Replaced WEB 151 with CSC 227, which is more applicable to the program.
Application Development Certificate C25590AD	To correspond to sequence changes in the A25590C degree, move CSC 151 to spring and move CSC 251 to fall.
Computer Programming Certificate C25590CP	To correspond to sequence changes in the A25590C degree, move CSC 151 to spring and move CSC 251 to fall.
Java Programming Certificate C25590JP	To correspond to sequence changes in the A25590C degree, move CSC 151 to spring and move CSC 251 to fall.

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?)*

CSC 151 Java Programming replaced CSC 134 C++ Programming in the Mobile Web Development Certificate since CSC 151 serves as a prerequisite for WEB 151 Mobile Application Development. The IDE (integrated development environment) industry-standard tool for mobile web development is Android Studio, which requires Java knowledge.

Sequence changes in CSC 151 and CSC 251 promote an increased knowledge and skill set prior to the CSC 289 capstone course, allowing for expansion of project ideas.

With the proliferation of cloud technologies, there is a demand for more cloud application developers. The cloud computing class prepares students to pursue industry-recognized certifications and in-demand cloud jobs. CSC 227 Cloud Application Development was added to the curriculum to prepare students with the necessary skill set for employment.

The program name changed from Computer Programming and Development to "Software Development". The requested name change will make the program more recognizable and easier to convey to the public and reflect what is currently posted in job announcements. The program code will stay the same (A25590C).

Advisory Committee: dates, summary of minutes, activities (2017-18; 2018-19; 2019-20 – Academic Year – Fall, Spring, Summer)

Summary of Advisory Committee Activities

Year	Meeting Dates	Recommendations / Activities
2017-2018	Various days during Fall 2017; Mar 29, 2018	The fall meeting covered current industry needs, future industry needs, troubleshooting skills, and content recommended for CSC 151/251, CSC 289, CTI 115, SEC 160, SEC 175, SEC 285. The spring meeting focused on general employee soft skills. Refer to meeting minutes on file for more details.
2018-2019	Oct 18 - Dec 13, 2018; Mar 28, 2019	The fall meeting discussed recommended content for CTI 120, CTS 120, NET 130, SGD 112, and SGD 113. The spring meeting focused on general employee soft skills. Refer to meeting minutes on file for more details
2019-2020	Oct 29, 2019; Spring 2020 cancelled because of the pandemic.	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 meeting minutes on file for more details.

(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, and other sources external to the program/discipline, how well is the program/discipline responding to the current and emerging needs of the community? What resources might your program need?)*

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. As a result, the program learning environment stays aligned with preparing students for workforce needs. The spring advisory committee meeting is a joint meeting with other departments in the division that is held annually. Students are invited to the spring meeting so that they have the opportunity to connect with employers (advisory members) for potential job placement. Planning objectives are based upon advisory input.

Labor Market Data

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

There is a light job posting demand in Wayne County. The national median salary for the industry is \$104,220 compared to \$99,378 for Wayne County. Regional employment is lower than the national average. An average area of this size typically has 957 jobs; there are 288 in this region. Low average supply of jobs make it more difficult for graduates to find employment in this region. The regional compensation is 5% lower than the national average. The top hard skills are SQL, computer science, software engineering, JavaScript, information systems, C#, .NET, project management, and Java. The top common skills are communications, management, problem solving, leadership, written communications, and interpersonal communications. Retirement risk is high in Wayne County. Racial diversity is low in Wayne County. Gender diversity is about average in Wayne County. The major of occupation by age breakdown is 25-34 (20.6%), 33-44 (25.7%), and 45-54 (25.8%). The majority of occupation race/ethnicity breakdown is White (77%), Black (12.1%), Asian (4.9%), and Latino (4%). The occupation gender breakdown is 72.7% male and 27.3% female.

