WOR-WIC
COMMUNITY COLLEGE

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November 22, 2019

Dr. James D. Fielder
Secretary
Maryland Higher Education Commission
6 North Liberty Street
Baltimore, MD 21201

Dear Dr. Fielder:

Please accept this letter requesting the approval of the modification of the Associate of Applied Science in Computer Technology, Computer and Network Support Technology Concentration. The department, with support of the program advisory committee and college curriculum committee, revised this Area of Concentration. The program changes are designed to improve course structure and content to better prepare students to enter the work force. New content has been added to update trends in computer technology with a focus on cybersecurity.

Please contact me should you have any questions and/or need further information. A check has been mailed with a hard copy of the letter and coversheet, and this letter and supporting documentation has been sent electronically.

Thank you for your time and consideration.

Sincerely,

Kristin L. Mallory, Ed.D.
Vice President for Academic Affairs

Office Use Only: PP=

MHEC

Cover Sheet for In-State Institutions
New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	Wor-Wic Community College

Each action below requires a separate proposal and cover sheet.

- ○ New Academic Program
- ○ New Area of Concentration
- ○ New Degree Level Approval
- ○ New Stand-Alone Certificate
- ○ Off Campus Program
- ○ Substantial Change to a Degree Program
- ◉ Substantial Change to an Area of Concentration
- ○ Substantial Change to a Certificate Program
- ○ Cooperative Degree Program
- ○ Offer Program at Regional Higher Education Center

Payment Submitted: ◉ Yes ○ No | Payment Type: ○ R*STARS ◉ Check | Payment Amount: $50 | Date Submitted: 11/25/2019

Department Proposing Program	Technology	
Degree Level and Degree Type	Associate of Applied Science	
Title of Proposed Program	Computer Technology, Computer and Network Support Technology Concentration	
Total Number of Credits	60	
Suggested Codes	HEGIS: 5103.01	CIP: 11.0501
Program Modality	◉ On-campus	○ Distance Education (*fully online*)
Program Resources	◉ Using Existing Resources	○ Requiring New Resources
Projected Implementation Date	◉ Fall ○ Spring ○ Summer	Year: 2020
Provide Link to Most Recent Academic Catalog	URL: https://catalog.worwic.edu/	
Preferred Contact for this Proposal	Name: Dr.Kristin L. Mallory	
	Title: Vice President for Academic Affairs	
	Phone: (410) 334-2813	
	Email: kmallory@worwic.edu	
President/Chief Executive	Type Name: Dr. Murray K. Hoy	
	Signature: [signature] Date: 11/25/19	
	Date of Approval/Endorsement by Governing Board: 12/12/19	

Revised 3/2019

Computer Technology
Associate of Applied Science
Computer & Network Support Technology Concentration

First Year

Summer II		Credit Hours	Notes
SDV 100	Fundamentals of College Study	1	
		1	
Fall			
CMP 134	Approaches to Problem Solving	4	New course
CMP 108	Cybersecurity Ethics	1	New course
CMP 115	Fundamentals of Computer Architecture	4	
*ENG 101	Fundamentals of English I	3	GER English
*MTH 121	Pre-calculus I	3	GER Math
		15	
Spring			
*CMP 135	Introduction to Programming	4	New number
*CMP 150	Introduction to Networking	4	
COM 200	Interpersonal Communication	3	GER Arts/Hum
*ENG 151	Fundamentals of English II	3	GER Arts/Hum
		14	

Second Year

Fall			
*CMP 225	Data Communications & Networking	4	
*CMP 245	Computer and Network Security	4	
*CMP 255	Database Design and Management	4	
GEN ED	Social/Behavioral Science Requirement	3	GER Soc/Beh
		15	
Spring			
*CMP 248	Application of Cybersecurity	4	New course
*CMP 259	Computer Network & Support Capstone	4	
*CMP 260	Computer Technology Field Experience	2	
GEN ED	Biological/Physical Science Requirement	4	GER Bio/Phy
SDV 101	Career Development	1	
		15	

Student ID:_____
Student Name:_____
Advisor Name:_____

Catalog: 2019-2020 Catalog
Program: Computer Technology, Computer and Network Support Technology Concentration, A.A.S.

Computer Technology, Computer and Network Support Technology Concentration, A.A.S.

Program Code: CMP.AAS.CNS

This program focuses on the skills and knowledge needed to install, configure and secure computer networks, and support users on those networks. Students learn how to design and implement computer networks, taking into account issues of cybersecurity and information security.

