Office Use Only: PP#

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

Institution Submitting Proposal	Bowie State University

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: $850

Date Submitted:

Department Proposing Program	Nursing	
Degree Level and Degree Type	Bachelor of Science	
Title of Proposed Program	Public Health Informatics and Technology	
Total Number of Credits	120	
Suggested Codes	HEGIS: 120101.00	CIP: 519999.0000
Program Modality	(•) On-campus ( ) Distance Education (fully online) ( ) Both	
Program Resources	(•) Using Existing Resources ( ) Requiring New Resources	
Projected Implementation Date (must be 60 days from proposal submisison as per COMAR 13B.02.03.03)	(•) Fall ( ) Spring ( ) Summer	Year: 2023
Provide Link to Most Recent Academic Catalog	URL: https://catalog.bowiestate.edu/index.php?catoid=17	
Preferred Contact for this Proposal	Name: Jacqueline M. Cade	
	Title: Manager of Institutional and Acadmeic Programming	
	Phone: (301) 860-3110	
	Email: jcade@bowiestate.edu	
President/Chief Executive	Type Name: Aminta H. Breaux	
	Signature:	Date:
	Date of Approval/Endorsement by Governing Board:	

Revised 1/2021

Aminta H. Breaux, Ph.D.
President

Henry Administration Bldg., Ste. 2000
14000 Jericho Park Rd, Bowie, MD 20715
P 301-860-3555
F 301-860-3510
E president@bowiestate.edu
bowiestate.edu

December 1, 2022

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

RE: New Academic Program Proposal – Bachelor of Science in Public Health Informatics and Technology

Dear Secretary Fielder,

Please find enclosed a proposal to offer a Bachelor of Science in Public Health and Informatics Technology (B.S. PHIT) program at Bowie State University (HEGIS 120101/CIP 519999).

Bowie State University developed Public Health and Informatics Technology program to address the shortage of PHIT professionals in the workforce, especially those from underrepresented communities. Informatics is integral to the practice of public health and requires professionals that possess multidisciplinary competencies in critical thinking, information management, and data analysis and information technology.

The 120-credit hour program was developed in concert with the Office of the National Coordinator (ONC) for Health Information Technology, at the Department of Health and Human Services (HHS). The acute shortage of public health informatics professionals is revealed with the recent efforts to manage the Covid-19 pandemic and the opioid crisis. As a result, workforce development to fill this gap is critical, and the federal government has this as one of its top priorities, with an emphasis on educating and training more underrepresented students and workers to diversify the workforce in this area.

We respectfully request the Commission's consideration of this proposal.

Sincerely,

Aminta H. Breaux

Cc: Dr. Carl Goodman, Provost and Vice President for Academic Affairs, BSU
Dr. Joann Boughman, Senior Vice Chancellor, USM
Dr. Darlene Brannigan Smith, Interim Associate Vice Chancellor, USM
Dr. Birthale Archie, Assistant Professor, Nursing, BSU
Ms. Jacqueline Cade, Manager of Institutional ad Academic Programming, BSU
Ms. Gayle Fink, Office of Planning, Analysis and Accountability, BSU

A. Centrality to Institutional Mission and Planning Priorities:

1. *Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.*
2. *Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.*

Informatics is the process by which raw data are turned into actionable information, which is then turned into knowledge using methods, tools and concepts driven by the application of the theory and practices from computer science, information sciences, and behavioral and management sciences. Informatics is central to the practice of public health and healthcare in the 21st century, and this program aims to prepare public health informatics professionals who are high in demand. According to AHIMA (American Health Information Management Association), the field of health informatics includes clinical informatics, public informatics, consumer health informatics and translational bioinformatics.

The proposed Bachelor of Science in Public Health Informatics and Technology (PHIT) at Bowie State University (BSU) focuses on public and population health data, information, knowledge processing, usage, and management. It is designed to prepare students for careers in public health informatics. Students may work as public health informatics specialists, system analysts, data analysts, managers, consultants, or designers/developers in the different health systems, hospitals, academia, insurance, pharmacy, and other organizations (Joshi and et al, 2021). Public health informatics professionals are responsible for meeting the needs of those who use data, information and knowledge by eliciting and determining their requirements; designing, developing, managing, and evaluating information technology and systems that are crucial to surveillance, assessment and assurance practice; designing and developing information technology and systems to support effective decision making by public health leaders; and seeking to support the public health enterprise and improve population health. (Baker, et al., 2016).