Section 2: Faculty Profile

Have all faculty credentials been verified? *(Verify required documents are in personnel files.)*

Yes No

List of Faculty and Status (2017-18; 2018-19; 2019-20 – Academic Year – Fall, Spring, Summer)

Faculty / Name	Full-Time / Part-Time	Total Years within Department/Program	Total Years at WCC
Arthur Wyatt	PT	3	3
Brian Jensen	PT	7	7
Carl Arrington	PT	1	1
Cynthia Kaye	FT	3	3
David Vinciguerra	FT	11	11
Demarcus Reid	FT	7	16
Denise Whitfield	PT	.5	.5
Glenn Royster	FT	10	17
James Flannery	PT	1	1
Jenneth Honeycutt	FT	4	4
Jennifer Tyndall	FT	7	7

Jerome Brooks	FT	8	8
John Morrison	PT	2	2
Jose Alicea	PT	1	1
Keosha Faison	PT	3	3
Robert Shafer	PT	8	8
Sabrina Mozingo	PT	7	7
Tim Collins	PT	1	1
Tony Smith	PT	6	6
Velma Edwards	PT	7	7

Provide narrative for adequacy of faculty numbers. (Do you have enough faculty to support your program?)

Courses are taught by full-time and adjunct faculty. Adjunct faculty members are hired on an as-needed basis. The faculty members are adequate for the courses taught in the program.

Faculty Contact and Credit Hours

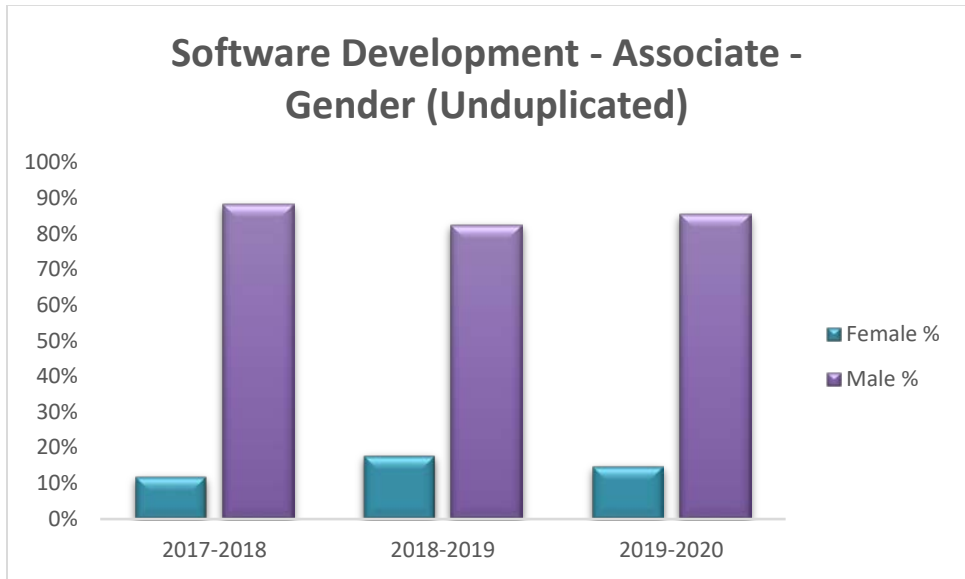
Faculty / Name	Full-Time Part-Time	Fall 2017		Spring 2018		Summer 2018	
		Contact	Credit	Contact	Credit	Contact	Credit
Demarcus Reid	FT	16	12	6	4.5		
Jenneth Honeycutt	FT	17	12	25	16.5	8	6
Glenn Royster	FT	3	3	4	3		
Jennifer Tyndall	FT	6	6				
Velma Edwards	PT			4	3		
Robert Shafer	PT			10	6		
Tony Smith	PT			9	6		
Arthur Wyatt	PT			4	3		
Jerome Brooks	FT					8	6
David Vinciguerra	FT	1	1				