First Year

Summer II

Course Name	Term Taken	Grade
SDV 100 - Fundamentals of College Study (1 Credit)		

Fall

Course Name	Term Taken	Grade
CMP 104 - Introduction to Programming (4 Credits)		
CMP 115 - Fundamentals of Computer Architecture (4 Credits)		
ENG 101 - Fundamentals of English I (3 Credits) * GER		
GEN ED - Mathematics Requirement (3-4 Credits) * GER		

Spring

Course Name	Term Taken	Grade
CMP 120 - Introduction to Linux (2 Credits) *		
CMP 130 - Introduction to Web Development (3 Credits)		
CMP 150 - Introduction to Networking (4 Credits) *		
COM 200 - Interpersonal Communication (3 Credits) * GER		
ENG 151 - Fundamentals of English II (3 Credits) * GER		

Second Year

Fall

Course Name	Term Taken	Grade
CMP 225 - Data Communications and Networking (4 Credits) *		
CMP 245 - Computer and Network Security (3 Credits) *		
CMP 255 - Database Design and Management (4 Credits) *		
GEN ED - Social/Behavioral Science Requirement (3 Credits) GER		

Spring

Course Name	Term Taken	Grade
CMP 246 - Digital Content Management (3 Credits) *		
CMP 247 - Advanced Topics in Information Technology (4 Credits) *		
CMP 259 - Computer and Network Support Capstone (4 Credits) *		
CMP 260 - Computer Technology Field Experience (2 Credits) *		
GEN ED - Biological/Physical Science Requirement (3-4 Credits) GER		

Symbol(s)

* This course has a prerequisite.

Learning Outcomes

Graduates of this program should be able to:

1. Use technology for information, research and problem solving;
2. Apply knowledge of hardware/software and operating systems for personal, business and industrial applications;
3. Apply knowledge of hardware/software and operating systems to implement and protect networks; and
4. Apply best practices to design, build and implement networks for home, business and industrial applications.

A. Centrality to Institutional Mission Statement and Planning Priorities

A.1. Description of program:

This application is for the purpose of changing the content of the current Computer and Network Support area of concentration within the computer studies AAS to better serve our students. Modifying the existing program will allow us to better prepare students to enter the workforce. While attending, Wor-Wic students will learn topics including; Problem Solving, HTML/CSS, Computer and Network Hardware, Basic and Advanced Networking, computer and network security, and applications of Cybersecurity. The student will also take relevant general education courses.

The proposed program relates to the college's mission of "... providing affordable, high quality instruction for postsecondary credit programs and continuing education in a technology-driven environment." Computer and Network Support concentration will allow students an affordable high-quality education in a highly technical discipline and supporting environment. Further, the offering of this will allow local students the opportunity to enter the workforce as help desk or network technicians.

A.2. Support of strategic goals:

The proposed area of concentration directly supports the following strategic priorities for the college:

1. Provide service area residents with access to quality education and training at a reasonable cost.

   Currently, there are no local colleges that offer a computer and network support two-year degree program. The proposed area of concentration will provide local area residents with access to a low-cost option to earn an associate's degree in preparation for a technical career.

2. Offer courses and programs to prepare students for entry into the workforce, career advancement, licensure, certification, transfer to four-year colleges and universities, and personal development.

   The Compute and Network Support concentration will allow students to transition from high school to a two-year school and prepare them for a career in computer and network support.

3. Partner with local high schools and universities to facilitate seamless transitions through multiple levels of education.

   Teachers and administrators at local high schools are excited about the proposed Computer and Network Support Program. If the program is approved they are looking forward to recommending the program to their students. Various aspects of computer study are the fastest growing occupational programs in secondary systems.

A.3. Funding for first five years

The institutional operational budget will supply the financial support for the Computer and Network Support program instruction.

A.4. Institutional Commitment

Wor-Wic Community College is committed to the development and full implementation of the Computer and Network Support program. The objectives of the Computer and Network Support program support the college mission and goals. Wor-Wic outlines seven specific college goals. The Computer and Network Support program supports college goals 2 and 7 as identified on the college website:

College goal 2: "Offer courses and programs to prepare students for entry into the workforce, career advancement, licensure, certification, transfer to four-year colleges and universities, and personal development." Students completing the Computer and Network Support program have the ability to enter the workforce as a computer or network technician.