Program's relation to BSU's mission:

Bowie State University (BSU) is a comprehensive university that provides 21st-century learners with a strong foundation for success with a well-rounded academic experience, an inclusive environment, and hands-on learning opportunities. Building on its rich legacy as a training ground for teachers since 1865, the university is committed to providing access to a high-quality education and cultivating emerging leaders who are prepared to succeed in a changing, global society.

As Maryland's first historically black public university, Bowie State University empowers a diverse population of students to reach their potential by providing innovative academic programs and transformational experiences as they prepare for careers, lifelong learning, and civic responsibility. Bowie State University supports Maryland's workforce and economy by engaging in strategic partnerships, research, and public service to benefit our local, state, national, and global communities.

The PHIT program is an innovative program and is developed in partnership with the Office of the National Coordinator (ONC) for Health Information Technology, Health and Human Services (HHS). It is designed to address the shortage of PHIT professionals and the lack of diverse PHIT professionals in the workforce. Hence, the proposed program contributes to the university's mission by empowering "a diverse population of students to reach their potential by providing innovative academic programs"

and by supporting Maryland's and the nation's workforce and economy. Furthermore, the addition of the PHIT program contributes to the achievement of Bowie's *FY 2019 – FY 2024 Racing to Excellence Strategic Plan*, specifically Goal 1 Academic Excellence, Objective 1.1 High-demand, innovative academic programs.

Since the signing of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, the US health care ecosystems have become increasingly digitalized and connected. With the recent efforts to manage Covid-19 pandemic and the opioid crisis, the acute shortage of public health informatics professionals is revealed. As a result, workforce development to fill this gap is critical and the federal government has this as one of its top priorities and is investing millions of dollars through the American Rescue Plan with emphasis on educating and training more underrepresented students and workers to diversify the workforce (https://www.hhs.gov/about/news/2021/06/17/hhs-announces-80-million-in-arp-funding-to-bolster-underrepresented-communities-in-public-health-it-workforce.html).

The proposed program directly addresses this critical need.

3. *Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation. (Additional related information is required in section L)*

The proposed program will be funded for the first four years by a $10M grant obtained through the Office of the National Coordinator for Health Information Technology, Health and Human Services. This funding will be used for the development and implementation of the program to include the hiring of a program director, two full time faculty members and support staff as needed. The university has pledged its commitment to support this program after grant funding has ended. (See support letter, Appendix A)

4. *Provide a description of the institution's commitment to:*
   a) *ongoing administrative, financial, and technical support of the proposed program*
   b) *continuation of the program for a period of time sufficient to allow enrolled students to complete the program.*

The proposed Bachelor of Science in Public Health Informatics and Technology program meets and aligns with the university's FY19-FY24 Strategic Plan. It is aligned with Strategic Goal #1, "Achieve academic excellence supported by curricular and co-curricular experiences" and Objective #1.1, "High-demand, innovative academic programs. The program is funded through the next four years by a grant from the Health and Human Services division and will remain as a signature program at the university.

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

1. *Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:*
   a) *The need for the advancement and evolution of knowledge*
   b) *Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education*

c) The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs

The proposed program will provide knowledge about disease interventions and prevention leading to better health for individuals, communities, and the public in general. To improve population and public health, the PHIT program provides information about effective monitoring and surveillance, access to timely and accurate data including big data, information and knowledge while safeguarding privacy and security. As a multi-disciplinary field of study in its early stage of development, PHIT demonstrates the application of theories and practices from computer science, information sciences, and behavioral and management sciences. Therefore, there exists a need for the advancement of knowledge in PHIT both from a technical and non-technical perspective. This need is especially critical in underserved and underrepresented population.