Faculty / Name	Full-Time Part-Time	Fall 2018		Spring 2019		Summer 2019	
		Contact	Credit	Contact	Credit	Contact	Credit
Demarcus Reid	FT	12	9	4	3		
Jenneth Honeycutt	FT	21	16	20	12	8	6
Glenn Royster	FT			8	6		
Jennifer Tyndall	FT	6	6	3	3		
Velma Edwards	PT			4	3	4	3
Tony Smith	PT			9	6		
Arthur Wyatt	PT			8	6		
Jerome Brooks	FT			5	3	4	3
John Morrison	PT			6	3		
David Vinciguerra	FT			1	1		

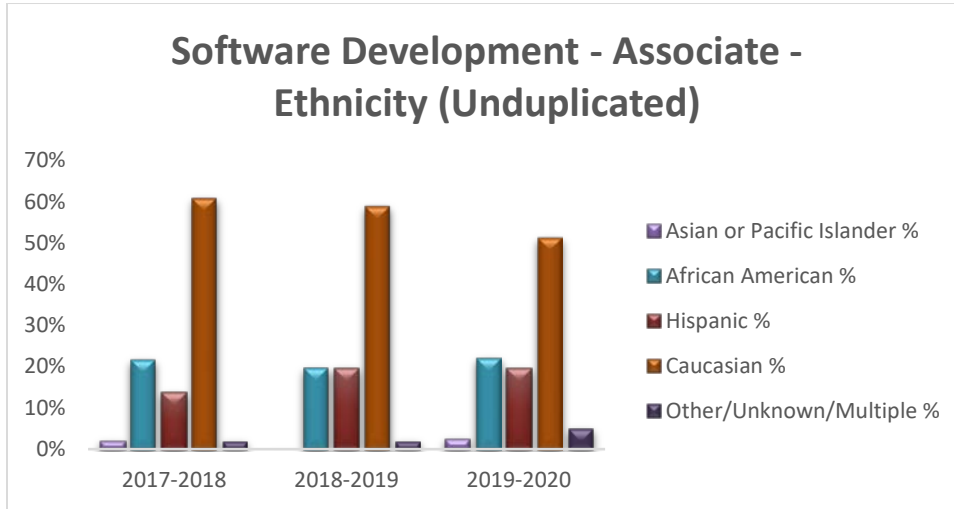
Faculty / Name	Full-Time Part-Time	Fall 2019		Spring 2020		Summer 2020	
		Contact	Credit	Contact	Credit	Contact	Credit
Jenneth Honeycutt	FT	22	15	15	9	3	3
Jennifer Tyndall	FT	9	9	3	3		
Tony Smith	PT	4	3	9	6		
Jerome Brooks	FT			5	3	8	6
Denise Whitfield	PT	4	3				
Carl Arrington	PT			5	3		
James Flannery	PT			4	3		
Jose Alicea	PT			4	3		
Tim Collins	PT			8	6		
Cynthia Kaye	FT			9	6	5	3
David Vinciguerra	FT	1	1	1	1		
Sabrina Mozingo	PT	8	6				

Section 3: Student Demographics - Parent program (highest level only) data is provided.

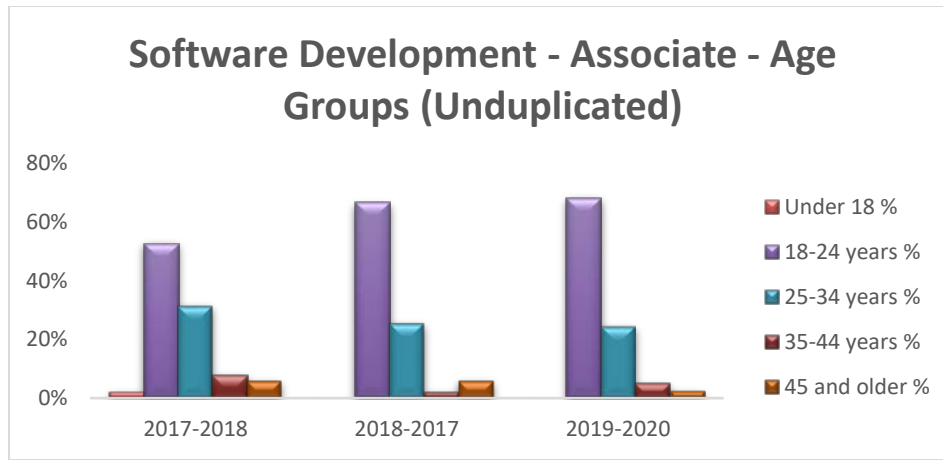
Gender (Associate - unduplicated) Academic Year – Fall, Spring, Summer						
Academic Year	Female		Male		Total	
	N	%	N	%	N	%
2017-2018	6	12%	45	88%	51	100%
2018-2019	9	18%	42	82%	51	100%
2019-2020	6	15%	35	85%	41	100%