College goal 7: "Acquire appropriate human, financial and technological resources to meet institutional needs." Through the institutional budgetary process, the college is dedicated to providing sufficient financial resources necessary to support the Computer and Network Support program from conception to full implementation.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan

B.1

The Computer & Network Support Technology Concentration, A.A.S. combines technical skills of computer repair technicians and computer networking. The combination of skills from these technical areas would allow for the creation of a focused pathway meeting Strategy 7 of the Maryland State Plan for Postsecondary Education: "Enhance career advising and planning services and integrate them explicitly into academic advising and planning." Further, the relevancy and employment prospects for such a degree are motivating factors for students to complete the program.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State

C.1. 1. Employment opportunities

A concentration in computer and network support technology supports the needs of area industries in helpdesk computer support utilized by private businesses, medical offices, and government/public entities. Computer and computer network problems and outages can cripple a business and compromise information making this area of concentration an excellent choice for career entry and longevity. Annual job opening numbers within Maryland are estimated to be 650 positions. If one factors in related fields which overlap computer network support technology such as computer and information system

management, job growth rates can jump in some sectors to almost 8% (Long Term Occupational Projections 2016-2026).

C.2. Data analysis projecting market demand and C.3. Educational and training needs over the next 5 years

With a job growth rate of 6.3% are projected over the next seven years, computer and network support technology is a growing field which exceeds the overall national job rate growth of 5%. This degree concentration is ideal for those seeking to immediately enter a viable and innovative career field with true growth and advancement potential. In addition, for students continuing their education to complete their 4-year degree, earning potentials exceed the median annual salary of $53, 470 (Occupational Outlook Handbook). This is an ideal choice for students entering Wor-Wic from a local secondary institution where they have benefitted from the technology courses offered but is of equal value to non-traditional students seeking to change careers or enhance existing skills.

C.4. Current and Projected supply of prospective graduates

Currently, there are 36 Computer and Network Support students in the college. After implementation of the revised concentration there will be approximately 25-30 graduates per year that are prepared to transfer to a four-year institution and complete a higher-level degree.

D. Reasonableness of Program Duplication

D.1. Similar programs in state or surrounding area:

There are no comparable two-year programs in the college coverage area.

D.2. Justification for Proposed Program

This is a change to a currently existing program. The program is modifying the current Computer and Network Support concentration to make it more accessible for students and to prepare them to enter the work force with a highly desirable skill set. The changes to the course include adding problem solving and cybersecurity courses to make our students well rounded and ready to enter the IT industry.

After graduation with a two-year degree in Computer and Network Support, students have the option to work nearly anywhere in the country either as a help desk or network technician. Locally, there are several companies that hire our graduates; Advanced Computers, TR Group, Perdue Farms, and Vantage Point Solutions.

E. Relevance to High Demand Programs at Historically Black Institutions

This program is not a transfer program and has no impact on high demand programs at the state's HCBU's

F. Relevance to the Identity of Historically Black Institutions

This program is not a transfer program and has no impact on high demand programs at the state's HCBU's

G. Adequacy of Curriculum Design and Delivery to Related Learning Outcomes

G.1. Describe how the program was established and the faculty who will oversee the program.

The Computer and Network Support program was established by examining industry needs and establishing a two-year program that will allow students to gain the skills they need at Wor-Wic to enter the workforce as a help desk or network technician. Kevin Justice, Instructor of Computer Studies and Curtis Satterfield, Technology Department Head and Associate Professor of Computer Studies will oversee the program.

G.2. Educational Objectives and Student Learning Outcomes:

Graduates of the Computer and Network Support concentration will be able to:

1. Use technology for information, research and problem solving;
2. Apply knowledge of hardware/software and operating systems for personal, business and industrial applications;
3. Apply knowledge of hardware/software and operating systems to implement and protect networks; and
4. Apply best practices to design, build and implement networks for home, business and industrial applications.

Student Learning Outcomes:

1. Students will be able to apply principles of reading, writing, information literacy, quantitative literacy, and critical thinking to analyze complex problems.
2. Students will be able to analyze and apply best practices to ethical issues in the industry.
3. Students will be able to identify their strengths and be able to choose a career path within the Information Technology industry.

G.3. Assessment

a. Student Learning Outcomes

The college requires continual assessment of programs, courses, and faculty as set forth by their policies and procedures. Benchmarks are set on a program and course level basis. Courses are evaluated yearly to identify any learning objectives that are not being met. The standard benchmark for the school is 70% pass rate by objective on final exams. If a course is identified as failing to meet this benchmark on one or more objectives, appropriate corrective action is taken by the course coordinators and department heads. Action plans are created and updated at the six-month and one-year marks to ensure the

benchmarks have improved. This serves as both assessment of a course and student learning outcomes for the course.