The societal needs for public health professionals with KSAs in ITS as well as the shortage of public health informatics specialists in public and clinical health settings are well revealed during the Covid-19 response. "The limited number of public health professionals trained in informatics and technology was one of the key challenges the nation experienced during the COVID-19 pandemic," said Dr. Micky Tripathi, national coordinator for health information technology. Of these limited PHIT professionals, very few are from underrepresented and underserved populations. Hence, there is a need to develop and make the PHIT program accessible to students from underrepresented and underserved populations.

2. *Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.*

The proposed program is well aligned with the 2022 Maryland State Plan for Higher Education, which continues the goals of the 2017-2021 State Plan: Student Access, Student Success, and Innovation. The program integrates the Priorities of Goals 1 and 2 of the new State Plan by creating an opportunity for underrepresented students to participate in a program that aims to fill an employment gap in managing and analyzing public health data, while creating an opportunity for life learning for public health sector professionals who seek a related but new career path.

The proposed PHIT program is also aligned with Goal 3 of the 2022 Maryland State Plan for Higher `Education, as the innovative curriculum of this academic program includes artificial intelligence, bioinformatics, biotechnology, biopharma, cybersecurity, data science and analytics, entrepreneurship, informational technology, nanotechnology, modern manufacturing, and robotics (Maryland Higher Education Commission, 2022).

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

1. *Describe potential industry or industries, employment opportunities, and expected level of entry (ex: mid-level management) for graduates of the proposed program.*

2. *Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.*
3. *Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.*
4. *Provide data showing the current and projected supply of prospective graduates.*

1. A public health informatics professional is someone who works in either practice, research, or academia and whose primary work function is to use informatics to improve public and population health. These professionals are in high demand and there are many job opportunities in the field. These include career opportunities at the federal level, the Department of Health and Human Services (DHHS), Centers for Disease Control and Prevention (CDC), Office of Surveillance, Epidemiology and Laboratory Services (OSELS), National Center for Health Statistics (NCHS), and with the Classification and Public Health Data Standards Staff (CPHDSS). Many health systems and industries also need individuals skilled in both health and systems engineering to assist with their electronic health records and other health IT activities.

In the winter of 2022, Bowie State University commissioned Aslanian Market Research (AMR) team of Education Dynamics to conduct an assessment of demand and supply dynamics associated with a Public Health Informatics and Technology program. The report presented findings on similar programs within the State of Maryland and the greater region (consisting of Maryland, Washington, D.C, and Northern Virginia) as well as job outcome data. The results are used to provide answers to the questions under this section along with other sources as indicated below.

PHIT program graduates will be uniquely different from IT specialists as they are required to have knowledge of public health and IT. They may be employed by a wide variety of industries and organizations such as federal, state and local public health agencies, non-profit and non-governmental organizations working on population and public health, hospitals, and businesses and industries working on public health and health care. The level of entry for PHIT graduates is the beginner or tier 1 professional level.

2. The need for public health informatics professionals is very high. The job titles include Public Health Informatics Manager, specialist, system analyst, and data analyst. Most health informatics professionals work in a variety of health care settings including local, state, federal government agencies, public health agencies, non-profit health and medical associations, hospitals, physician group practices, pharmaceutical companies, and insurance companies. MDV has several of these organizations that need these public health informatics professionals.

PHIT managers and professionals fall under the health services and medical managers occupation or computer and information systems managers identified by the Department of Labor (https://www.bls.gov/ooh/management/computer-and-information-systems-managers.htm), where the former is projected to grow much faster than average and the latter is projected to grow faster than average. The job demands for Maryland and USA are presented as follow:

According to the Maryland Occupational Projections 2018 - 2028, - Workforce Information and Performance (https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml), the number of jobs in Maryland for computer and information systems managers increases by about 13% through 2028, for information security analysts, the increase is about 40% through 2028, for Medical and Health Services Managers, the increase is about 22% through 2028, and for Environmental Scientists and Specialists, including Health specialists, the increase is 13%. The job prospective for graduates with bachelor degrees from both the computing and health industries is above average when compared to all other fields.