Ethnicity (Associate – unduplicated) Academic Year – Fall, Spring, Summer														
Academic Year	American Indian		Asian or Pacific Islander		African American		Hispanic		Caucasian		Other / Unknown / Multiple		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
2017-18	0	0	1	2%	11	22%	7	14%	31	61%	1	2%	51	100%
2018-19	0	0	0	0%	10	20%	10	20%	30	59%	1	2%	51	100%
2019-20	0	0	1	2%	9	22%	8	20%	21	51%	2	5%	41	100%



Age (Associate – unduplicated) Academic Year – Fall, Spring, Summer												
Academic Year	Under 18		18-24 years		25-34 years		35-44 years		45 and older		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
2017-18	1	2%	27	53%	16	31%	4	8%	3	6%	51	100%
2018-19	0	0%	34	67%	13	25%	1	2%	3	6%	51	100%
2019-20	0	0%	28	68%	10	24%	2	5%	1	2%	41	100%



Provide narrative for analysis of student demographics. *(How are you recruiting/retaining a diverse population of students? What are some ways you can increase student diversity in your program?)*

65% of students are in the 18-24 age group and 35% are in the 25-34 age group. 88% of the student pool is male and 12% is female. 20% of the student pool is Hispanic and 8% is of unknown ethnicity.

Instructors are actively recruiting and striving to broaden the participation for female students and underserved populations in STEM. WCC Instructors coordinated a “Women Rock IT!” virtual event hosted by Cisco to promote interest amount young women in IT. Other recruiting events to include all students from diverse backgrounds include BisonFest, CCP Showcase, Discover Wayne, Wayne County Fair, etc.

The program is retaining students by keeping a student-centered focus on teaching skills to prepare them for the workforce. Other retainment tools include on-site visits to industry, internships, and offering courses in a variety of ways (online, in classroom).

Section 4: Program Outcomes

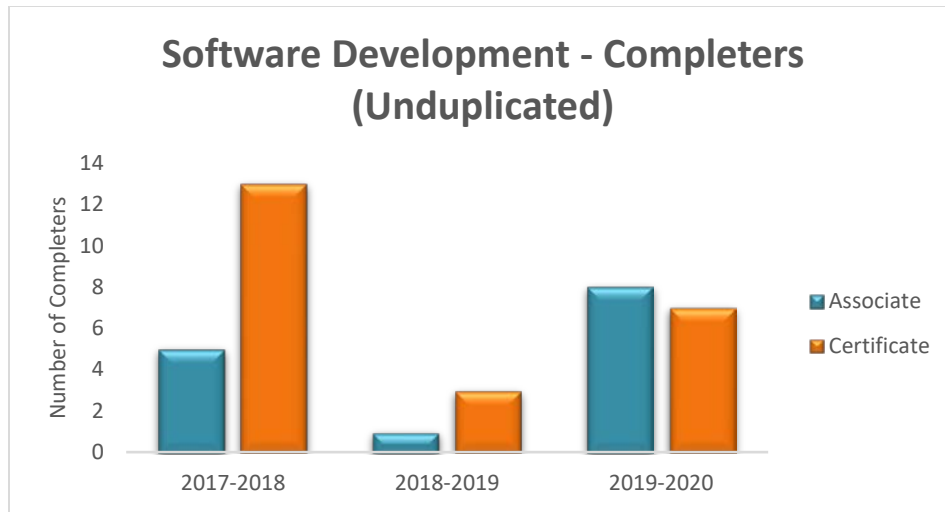
Outcome #1: Completers (*unduplicated*) (*Degree level, highest level of attainment*)

