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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 Arts, Computer Studies Transfer, Information Systems Concentration. The department, with support of the program advisory committee and college curriculum committee, revised this Area of Concentration. The course changes have been made to improve student success and allow for better transfer to a university or four-year college.

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



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

Office Use Only: PP#

Institution Submitting Proposal	Wor-Wic Community College
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Each action below requires a separate proposal and cover sheet.

- | | |
|---|---|
| <input type="radio"/> New Academic Program | <input type="radio"/> Substantial Change to a Degree Program |
| <input type="radio"/> New Area of Concentration | <input checked="" type="radio"/> Substantial Change to an Area of Concentration |
| <input type="radio"/> New Degree Level Approval | <input type="radio"/> Substantial Change to a Certificate Program |
| <input type="radio"/> New Stand-Alone Certificate | <input type="radio"/> Cooperative Degree Program |
| <input type="radio"/> Off Campus Program | <input type="radio"/> Offer Program at Regional Higher Education Center |

Payment <input checked="" type="radio"/> Yes	Payment <input type="radio"/> R*STARS	Payment Amount: \$50	Date Submitted: 11/25/2019
Submitted: <input type="radio"/> No	Type: <input checked="" type="radio"/> Check		

Department Proposing Program	Technology		
Degree Level and Degree Type	Associate of Arts		
Title of Proposed Program	Computer Studies Transfer, Information Systems Concentration		
Total Number of Credits	60		
Suggested Codes	HEGIS: 4980.01	CIP: 11.0101	
Program Modality	<input checked="" type="radio"/> On-campus	<input type="radio"/> Distance Education (<i>fully online</i>)	
Program Resources	<input checked="" type="radio"/> Using Existing Resources	<input type="radio"/> Requiring New Resources	
Projected Implementation Date	<input checked="" type="radio"/> Fall	<input type="radio"/> Spring	<input type="radio"/> 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: Date: 12/12/19
	Date of Approval/Endorsement by Governing Board: 12/12/19

Revised 3/2019

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

Catalog: 2019-2020 Catalog
 Program: Computer Studies Transfer, Information
 Systems Concentration, A.A.

Computer Studies Transfer, Information Systems Concentration, A.A.

Program Code: CMP.AA.IST

This program is for students who want to transfer to a four-year college or university and work toward a bachelor's degree in information systems. To ensure maximum transferability, students should familiarize themselves with the program requirements of the institution to which they plan to transfer.

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) <i>renumbered to 135</i>		
CMP 115 - Fundamentals of Computer Architecture (4 Credits)		
ENG 101 - Fundamentals of English I (3 Credits) *		
GEN ED - Biological/Physical Science Requirement (4 Credits) x		

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) *		
ENG 151 - Fundamentals of English II (3 Credits) *		
MTH 121 - Precalculus I (3 Credits) *		

Second Year

Fall

Course Name	Term Taken	Grade
CMP 210 - Programming Structures and Applications (4 Credits) * <i>Renamed to Computer Science I</i>		
COM 101 - Introduction to Public Speaking (3 Credits)		
GEN ED - Arts and Humanities Requirement (3 Credits)		
GEN ED - Mathematics Requirement (3-4 Credits)		
Elective - History Elective (3 Credits)		

Spring

- GEN ED - Arts and Humanities Requirement (3 Credits)
- GEN ED - Biological/Physical Science Requirement (4 Credits) x
- GEN ED - Social/Behavioral Science Requirement (3 Credits)
- Elective - History Elective (3 Credits)

Symbol(s)

* This course has a prerequisite.

x Each course must be from a different discipline.

Learning Outcomes

Graduates of this program should be able to:

1. Identify various operating systems used in personal, business and industrial settings;
2. Apply programming techniques to develop solutions for satisfying business needs;
3. Identify computer components and their functions within a system; and
4. Identify computer networks and their components to maintain a personal and/or business network.

Notes:

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 Information Systems area of concentration within the AA transfer degree in Computer Studies to better serve our students. Making changes to the Information Systems concentration will allow students to start at Wor-Wic and transfer to a wide array of schools within Maryland, Delaware, Virginia, and Pennsylvania. While attending, Wor-Wic students will learn the basics of Information Systems including; Problem Solving, Computer Science, and HTML/CSS. The student will also take relevant general education courses to prepare them for transferring to a four-year university.

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." The Information Systems transfer 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 start at their local community college and then transfer to a four-year institution.

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 several area colleges or universities offering four-year degrees in information systems. The proposed area of concentration will provide local area residents with access to a low cost option to begin their degree here at Wor-Wic and then transfer to a four-year school to complete a bachelor's degree.

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 Information Systems concentration will allow students to transition from high school to a two-year school and prepare them for further education at a four-year school.

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

Teachers and administrators at local high schools already support out existing Information Systems program. If the program is approved, they plan to continue 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 Information Systems program instruction.

A.4. Institutional Commitment

Wor-Wic Community College is committed to the full implementation of the Information Systems program. The objectives of the Information Systems program support the college mission and goals. Wor-Wic outlines seven specific college goals. The Information Systems 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 Information Systems program have the ability to transfer to many different four-year colleges in Maryland and surrounding states.