Faculty participate in a yearly evaluation process to address any issues at both the personnel level and the teaching level. Faculty must submit both a plan of instruction, writing assignment, and personal narrative explaining their accomplishments over the prior year. Student opinion of learning survey data is incorporated into the faculty's evaluation. The scores are presented to the faculty department heads who send recommendations of contract renewal to the appropriate dean.

b. Program Learning Outcomes

As part of the institution's assessment plan, all courses and programs have an annual review to ensure that educational objectives and student learning outcomes are being met. The department head writes an end-of-year report that explains the assessment measures, outcomes, and any action plans that have been created in the event that courses are not meeting benchmarks. In addition, the college has a five-year program review cycle that examines the progress of the program over the previous five years. These annual and five-year evaluations are used to identify progress of the program and ensure that any issues are addressed via action plans and quarterly updates.

G.4. Course list including title, credit hours, and course descriptions:

Computer Technology
Associate of Applied Science
Computer & Network Support Technology Concentration

First Year

Summer II		Credit Hours
SDV 100	Fundamentals of College Study	1
		1
Fall		
CMP 108	Cybersecurity Ethics	1
CMP 115	Fundamentals of Computer Architecture	4
CMP 134	Approaches to Problem Solving	4
*ENG 101	Fundamentals of English I	3
*MTH 121	Pre-calculus I	3
		15
Spring		
*CMP 135	Introduction to Programming	4
*CMP 150	Introduction to Networking	4
*COM 200	Interpersonal Communication	3
*ENG 151	Fundamentals of English II	3
		14

Second Year

Fall		
*CMP 225	Data Communications & Networking	4
*CMP 245	Computer and Network Security	4
*CMP 255	Database Design and Management	4
GEN ED	Social/Behavioral Science Requirement	3
		15
Spring		
*CMP 248	Application of Cybersecurity	4
*CMP 259	Computer Network & Support Capstone	4
*CMP 260	Computer Technology Field Experience	2
GEN ED	Biological/Physical Science Requirement	4
SDV 101	Career Development	1
		15

*Prerequisite required

Total 60

Computer Courses:

CMP 108 – Cybersecurity Ethics

This course examines the ethical aspects of Cybersecurity. Students are introduced to methodologies, principles, values, and frameworks to facilitate the study of ethics. Topics include ethical review and discussion of relevant laws, regulations, policies, standards, psychology and hacker culture. Lecture Hours: 13. This course is usually offered in the fall and spring semesters.

CMP 115 – Fundamentals of Computer Architecture

This course covers the basic organization and design of computers. Topics include the organization and function of central processing units (CPUs), memory, bus structures, input/output devices, operating systems, application software and networks. Lecture Hours: 39. Laboratory Hours: 26. Laboratory Fee: $25. Usually offered in the fall and spring semesters.

CMP 134 – Approaches to Problem Solving – 4 Credits

This course provides students with a firm foundation in problem-solving approaches in computer programming while facilitating the development of good structured programming skills for solving typical programming problems and applying them to real world problems. Students will define and analyze problems, design computer solution algorithms and prove the correctness of the solution. Lecture Hours: 26. Laboratory Hours: 26. Laboratory Fee: $15. This course is usually offered in the fall and spring semesters.

CMP 135 – Introduction to Programming – 4 Credits

This course introduces students to the basic principles of programming, object-oriented concepts, and terminology. Using an industry-appropriate and current programming language, students are introduced to the concepts of decision, repetition, objects, classes, inheritance and polymorphism. Prerequisite CMP-102 or MTH-099 with grade of "C" or better or permission of the department head.

CMP 150 – Introduction to Networking – 4 Credits

This course provides a background to networks and how they are used. This course covers how local area networks (LANs) are managed, the types of LANs available today and the software that LANs use. Students are also introduced to the concepts of wide area networks. Lecture Hours: 39. Laboratory Hours: 26. Laboratory Fee: $25. Prerequisite(s): CMP 115 or permission of the department head. Usually offered in the spring semester.

CMP 225 – Data Communications and Networking

This course covers the operations of computer networks and network operating systems. Documentation and network best practices are emphasized. This course provides students with hands-on experience in accessing computer networks. Lecture Hours: 26.

Laboratory Hours: 52. Laboratory Fee: $25. Prerequisite(s): CMP 150 or permission of the department head. Usually offered in the fall semester.

CMP 245 – Computer and Network Security – 4 Credits

This course covers the principles of computer system security, with a focus on network security. Topics include network attacks and defenses, application security (e.g., web, email and databases), viruses, social engineering attacks, privacy, digital rights management, authentication methods, access control, cryptography, public key infrastructure, identifying attacks and vulnerabilities, and wireless network security. Students also learn about security procedures to protect data in computer environments, the effects of viruses and ethical issues raised by computer security in the business world. Lecture Hours: 26. Laboratory Hours: 26. Laboratory Fee: $25. Prerequisite(s): CMP 150 or permission of the department head. Usually offered in the fall semester.