Baseline: 12 # (*Average of total completers for the last three years – 2017-18; 2018-19; 2019-20*)

Standard: 15 #

Target: 20 #

Number of Completers (<i>unduplicated</i>) – Graduation Year – Summer, Fall, Spring				
Graduation Year	Associate	Diploma	Certificate	Total
2017-2018	5		13	18
2018-2019	1		3	4
2019-2020	8		7	15



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?)*

Software Development was implemented in Fall 2017. Spring 2018 was the first semester of graduates from the program. There was an initial surge with implementation. Varying factors sometimes play a role in students taking 3 years to graduate instead of 2 so spring 2019 saw a surge in graduates as well. Software Development was offered 100% online in Fall 2020. It is likely numbers will increase in the future because of this implementation.

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.

Provide narrative for analysis of completer standard/target. *(Identify standard and target. Standard is the acceptable performance, which must be higher than the baseline; Target is the desired performance, which must be higher than the standard.)*

New completer standard and target was set based on the three-year baseline data from 2017-18, 2018-19 and 2019-20.

The standard has been set at 15 and the target at 20.

Identify Completer Action Items

(Address program outcome assessments that fall below the established standard and/or target and additional recommendations resulting from the review.)

Item	Action Items <i>(Identify action items as a result of your program outcome assessment.)</i>	Target Date <i>(Identify your projected target date for completion of action items.)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>

1	Increase student access to the computer lab in Spruce 202 when not utilized by classes. The state-of-the-art equipment provides students ample opportunity to train on industry equipment and software they are likely to encounter upon entering the workforce.	Fall 2021	Instructor will survey students
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Outcome #2: Retention

Baseline: 39.0 % (Average of last three years – 2017-18; 2018-19; 2019-20; fall-to-fall program retention)

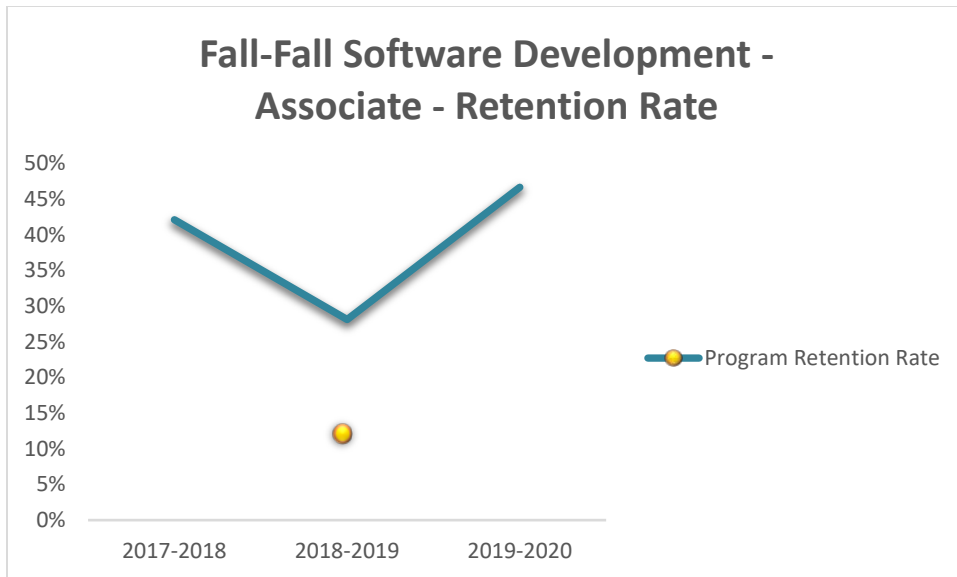
Standard: 40 %

Target: 45 %

2020-2021 Action / Strategy Items: (carried forward outcomes)

Item #	Action / Strategy Items: (Actions / strategies identified in the 2019-20 program outcome assessment follow-up.)	Results / Use of Results: (Provide results of the action / strategy identified. Was the action / strategy successful? How do you know?)
1	Implement more live and recorded lectures in online courses.	Live lectures and recordings were added to more online courses. In some cases, they were added to hybrid courses too. Retention rates have improved dramatically in programming courses according to our IST Retention Tracking sheets.