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 continue supporting the Information Systems program.

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

B.1

The Information Systems Concentration A.A. combines technical skills of Information Systems Management 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

Computer system management and networking skills are resources necessary for organizations and industries as we move towards increased digitalization and adapt to evolving technology. An A.A. with an Information Systems Concentration offers graduates the opportunity to pursue a number of specialty areas. Within Maryland, average annual openings of over 700 jobs for computer and information systems managers are anticipated. Similarly, within the sector of computer network support specialists, 650 new jobs are expected on an annual basis. The versatility of an Information Systems Concentration allows for a variety of career pursuits all showing positive growth and opportunities (Long Term Occupational Projections 2016-2026).

C.2. Data analysis projecting market demand

Within Maryland, the field for computer network specialists over the next seven years shows a growth rate of over 6% while computer architects can expect job growth rates of just under 8%. Careers in information systems management are growing at over 6% as well. These statistics are slightly above the national average when measuring growth potential across all career sectors which currently stands at 5% (Long Term Occupational Projections 2016-2026).

C.3. Educational and training needs over the next 5 years

The A.A. degree is a strong foundation for achieving entry level and midlevel job entry. Though students are skilled for employment, transfer opportunities to area four year institutions in related fields have the potential to allow Wor-Wic students to pursue a 4 year degree to enhance their career advancement potential. Additionally, high school students currently enrolled in computer and IT courses at their secondary schools would have the option to pursue their interests further and work towards an A.A. degree that is both innovative and practical.

C.4. Current and Projected supply of prospective graduates

Currently, there are 35 full-time Information Systems students in the college. After implementation of the revised concentration there will be approximately 20-25 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. Currently, Salisbury University has a bachelor's degree in Information Systems which is a four-year degree. The majority of our information systems graduates will transfer to Salisbury to complete their four-year degree.

D.2. Justification for Proposed Program

This is a change to a currently existing program. The program is modifying the current programming track to make it more accessible for students and to prepare them to transfer as juniors to state colleges in Maryland. The addition of Computer Science I and Computer Science II will allow our transfer students to begin taking 300 level computer courses the first year they transfer to a four-year school. The approaches to problem solving course will give students the knowledge they need to understand and solve large programming problems and projects.

After graduation with a four-year degree associated with Information Systems, students have the option to work nearly anywhere in the country. Locally, there are hundreds of government and corporate facilities in Maryland, Virginia and DC that hire Information Systems professionals including: Carahsoft Tech Corp, Iron Bow Technologies, ThunderCat Technology, Telos Corp, TISTA Science & Tech Corp, Tenable Network

Security, Alarm.com, Cyren, LookingGlass Cyber, Endgame, Savi Technology, AppGuard, Sonatype, Fugue, Mandiant, KeyW Corp, CyberCore Technologies, Tenable, Vision Technologies Inc, and ZeroFOX.

E. Relevance to High Demand Programs at Historically Black Institutions

Students from Wor-Wic will have the ability to transfer to HBCU's in Maryland that offer four-year degrees in Information Systems.

F. Relevance to the Identity of Historically Black Institutions

Once the program has been approved Wor-Wic will seek to make articulation agreements with the appropriate HBCUs to allow students to transfer.

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 Information Systems revision was established by examining four-year schools with Information Systems degrees and establishing a two-year program that will allow students to start at Wor-Wic and transfer to a four-year college to complete a bachelor's degree in Information Systems. Mike Kelley, Assistant Professor 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 Information Systems concentration will be able to:

1. Identify computer components and their functions within a system;
2. Demonstrate proficiency in computer problem solving;
3. Demonstrate proficiency in computer science concepts; and
4. Demonstrate ability to solve computer problems via programming methods.

Student Learning Outcomes:

1. The student will be able to demonstrate understanding of computer science concepts.
2. The student will be able to examine a problem and identify the key components.
3. The student will be able to develop plans to solve given computer problems
4. The student will be able to use computer-programming languages to develop solution(s) to problems.

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 Studies Transfer
Associate of Arts Degree
Information Systems Concentration*

<u>Summer II</u>	<u>First Year</u>	Credit Hours
SDV 100	Fundamentals of College Study	<u>1</u> 1
<u>Fall</u>		
CMP 134	Approaches to Problem Solving	4
CMP 115	Fundamentals of Computer Architecture	4
*ENG 101	Fundamentals of English I	3
*MTH 121	Pre-calculus I	<u>3</u>
		14
<u>Spring</u>		
*CMP 135	Introduction to Programming	4
CMP 130	Introduction to Web Development	3
*ENG 151	Fundamentals of English II	3
*MTH 122	Pre-calculus II	<u>4</u>
		14
<u>Second Year</u>		
<u>Fall</u>		
*CMP 210	Computer Science I	4
COM 101	Fundamentals of Oral Communication	3
GEN ED	Arts and Humanities Requirements	3
GEN ED	Biological/Physical Science Requirement	4
Elective	History Elective	<u>3</u>
		17
<u>Spring</u>		
*CMP 211	Computer Science II	4
GEN ED	Biological/Physical Science Requirement	4
GEN ED	Social/Behavioral Science Requirement	3
Elective	History Elective	<u>3</u>
		14
*Prerequisite required		Total: 60

Computer Courses:

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 130 – Introduction to Web Development – 3 Credits

This course covers the principles of creating hypertext markup language (HTML) for webpages and the elements used to create them. Cascading style sheets (CSS) are introduced to add style to webpages and to create enhanced visual effects. Responsive formatting techniques are introduced to make the site adaptable. This course covers the fundamental elements needed to create webpages. Students design and build a website using current technology. Lecture Hours: 26. Laboratory Hours: 26. Laboratory Fee: \$25. Usually offered in the fall and spring.