CMP 248 – Application of Cybersecurity – 4 Credits

This course emphasizes best practices in Cybersecurity by providing an understanding of major concepts in Cybersecurity, computer forensics and cyber intelligence. Students gain practical knowledge of malware analysis, cyber operations and electronic crime through research and labs. Lecture Hours: 26. Laboratory Hours: 52. Laboratory Fee: $25. Prerequisite: CMP 225 and CMP 245. This course is usually offered in the spring semester.

CMP 255 – Database Design and Management – 4 Credits

This course emphasizes database interaction with Structured Query Language (SQL) and MySQL, the fundamentals of programming with databases, application techniques and security – skills that are the foundation to managing database-backed websites or any relational database application. Students gain practical experience in the laboratory through a database application language. Lecture Hours: 26. Laboratory Hours: 52. Prerequisite(s): CMP 104 and CMP 130 or permission of the department head. Laboratory Fee: $25. Usually offered in the fall.

CMP 259 – Computer and Network Support Capstone – 4 Credits

This is the capstone course for the computer and network support technology degree program. Advanced projects, such as real-world network proposals and security analysis reports, are employed to enhance the student's analytical skills. Students demonstrate proficiency in various areas of computer networking, security and support. Lecture Hours: 26. Laboratory Hours: 52. Prerequisite(s): CMP 225 and permission of the department head. Usually offered in the spring.

CMP 260 – Computer Technology Field Experience

In order to obtain an actual training experience, the student secures or is placed in an approved position relevant to his or her area of emphasis. The student is required to develop, in cooperation with the instructor and field supervisor, a learning contract for the field experience. Supervision and grading of the training experience are provided by both the instructor and the field supervisor. Field Experience Hours: 100. Prerequisite(s):

CMP 245 or CMP 255 and permission of the department head. Usually offered in the fall, spring and summer.

General Education Courses:

SDV-100 – Fundamentals of College Study I – 1 Credit

This course is designed to introduce students to the information and habits that facilitate academic success at the college level. The course presents modules focusing on the expectations and realities of college responsibility; active learning and critical thinking skills; increasing motivation and decreasing stress; analyzing the syllabus, instructor and course; establishing a learning style; organizing and balancing family, work and school; improving study and note-taking skills, and test-taking strategies; advisement, registration and the college catalog; safety, student services and other administrative resources; rules, regulations and civility; and lifelong learning. Students who do not pass this course must take it again the following fall or spring term. Lecture Hours: 15. Usually offered in the fall, spring and summer semesters.

COM 200 – Interpersonal Communication – 3 Credits

This course offers an introduction to the theories of interpersonal communication, focusing on the development of an awareness of communication in social and professional contexts and on the perception of self and others. The course covers theory and the application of communication strategies used in daily interactions and one-on-one and small group communication, including how verbal and nonverbal communication can be used to improve relationships. *Lecture Hours: 39. Prerequisite(s): ENG 101. Usually offered in the fall.*

ENG 101 – Fundamentals of English I – 3 Credits (English requirement)

This course is designed to help students develop their college-level writing skills with an emphasis on the writing process. This course includes an introduction to research skills. Students write summary assignments and a series of essays in various modes, culminating in an argumentative research paper. Students must earn a grade of "C" or better in this course in order to enroll in ENG 151. Lecture Hours: 39. Prerequisites: ENG 095 and ENG 096, or ENG 097, with grades of "C" or better, or acceptable reading and writing placement test scores. Usually offered in the fall, spring and summer semesters.

ENG 151 – Fundamentals of English II - 3 Credits (English requirement)

This course continues to help students develop their college-level writing skills. Students are introduced to the study of literature (prose, poetry, fiction and drama). Students integrate outside sources with their own ideas in written arguments. They also refine their research and documentation skills. Lecture Hours: 39. Prerequisite: ENG 101 with a grade of "C" or better. Usually offered in the fall, spring and summer semesters.

MTH 121 – Precalculus I – 3 Credits

This course covers the advanced algebra necessary to prepare students for the study of calculus. Topics include solving, graphing and modeling with linear, quadratic, polynomial, rational, radical, exponential, logarithmic equations and inequalities. Basic conic sections, matrices and linear programming topics are also included. Lecture Hours: 39. Prerequisite(s): MTH 099 with a grade of "C" or better or an acceptable mathematics placement test score. Usually offered in the fall and spring semesters.