Year (Fall to Fall)	Program Fall Enrollment Cohort	Program Completers	Program Retained	Program Stop Outs	Program Transfers	Program Retention Rate
Fall 2017-Fall 2018	38	1	15	19	3	42.1%
Fall 2018-Fall 2019	32	4	5	19	4	28.1%
Fall 2019-Fall 2020	30	1	13	13	3	46.7%



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

The department is satisfied with student success thus far, as the majority of students enrolled have experienced success in coursework. The program was implemented in 2017 and continues to hold steadily in terms of student retention. The program is retaining students by keeping a student-centered focus on teaching skills to prepare them for the workforce. Other retainment tools include on-site visits to industry, internships, and offering courses in a variety of ways (online, in classroom).

Provide narrative for analysis of program retention standard/target. *(Identify standard and target. Standard is the acceptable performance, which must be higher than the baseline; Target is the desired performance, which must be higher than the standard.)*

New program retention standard and target was set based on the three-year baseline data from 2017-18, 2018-19, and 2019-20 fall to fall retention.

The standard has been set at 40% and the target at 45%

Identify Retention Action Items

(Address program outcome assessments that fall below the established standard and/or target and additional recommendations resulting from the review.)

Item	Action Items <i>(Identify action items as a result of your program outcome assessment.)</i>	Target Date <i>(Identify your projected target date for completion of action items.)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>
1	Enhance recruitment efforts to increase female enrollment	Fall 2021	Continue to compare female enrollment with previous years. Program advisor will monitor enrollment growth, retention, and

			reasons for withdrawals to determine the enrollment ratio required to overcome student attrition that negatively impacts retention rates.
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Outcome #3: Program Success Rate (all delivery methods)

(Duplicated based on number of courses taken by students in the program.) (Program Success Rate tab)

Baseline: 71 % (Average program success students for the last three years – 2017-18; 2018-19; 2019-20)

Standard: 73 %

Target: 75 %

Academic Year Fall, Spring, Summer	Program Enrolled Students	Program Success Students	Program Success Rate
2017-2018	206	154	75%
2018-2019	228	161	71%
2019-2020	175	119	68%

Provide narrative for analysis of student success in program courses. (Are students more successful in program courses in face-to-face, online, hybrid, or blended methods of course delivery? Do you plan to make any changes to course offerings based upon your analysis of the data?)

Student performance is essentially the same, no matter the platform of course delivery.

Hybrid Success Rates were as follows: 2017-2018 (74%), 2018-2019 (74%), 2019-2020 (65%)

Online Success Rates were as follows: 2017-2018 (71%), 2018-2019 (74%), 2019-2020 (69%)

Success rates averages were the same for hybrid and online delivery; however, there was an overwhelming majority of students that preferred online to hybrid.

Program Success Students (Total #) for Hybrid: 2017-2018 (55), 2018-2019 (39), 2019-2020 (13)

Program Success Students (Total #) for Online: 2017-2018 (132), 2018-2019 (163), 2019-2020 (141)

Based on these numbers and the current educational climate, online and synchronous online classes will remain in place.

Provide narrative for analysis of student success in program courses standard/target. (Identify standard and target. Standard is the acceptable performance, which must be higher than the baseline; Target is the desired performance, which must be higher than the standard.)

New program success rate standard and target was set based on the three-year baseline data from 2017-18, 2018-19, and 2019-20.

The standard has been set at 73% and the target at 75%.

Identify Student Success in Program Courses Action Items

(Address program outcome assessments that fall below the established standard and/or target and additional recommendations resulting from the review.)