According to the department of Labor Occupational projections, 2020-30 (https://www.bls.gov/emp/tables/emp-by-detailed-occupation.htm), the number of jobs for computer and information systems managers will increase by about 10.9% by 2030, for information system analysts by 7.0%, for information security analysts by 35%, for Medical and Health Services Managers by 32.5 %, for Environmental Scientists and Specialists, including Health, the increase will be by 8.4%, community health workers by 22%, Epidemiologists by 29.5%, Data Scientists by 31.4%, and for Health information technologists, medical registrars, surgical assistants, and healthcare practitioners and technical workers, by 10.5%.

3. **Number of Jobs in the Region:** Within the occupation used for this analysis, there was a total of 113,457 jobs that required at least a bachelor's degree for employment in 2020. This is only 45 percent of the total job market. Another 25 percent of the job market is comprised of those who have earned a master's or doctoral degree. This dovetails with earlier data indicating that an advanced degree is important for many who enter this career area. The bachelor's degree employment market is 18 percent above the national average.
Number of Annual Openings in the Region: Within the region, there were 12,005 job openings (37 percent) that require at least a bachelor's degree for employment in 2020. Another 25 percent of openings were for those with advanced degrees.
Job Growth in the Region: In the next five years, 2020-2025, BLS predicts a regional growth of 8.5 percent, which is greater than the expected national growth of 8.0 percent.
Job Postings in the Region: There were 65,315 unique job postings within the region. The number of job postings is taken by "scraping" job boards to see which associated SOC code occupations require a bachelor's degree for employment. While this number of job postings outpaces the number of completions in Maryland, graduates will have to compete with those who come to the region from further flung areas and those who completed degrees in other topics. Note that this 65,315 is about half of the postings in the region. Another 20 percent of jobs are tailored for those with advanced degrees.
Job Postings by Organization: Technology and health organizations have the largest numbers of job postings. These range from technology consulting (Leidos, CACI International) to health positioned organizations such as Anthem, Johns Hopkins, AstraZeneca, and Travelers.

4. **Current and projective supply of prospective graduates:** The table below presents the results of market research conducted by Education Dynamics on programs similar to PHIT. Across all bachelor level programs, regardless of format, institutions operating within the region saw a 225 percent increase in the number of completions from 2013-2020 within the Public Health Informatics CIP codes. Additionally, across the CIP codes used in this analysis, there has been consistent growth each year from 2013-2020. Note that there were no distance education completions in 2020. All completions in 2020 were in-person formats.

Year	2013	2014	2015	2016	2017	2018	2019	2020	% change 2013-2022
No. of completions	192	208	262	338	508	521	585	624	225%

For the enrollment landscape among institutions located within the state of Maryland, the trends match the completion data as indicated in the table below.

Year	2013	2014	2015	2016	2017	2018	2019	2020
Estimated Enrollment	1152	1248	1572	2028	3054	3126	3510	3744

In 2020, across all degree levels, institutions in Maryland had 1,627 total completions. Across all formats, three institutions in MD offered programs at the bachelor level at the CIP codes under investigation, accounting for 38 percent of the total market in terms of completions. However, 42 percent of those who completed programs in these CIP codes earned a graduate degree (37 percent masters / five percent doctorate). Another 12 percent earned a post baccalaureate certificate.

Degree Level	Percent of Completions
Award of less than 1 academic year	1%
Award of at least 1 but less than 2 academic years	2%
Associate Degree	5%
Award of at least 2 but less than 4 academic years	0%
Bachelor's Degree	38%
Post baccalaureate certificate	12%
Master's Degree	37%
Post-masters certificate	0%
Doctoral Degree	5%

Racial and Ethnic Completions: In 2019, across all formats, students who identify as white made up the largestproportion of completions in the CIP codes under investigation (34%) followed by African Americans, 28%, Asians, 21%, and Latinos, 10%. There is a gap to be addressed in order to produce diverse PHIT professionals.