GEN ED – Behavioral Social Science requirement – 3 Credits

Choose from ECO 151 – Principles of Macroeconomics, ECO 201 – Principles of Microeconomics, GEO 102 – Human Geography, POL 101 – American Government, PSY 101 – Intro to Psychology, PSY 201 – Human Relations, or SOC 101 – Introduction to Sociology

GEN ED – Biological/Physical Science Requirement – 4 Credits

Choose From: BIO 101 – Fundamentals of Biology, CHM 101 – General Chemistry I, ENV 101 – Environmental Science, GEO 101 – Earth and Space Science, or PHY 104 – Physical Science

G.5. General Education requirements:

For an associate of applied sciences (AAS) degree, 18 hours of general education credits are required. The program will meet these requirements through a variety of specific course requirements as well as electives within multiple disciplines. The total of general education credits in the Full Stack Web Development concentration equals 18 credits which meets the minimum for an associate of applied sciences degree. Listed in section G.4. above, are all general education courses to satisfy the degree requirements.

G.6. Specialized Accreditation

There are no specialized accreditation or graduate certificate requirements for this program.

G.7. Contracts with other Institutions

N/A

G.8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

All programs and requirements for program completion at Wor-Wic are explained and outlined in the college's catalog. Each degree or certificate has a clear outline of the courses required to complete the degree. In addition, all courses have description in the catalog that explains the course, the semesters (fall, spring, or summer) when the course

is offered, fees, and any prerequisites. The catalog is accessible through the college's website and both current and prospective students can view the requirements for any degree. Further, current students have access to an online portal that shows what courses they have taken and what courses they still need to take in order to complete their degree. The college also requires all students to take SDV 100 Introduction to College Study. This course covers topics such as meeting with your faculty advisor, how to plan courses on the student's schedule, necessary skills for taking online courses, overview of the Blackboard LMS, and the help that Student Services can provide to students. When the student registers for classes, they apply on the website which outlines the process and also explains the opportunity to apply for financial aid. When a student registers for courses, they are informed about the cost and payment policies.

H. Adequacy of Articulation

Wor-Wic currently has articulation agreements with all secondary school systems in its coverage area as well as others where there are no applicable state programs available. These agreements are reviewed, improved, and updated on an annual basis through a meeting hosted by the college. The meeting is attended by Wor-Wic department chairs and faculty as well as secondary instructors who are involved in related classes. From this meeting, articulated class lists are approved by the necessary executives and re-published annually for secondary system, student, parent, faculty and advisor use.

I. Adequacy of Faculty Resources

I.1 Faculty Summary

Current computer studies programs comprise a transfer degree and an occupational degree with two concentrations as well as two additional certificates. Dedicated faculty resources consist of three full-time faculty with any part-time faculty contracted as needed. The current faculty consists of; Curtis Satterfield Technology Department Head and associate professor of computer studies, Mike Kelley assistant professor of computer studies, and Kevin Justice, instructor of computer studies. The following table shows faculty rank, terminal degree, and courses that they will teach in the new program.

Faculty Member	Faculty Rank	Degrees	Work Experience	Full or Part-time	Courses Taught
Curtis Satterfield	Associate Professor	Ph.D. Organizational Leadership M.S. Information Systems B.S. Computer Science	Over 15 years industry experience working with systems administration, networking, and security	Full-time	CMP 225 Data Communications and Networking (4) CMP 259 Computer and Network Support Capstone (4)

Kevin Justice	Instructor	Bachelors of Science in Applied Science and Technology – Electrical Engineering	Over 30 years industry experience working with networking, databases, web development, and security	Full-time	CMP 108 Cybersecurity Ethics (1) CMP 115 Fundamentals of Computer Architecture (4) CMP 150 Introduction to Networking (4) CMP 245 Computer and Network Security (4) CMP 248 Application of Cybersecurity (4)
Michael Kelley	Assistant Professor	B.S. Information Systems Management M.S. Information Systems Web Development Concentration (In progress) Expected completion date December 2020. See below for completed coursework*	Over 15 years of industry experience in hardware, networking, and web development	Full-time	CMP 134 Approaches to Problem Solving (4) CMP 135 Intro to Programming (4)

*Mike Kelley completed Master's courses:

IST 7000 - Data Management (3 credits)
IST 7020 - Analysis, Modeling, and Design (3 credits)
IST 7060 - Project and Change Management (3 credits)
IST 7040 - Data Communications and Networking (3 credits)
IST 7100 - IT Policy and Strategy (3 credits)
DSN 6000 - Web Design and Architecture (3 credits)
DSN 6040 - Web Design with JavaScript (3 credits)
DSN 6070 - Web Design with Visual Basic (3 credits)
DSN 6050 - Markup Languages Advanced Authoring (3 credits)

Kevin Justice has been designing and implementing network and security technologies for over 30 years. His experience includes physical network design and implementation, firewall specification and security implementation, corporate policy design and

implementation, and device hardening practices. His largest scale implementation was the design and oversight of a Level 3 corporate data center supporting over 500 offices nationwide, remote access clients and security scenarios to support 5 distinct business lines and their operations.