Item	Action Items <i>(Identify action items as a result of your program outcome assessment.)</i>	Target Date <i>(Identify your projected target date for completion of action items.)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>
1	Review courses to ensure rigor, relevance, and comparability with industry skill expectations.	Fall 2021	Student success rates will be analyzed per semester. Modifications will be as needed

Outcome #4: Licensure and Certification Passing Rates (if applicable) (NCCCS Performance Measure)

Baselines were set based upon WCC's average college performance of the measure. Standards and targets were set using WCC's performance of the NCCCS Performance Measure results and are the same as those set in the WCC Strategic Plan for Institutional Effectiveness.

Baseline: N/A % *(Average of last three years NCCCS Reports; 2018, 2019, and 2020)*

Standard: N/A % (

Target: N/A %

Licensure / Certification Exam – (Title of License or Exam)

NCCCS Report	Exam Year	# Tested	# Passed	% Passing
2017	2015-16			
2018	2016-17			
2019	2017-18			
2020	2018-19			

Provide narrative for analysis of licensure / certification passing rates. *(Based on the performance measure data, provide a narrative of your analysis of licensure/certification. Are you satisfied with your program licensure or certification rates? State any changes you plan to make for continuous improvement.)*

Not applicable.

Provide narrative for analysis of licensure and certification passing rates standard/target. *(Standards and targets were set using WCC's performance of the NCCCS Performance Measure results and are the same as those set in the WCC Strategic Plan for Institutional Effectiveness.)*

Not applicable.

Identify Licensure and Certification Passing Rates Action Items

(Address program outcome assessments that fall below the established standard and/or target and additional recommendations resulting from the review.)

Item	Action Items <i>(Identify action items as a result of your program outcome assessment.)</i>	Target Date <i>(Identify your projected target date for completion of action items.)</i>	Assessment of Action Items <i>(How will you assess the results of action items?)</i>
1	Not applicable.		

Section 5: Other Assessments

In addition to SACSCOC, is there an accrediting body specifically related to the program? If so, please name the professional organization, describe the program's current status, and include the most recent date of accreditation.

Not applicable.

Analysis of other assessments. *(Have you performed other assessments to evaluate the effectiveness of your program, to include surveys, self-assessments, or other assessment instruments used to evaluate the program. If so, please explain how information collected from the(se) assessments will 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.

Identify Other Assessment(s) Action Items (if applicable)

(Address program outcome assessments that fall below the established standard and/or target and additional recommendations resulting from the review.)

Item	Action Items (Identify action items as a result of your program outcome assessment.)	Target Date (Identify your projected target date for completion of action items.)	Assessment of Action Items (How will you assess the results of action items?)
1	Not applicable		

Provide narrative for your program facility needs. If facilities are adequate, please confirm.

All seated and hybrid classes are taught in the Spruce Building on the main campus of Wayne Community College. The main classrooms used are Spruce 114, 202, 204, and 206.

Presently, the facility is adequate to meet the needs of students and faculty within the Software Development program. All classrooms in the Spruce Building are equipped with wireless Internet access, digital projectors, and instructor stations to provide opportunities for enhanced class presentations.

Provide narrative for academic / student support services. (Are services adequate for your program?)

There are several academic and student support services available to all WCC SD students each semester. The college provides resources including: the Open Computer Lab, Library, Tutorial Services, and the Academic Skills Center. When necessary, the SD faculty provide office hours and appointments for one-on-one instruction and tutoring.

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.