CMP 210 – Computer Science I – 4 Credits

This course offers an introduction to the theory of programming structures and problem analysis to solve common computer problems. Problems will be solved by designing, implementing, and testing algorithms. The emphasis in this course is on problem solving and developing well designed computer programs. This course is taught using a high-level object-oriented programming language. Prerequisite CMP-104 or MTH-122 with grade of “C” or better. This course is usually offered in the fall semester.

CMP 211 – Computer Science II – 4 Credits

This course examines the design and implementation of abstract data types and algorithms. Data structures such as linked lists, stacks, queues, and trees will be introduced in this course. The course will also examine searching and sorting algorithms and their efficiency. This course is taught utilizing an object-oriented programming language. Hours: 26 lecture and 52 laboratory hours. Prerequisite: CMP 210 or permission of the department head. Laboratory fee: \$25. This course is usually offered in the spring semester.

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 101 – Introduction to Public Speaking – 3 Credits

This course is an introduction to the theories of oral communication, focusing on pragmatic approaches to presentational styles and organizational skills. Lecture Hours: 39. Usually offered in the fall, spring and summer.

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.

MTH 122 – Precalculus II – 4 Credits

This course is a continuation of MTH 121. Trigonometry and advanced algebra are studied to prepare students for calculus. Trigonometric topics include angle measurement, definitions of the six trigonometric functions from the right triangle and unit circle perspectives, graphs, identities, inverses and equations. Algebraic topics include polar coordinates, parametric equations and a review of functions and graphs. A problem-solving approach utilizes applications and a graphing calculator throughout the course. Lecture Hours: 52. Prerequisite(s): MTH 121 with a grade of “C” or better or an acceptable mathematics placement test score. Usually offered in the fall and spring semesters.

Elective – History Electives – 6 Credits

Choose from HIS 101 – World Civilizations I, HIS 151 – World Civilizations II, or HIS 201 – America History

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 – Arts and Humanities requirement – 3 Credits

Choose from FRN 101 – Fundamentals of French I, FRN 102 - Fundamentals of French II, HUM 101 – Introduction to the Arts, MUS 101 – Music Appreciation, PHL 101 – Philosophy 101, SPN 101 – Fundamentals of Spanish I, or SPN 102 - Fundamentals of Spanish II.

GEN ED – Biological/Physical Science Requirement – 8 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 arts (AA) degree, 28 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 Information Systems concentration equals 33 credits, 5 credits above the 28-credit minimum for an associate of arts 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.

For articulations at the baccalaureate level following approval of this concentration, Wor-Wic will pursue articulations with appropriate institutions, particularly where we have established relationships related to other programs.

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 210 Computer Science I (4) CMP 211 – Computer Science II (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 115 Fundamentals of Computer Architecture (4)
Michael Kelley	Assistant Professor	B.S. Information Systems Management M.S. Information Systems Web Development	Over 15 years of industry experience in hardware, networking, and	Full-time	CMP 134 Approaches to Problem Solving (4) CMP 135 Intro to Programming (4)

		Concentration (In progress)	web development		
		Expected completion date December 2020. See below for completed coursework*			

*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 Information Systems 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 be 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 Information Systems.

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 Information Systems program. The budget allocations are based on current enrollments in the program. After revision of the program an initial enrollment of 35 students in the revised program is expected. Based on historical data, the college anticipates an initial enrollment of approximately 35 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	35	37	40	42	45
b. Annual tuition/fee rate	3325	3401	3458	3515	3572
c. Total F/T revenue (a * b)	116375	125837	138320	147630	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)	116375	125837	138320	147630	160740

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

Table 2 demonstrates the Information Systems program expenditures. The three current full-time faculty 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 modification of the current transfer 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 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.

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.

Addendum

Computer Studies Transfer, Associate of Arts, Information Systems Area of Concentration

OLD Program Requirements	Credits	NEW Program Requirements	Credits
CMP 104 Intro to Programming	4	CMP 135 Intro to Programming	4
CMP 115 Fund of Comp Architecture	4	CMP 115 Fund of Comp Architecture	4
CMP 120 Intro to Linux	2		
		CMP 134 Approaches to problem solving	4
CMP 130 Intro to Web Development	3	CMP 130 Intro to Web Development	3
CMP 150 Intro to Networking	4		
CMP 210 Programming Structures and Applications	4	CMP 210 Computer Science I	4
		CMP 211 Computer Science II	4
Total OLD Program Requirements	23	Total NEW Program Requirements	25