Mike Kelley has been working in the IT industry for over 20 years. During this time, he has run his own business supporting local governments with networking and hardware support services. He has also worked as a systems administrator for local governments. His latest experience is web development both at a private company and now as a free-lance web developer.

Curtis Satterfield has over 15 years of industry experience as a network administrator and free-lance consultant. He worked for a large international manufacturing company and supported offices in the united states, United Kingdom, and China. He continues to provide consulting services to local businesses focused on networking and security support services.

The current staffing levels are considered sufficient to support the requested addition of the new concentration. No additional faculty resources are anticipated for this program.

I.2. Ongoing pedagogy training for faculty

a. Pedagogy that meets the needs of the students

Each year the college has an annual professional development day for faculty that includes training on pedagogical effectiveness. Training is also offered in dealing with special needs students and teaching to diverse student populations.

b. The learning management system

The college requires that all instructors use Blackboard's grade book for their classes and all faculty are required to complete first level training for Blackboard. For online instructors, two higher levels of training are required to be certified to teach an online or hybrid course. The college provides several LMS training sessions each year to support the faculty.

c. Evidenced-based best practices for distance education, if distance education is offered.

The college follows the Quality Matters method of evaluating and assessing online courses. Each year the department head is required to assess each online course in their department and then those courses are peer-reviewed as well. Training for the LMS is offered year-round for faculty and department heads.

J. Adequacy of Library Resources

Students in the Computer and Network Support concentration will have ready access to a supply of current and relevant books, journals, periodicals, computers, software, and other reference materials needed to meet the requirements of the curriculum. The program budget allocates funding for specific reference materials. Wor-Wic uses an electronic library that supports the academic needs of constituents. Multiple media

centers are staffed to provide research assistance. Web-delivered subscription databases cover academic disciplines, including computer studies. Wor-Wic students also have privileges for the libraries at University of Maryland Eastern Shore and Salisbury University.

K. Adequacy of Physical Resources, Infrastructure and Instructional Equipment

K.1. Physical facilities, infrastructure, and instructional equipment

The computer studies department facilitates two labs with four separate, physical areas: a fully racked and secured server room; two separate classrooms equipped with high-end desktop computers; and a "work bench" laboratory space allowing physical work to done on computers and related equipment. The network capability is fully functional both internally to the classroom and college resources, as well as suitably isolated to allow system/security work to be done without putting college-wide resources at risk. All equipment is of high quality. Current technologies are fully implemented and sufficient. Each full-time instructor for the program has their own office. The current infrastructure and equipment, as described, are more than adequate to support the proposed concentration in Computer and Network Support.

K.2. Distance Education Assurances

The college provides every student with a free email account on the worwic.edu domain. The college also utilizes the Blackboard Learning Management system and is fully supported by IT staff and an instructional technologist. All students who enroll in distance education courses are required to take a mandatory Blackboard tutorial with assessment before gaining access to online course materials.

L. Adequacy of Financial Resources.

L.1. Table 1 – Resources and Narrative Rationale

Table 1 explains the financial resources for the Computer and Network Support program. The budget allocations are based on current enrollments in the program. After revision of the program an initial enrollment of 36 students in the revised program is expected. Based on historical data, the college anticipates an initial enrollment of approximately 36 students with an increase of 2-3 students per year as demonstrated in the table below. The identified credit hour rate estimates an approximate 3% increase during the projected five-year budget plan.

TABLE 1: RESOURCES					
Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated funds	0	0	0	0	0
2. Tuition/Fee Revenue (c + g below)	53200	54416	55328	56240	57152
a. Number of F/T students	36	38	40	43	45
b. Annual tuition/fee rate	3325	3401	3458	3515	3572
c. Total F/T revenue (a * b)	119700	129238	138320	151145	160740
d. Number of P/T students	0	0	0	0	0

e. Credit hour rate	116	120	123	126	129
f. Annual credit hour	19	19	19	19	19
g. Total P/T revenue (d * e * f)	0	0	0	0	0
3. Grants, Contracts & other external sources	0	0	0	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1 - 4)	119700	129238	138320	151145	160740

L.2. Table 2 – Program Expenditures and Narrative Rationale

Table 2 demonstrates the Computer and Network Support program expenditures. The current full-time faculty member and full-time business faculty member will be teaching the courses and no new faculty will be necessary. Additionally, no new equipment is needed for this program. The college will not accrue any significant expenses because new equipment purchase is not required for this program.