Planning Objectives (2017-18; 2018-19; 2019-20 – 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)	Department	Objective(s) Submitted	Use of Results
2017-18	1) Information Systems Technology – SGD 2) Information Systems Technology 3) Information Systems Technology	1) Addition of Zbrush (24 licenses) (Approved) 2) (1)NETLAB+ VE -License -32 Pod; (2)Dell R730; (1)WS-C2960+48TC-L; (1)UPS; (1)Rack (Approved) 3) (1)ISR4321/K9; (4)Cisco NIM-16A; (4)CAB-HD8-ASYNC; (3)APC 7900; (9)Cisco ISR 4321 Sec bundle w/SEC license Bundle; (10)NIM-2T=; (9)Catalyst 2960 24 10/100 + 2 1000BT LAN Base Image (Approved)	1) The software has been instrumental in expanding the modeling skill set of students; the software will also be used as a sculpting resource in SGD 162 and SGD 214 during Fall 2018. 2) Items were purchased during the latter part of April and have not been received. Carry forward to the 2018-19 Plan to report assessment and use of results. 2018-19 Use of Assessment: At least 75% of students scored at least 70% or higher on tasks that required comprehension of concepts and techniques related to the respective technologies. The department plans to expand the

			<p>use of the technologies and scale them out to other courses to enhance the remote learning environment.</p> <p>3) Items were purchased during the latter part of April and have not been received. Carry forward to the 2018-19 Plan to report assessment and use of results. 2018-19 Use of Assessment: At least 75% of students scored at least 70% or higher on tasks that required comprehension of concepts and techniques related to the respective technologies. The department plans to expand the use of the technologies and scale them out to other courses to enhance the remote learning environment.</p>
<p>2018-19</p>	<p>1) Information Systems Technology – SGD 2) Information Systems Technology (all IST programs)</p>	<p>1) (7) 3D printer (Funded) 2) (2) Laptops and (2) USB cameras (Approved)</p>	<p>1) At least 75% of students scored at least 70% or higher on tasks that required comprehension of concepts and techniques related to 3D modeling. There seems to be anecdotal evidence the printers have enhanced the learning within and credibility of the respective 3D modeling courses. The lead instructor is exploring ways to further integrate 3D printing concepts into other facets of the respective courses.</p> <p>2) 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. Carry forward to 2020-21 Plan to report assessment.</p>

2019-20	<ul style="list-style-type: none"> 1) Information Systems Technology 2) Information Systems Technology 	<ul style="list-style-type: none"> 1) Request Rokoko SmartSuit Pro (class bundle that has 5 suits of various sizes). (Approved) 2) (9) SGD computers, with hardware that has the potential to support SGD activities. (Approved) 	<ul style="list-style-type: none"> 1) Awaiting receipt. Unable to assess objective due to campus shut-down, stay-at-home orders. Carry forward to the 2020-21 Plan to report assessment. 2) Awaiting receipt. Unable to assess objective due to campus shut-down, stay-at-home orders. Carry forward to the 2020-21 Plan to report assessment.
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Provide narrative for analysis of the program's / discipline's strengths, weaknesses, and opportunities.

Strengths: On-campus and remote access labs provide students opportunity to train on 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. WCC Administration advocates new ideas and progressive learning methods that enhance student success in the classroom and the workforce. Administration also strives to secure funding that is required to keep technology current. The Business and Computer Technologies Division has an environment that promotes decisions to be made at the lowest possible level and encourages faculty to think outside the box. Faculty have the flexibility to quickly implement technologies and curricula to stay current with workforce needs, including preparing students for industry certifications. Faculty routinely evaluate course content and technology to ensure they prepare students for current workforce skill requirements. Courses are continuously evaluated and redesigned to keep up with the latest industry demand and trends. Industry-technology professional development opportunities are available to faculty. Classes are located in a modern facility.

Weakness and Opportunity: Space limitations will be a challenge as emerging technologies arise. However, there are projected expansion opportunities as classrooms are projected to be repurposed after entities are relocated.

Section 6: Outcomes Follow-Up and Approvals

Outcomes follow-up (year-end report) to be addressed spring semester following review year (2021-22 and 2022-23).

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

Jenneth Honeycutt, Software Development Instructor

Approvals

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

Dean, Director, or AVP / Date: Tracy M. Schmeltzer 5/24/2021

IE Acceptance / Date: Dorothy Moore 5/19/2021

Administrator Approval / Date: Patty Pfeiffer 5/24/2021