D. Reasonableness of Program Duplication:

1. *Identify similar programs in the State and/or same geographical area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.*

The proposed BS in PHIT is a unique program that uses KSAs from Public Health, Information Science and Information Technology. When it is approved, it will be the first such program in the state of Maryland. A review of the Maryland Higher Education Commission's listing of academic programs in PHIT and related fields revealed that there is no BS program in PHIT. Programs in

related fields include the BS in Health Information Management at Coppin State University, BS in Bioinformatics at Bowie State University and Bioinformatics and Computational Biology at UMBC. The program at Coppin State focuses on the application of information technology and management for healthcare as presented on the website as: "Health information management (HIM) is the study and practice of how we use data to provide and improve quality patient care. In our increasingly digital society, data management needs are also increasing. By studying HIM, you'll build skills in business, economics, operations, scientific inquiry, and technology—allowing you to navigate the complexity of any healthcare organization." (Health Information Management | Coppin State University). The bioinformatics programs at Bowie State University and UMBC are concerned with the acquisition, storage, analysis, and dissemination of biological data, most often DNA and amino acid sequences (www.umbc.edu). Both programs are different from the proposed PHIT program which focuses on public health data and applications of computing science and technology.

There are six Bachelor of Science programs in Public Health in Maryland. They are at Hood College, Johns Hopkins, Salisbury, Towson, UMCP and UMBC. The proposed PHIT program is different from these programs because it focuses on applications of informatics and information technology to support and advance public health. Furthermore, BSU's proposed program serves a different demographic and economic group with a primary focus on minorities, which is an important need to fill in STEM and STEM related fields. Graduates from the AA degree in health information and technology, public health and related health or IT programs (see Table below) will be able to transfer to the proposed BS in PHIT program.

Table 1. BS in Public Health

Institution	Program	Degree
Hood College	PUBLIC HEALTH	Bachelor's Degree
Johns Hopkins University	PUBLIC HEALTH	Bachelor's Degree
Salisbury University	PUBLIC HEALTH	Bachelor's Degree
Towson University	PUBLIC HEALTH	Bachelor's Degree
University of Maryland, College Park	PUBLIC HEALTH SCIENCE	Bachelor's Degree
University of Maryland, Baltimore County	PUBLIC HEALTH	Bachelor's Degree

Table 2. AA in Public Health, Healthcare, Health Information and Technology Programs

Institution	Program	Degree
Anne Arundel Community College	PUBLIC HEALTH PROFESSIONS	Associate Degree
Baltimore City Community College	HEALTH INFORMATION TECHNOLOGY	Associate Degree
Cecil College	HEALTHCARE SCIENCE	Associate Degree
Cecil College	PUBLIC HEALTH	Associate Degree
Chesapeake College	HEALTH, FITNESS AND EXERCISE SCIENCE	Associate Degree
College of Southern Maryland	HEALTH INFORMATION MANAGEMENT	Associate Degree
College of Southern Maryland	PRE-PROFESSIONAL HEALTH SCIENCE	Associate Degree
Community College of Balt County	ALLIED HEALTH	Associate Degree
Community College of Balt County	HEALTH INFORMATICS & INFORMATION TCHNLGY	Associate Degree
Hagerstown Community College	EXERCISE SCIENCE AND HEALTH	Associate Degree
Hagerstown Community College	HEALTH INFORMATION MANAGEMENT	Associate Degree
Harford Community College	COMMUNITY HEALTH PROMOTION	Associate Degree
Howard Community College	HEALTH CARE FOR THE PROFESSIONAL	Associate Degree
Howard Community College	PUBLIC HEALTH	Associate Degree

Montgomery College-All Campuses	BEHAVIORAL HEALTH	Associate Degree
Montgomery College-All Campuses	HEALTH INFORMATION MANAGEMENT	Associate Degree
Montgomery College-All Campuses	PUBLIC HEALTH SCIENCES	Associate Degree
Prince George's Community College	HEALTH INFORMATION MANAGEMENT	Associate Degree
Prince George's Community College	HEALTH NAVIGATOR	Associate Degree
Prince George's Community College	PUBLIC HEALTH SCIENCE	Associate Degree

2. *Provide justification for the proposed program.*

The proposed BS in PHIT program is the first in the state of Maryland to fill the workforce demand in PHIT. It also allows graduates from community colleges with degrees in health science, health IT, Health Information Management, and related fields to transfer and complete the BS in PHIT.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.