TABLE 2: EXPENDITURES					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	0	0	0	0	0
a. #FTE	0	0	0	0	0
b. Total salary	0	0	0	0	0
c. Total benefits	0	0	0	0	0
2. Admin. staff (b + c below)	0	0	0	0	0
a. #FTE	0	0	0	0	0
b. Total salary	0	0	0	0	0
c. Total benefits	0	0	0	0	0
3. Support staff (b + c below)	0	0	0	0	0
a. #FTE	0	0	0	0	0
b. Total salary	0	0	0	0	0
c. Total benefits	0	0	0	0	0
4. Equipment	0	0	0	0	0
5. Library	0	0	0	0	0
6. New or renovated space	0	0	0	0	0
7. Other expenses	0	0	0	0	0
TOTAL (Add 1 - 7)	0	0	0	0	0

Since this application covers the revamp of the current degree program's area of concentration, the college and program are sufficiently resourced to support the changes. The related computer programs that are currently offered are supported by the college's annual operational funding. No additional financial resources are required beyond current levels to implement this proposal.

M. Adequacy of provisions for evaluation of program

M.1. Evaluation Procedures – Courses, Faculty, Student Learning Outcomes

The college requires continual assessment of programs, courses, and faculty as set forth by their policies and procedures. Benchmarks are set on a program and course level basis. Courses are evaluated yearly to identify any learning objectives that are not being met. The standard benchmark for the school is 70% pass rate by objective on final exams. If a course is identified as failing to meet this benchmark on one or more objectives, appropriate corrective action is taken by the course coordinators and department heads. Action plans are created and updated at the six-month and one-year marks to ensure the benchmarks have improved. This serves as both assessment of a course and student learning outcomes for the course.

Faculty participate in a yearly evaluation process to address any issues at both the personnel level and the teaching level. Faculty must submit both a plan of instruction, writing assignment, and personal narrative explaining their accomplishments over the prior year. Student opinion of learning survey data is incorporated into the faculty's evaluation. The scores are presented to the faculty department heads who send recommendations of contract renewal to the appropriate dean.

M.2. Evaluation of Proposed Program's Effectiveness

As part of the institution's assessment plan, all courses and programs have an annual review to ensure that educational objectives and student learning outcomes are being met. The department head writes and end-of-year report that explains the assessment measures, outcomes, and any action plans that have been created in the event that courses are not meeting benchmarks. In addition, the college has a five-year program review cycle that examines the progress of the program over the previous five years. These annual and five-year evaluations are used to identify progress of the program and ensure that any issues are addressed via action plans and quarterly updates.

N. Consistency with the State's Minority Student Achievement Goals

Wor-Wic Community College maintains a cultural diversity plan, which states:

"Wor-Wic Community College is committed to a plan of cultural diversity that promotes inclusivity of diverse students and employees. The college has created a welcoming atmosphere on campus and has infused cultural diversity in all college programs, services and communications. The college has demonstrated this commitment to cultural diversity through the vision, values, mission, and goals stated in the strategic plan. The strategic plan of the college is in alignment with the diversity goals of the Maryland State Plan for Higher Education, including implementation strategies and timelines for meeting the goals. The college adheres to the definition of cultural diversity as ***inclusion of those racial and ethnic groups and individuals that are or have been underrepresented in higher education*** [Education Article, Annotated Code of Maryland 11-406-(b) (1) (iii)]."

This plan identifies how cultural diversity and minority achievement is addressed in each of the vision, mission and values' statements as well as long-term goals and strategic initiatives.

Additionally, each year Wor-Wic produces a cultural diversity report in compliance with the Maryland Higher Education Commission reporting requirements for college cultural diversity plans [Education Article, Annotated Code of Maryland 11-406-(b) (1) (iii)]. The report describes the set of initiatives and achievements accomplished in support of the diversity plan for each year.

O. Relationship of Low Productivity Programs

N/A

P. Adequacy of Distance Education Programs

Courses for this program will be offered through both distance education and face-to-face. While not currently a member of C-RAC, the College complies with each of the guidelines through appropriate policies and practices. Middle States Commission on Higher Education and MHEC has approved Wor-Wic Community College to offer distance education programs.