Bowie State University is one of four Historically Black Institutions (HBIs) in the state of Maryland. According to data, Bachelor of Science degrees in public health are primarily awarded by non-HBIs in the state of Maryland (refer to Table 1). Therefore, this program would not adversely impact current high-demand programs at HBIs in the state.

F. Relevance to the identity of Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

Bowie State University is the oldest Historically Black Institution in Maryland and continues to serve an under-represented minority population of students. The university promotes a holistic and coordinated approach to student success and seeks to enhance the campus culture of diversity, inclusion and civic engagement. The goals of this new program are to meet the demand for new educational options for students while increasing the number of African American/Black public health professionals across the region.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR 13B.02.03.10):

1. *Describe how the proposed program was established, and also describe the faculty who will oversee the program.*

The curriculum follows the core and foundational competencies set by CAHIIM as applied to public health informatics and technology, public health competencies specified by the Council on Education for Public Health, and emerging PHI competencies identified from recent literature (Wholey and et. Al., 2018, and Joshi and et al. , 2021).

It was developed using a multi-disciplinary team of faculty from health sciences, computer science, information science and systems and is supported by the PHIT cooperative grant. This grant supported a successful team of faculty working collaboratively to develop PHIT courses and the program proposal. Input from ONC/HHS, Consortium members and current students on the proposed program goals, objectives and curriculum was provided through several presentations and discussions.

A program director/coordinator from the Department of Health Science (new department under development) in the College of Professional Studies will oversee the program. The coordinator will work collaboratively with the Nursing, Information Systems and Computer Science program coordinators in the recruitment, enrollment, course offerings, teaching and advisement of prospective students. The BS in PHIT program will be delivered via face-to-face modality.

2. *Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and modality of the program.*

This program targets learners who seek a Bachelor of Science degree in PHIT. The program's educational objectives and learning outcomes are presented below.

Educational objectives

- To educate, train and place students in PHIT in a variety of health care settings including federal government agencies, public health agencies, public health-focused non-profits including non-profit health and medical associations, hospitals, physician group practices, pharmaceutical companies, and insurance companies.
- To increase the number of public health professionals trained in public health and informatics.
- To increase the number of underrepresented communities within the public health IT workforce.
- To prepare graduates for any of the following industry certifications from AHIM: RHIA (Registered Health Informatics Administrator) CHDA (Certificated for Health Data Analyst), CHPS (Certified in Health Care Privacy and Security) as described at https://www.ahima.org/certification-careers/certifications-overview/.

Student Learning Outcomes:

After completion of the program, students will be able to:

1. Explain core public health functions, workflows, data, associated theories, methods, best practices and ethical and legal issues such as privacy and security.

2. Apply systems thinking to public health informatics issues.
3. Perform data management for population and public health including registries and other relevant data sources.
4. Analyze data related to population and public health including registries and dashboards for surveillance and health assessment functions using appropriate data management and analytic tools such as Python or R.
5. Evaluate and select health information technology and applications including EHR, EMR, PHR and Registries.
6. Utilize strategies and solutions that ensure confidentiality, security, and integrity.
7. Apply informatics standards appropriately for system interoperability and data/information exchange and contribute to standards development efforts.
8. Apply project management principles to manage and direct health informatics projects.
9. Communicate effectively, both verbally and in writing, using reports, technical documents and presentations.

Core Competencies:

After the completion of the program, learners/students will develop the following competencies in:

- The foundations of biological and life sciences and the concepts of health and disease.
- Public Health Organizations, health functions, workflows and data as well as associated theories, methods, best practices relevant to the application of informatics.
- The basic concepts, methods, and tools of public health data collection, use, and analysis
- Public Health Data Management and Analytics.
- Public Health Data, Information and Knowledge Access, Use, Disclosure, Privacy, Security.
- Informatics standards including classification systems, clinical vocabularies and nomenclatures and the impact on the health care continuum.
- Effective Communication and Presentation Skills: communicate effectively, both verbally and in writing as well as visually.
- Leadership and Project Management Skills.
- Teamwork and Collaboration: Ability to work in an inter-professional, dynamic environment as part of a collaborative and high-functioning team.
- Public health emergency preparedness and response.
- the socioeconomic, behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities and health equity.
- Public health reporting and the use of fast healthcare interoperability resources and standards for exchanging health care information electronically.

3. *Explain how the institution will:*
    a) provide for assessment of student achievement of learning outcomes in the program
    b) document student achievement of learning outcomes in the program

    The program will follow BSU's assessment plan for undergraduate programs and assessment protocols. A 5-year assessment plan will be developed by the program coordinator with input

from program faculty. A course-embedded assessment strategy, involving rubrics, will be used. In addition, the capstone project course, where students will synthesize, integrate, and/or apply their knowledge and skills, will be used to assess the desired student learning outcomes.

Assessment results are compiled by program faculty each semester and managed by the Program Chair and the Program Coordinator. The data are reported to the BSU's Center for Academic Programs Assessment each year for review by internal peer evaluators. The full academic program review occurs every seven years in accordance with internal requirements and those of the University System of Maryland. Faculty members are evaluated annually according to parameters in the Faculty Handbook and BSU Policies and Procedures. Student course evaluations are administered each semester by the Office of Planning, Analysis and Accountability. Course evaluation results are shared with deans, department chairs and faculty to inform course and instructional improvements.

4. *Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.*

The BS in PHIT program will include 46 credits of General Education Requirements for the first two years. Existing General Education courses will be used and these requirements are consistent with COMAR. 74 credits of core courses complete the program requirements for a total of 120 credits. The four-year plan of study for the program is presented in Appendix A. Table 3 below provides a list of courses with title, semester credit hours and course descriptions. The program requirements are:
Admission requirements: (BSU UG catalog for admission)
Graduation requirements: Minimum of C grade in all core courses, ENGL 101, 102, COSC 110 and DANL 280.

Table 3: List of All Courses

Course No.	Course Title	Semester Credit Hours	Course Description
General Education Courses: 46 Credit Hours			
Inst. Requirements			
FRSE 101	Freshman Seminar	3	This course explores BSU's history through engaging experiential and cultural activities, developing critical thinking skills for firm foundations that lead to higher education success.
HEED 102	Life & Health	3	This course explores scientific and philosophical applications of various health practices. Emphasis is placed on areas of nutrition, mental health, human sexuality, drugs, diseases, physical fitness and consumer health. It is designed to help students live healthy and satisfying lives.

English Composition			
ENG 101	Expository Writing	3	This course teaches the rhetorical, analytical, and comprehension skills necessary for academic success.
ENG 102	Argument and Research	3	Argument and Research builds on the skills developed in Expository Writing
			(ENGL 101), focusing on analysis, synthesis and evaluation, logical thinking, the techniques of argument, writing about literature, and preparation of the documented essay.
Natural Science			
BIOL 102	Introduction to Biology	4	This course is designed to introduce the concepts of cellular and molecular biology, basic chemistry, the chemistry of life, and genetics.
Natural Science II		3	
Mathematics			
MATH 125 OR MATH 141	College Algebra Or Pre-calculus	3	This course explores applications of polynomial, rational, algebraic, exponential, and logarithmic functions.
Social & Behavioral			
SOCI 101	Introduction to Sociology	3	This course is a survey of basic concepts and formulations in sociology, such as functional, conflict, and interaction perspectives, as they are applied to the study of structure and process in society, from the group to the institutional level.
PSYC 101	General Psychology	3	This course is an introduction to basic research and theories in the field of psychology, including principles of learning, memory, brain and behavior relationships, developmental and social psychology, psychological measurement, and an overview of personality and psychological disorders and treatment.

Technology			
COSC 110	Computer Literacy & Applications	3	This course is an introduction to fundamental concepts and applications of computing, designed for students with no prior training in computer use.
Arts and Humanities			
COMM 101	Oral Communication	3	This course is designed to provide theory and practice in the basic oral skills necessary for effective communication.
Arts & Humanities Elective	Any course from ENGL, SPAN, ART,COMM, MUSC ,PHIL,THEA, FRENCH	3	
GenEd Electives			
DANL 280 (Gen Ed Elective 1)	Fundamentals of Data Science and Analytics:	3	This course explores data types and structures, tools, cycles of data processing, big data sources, data science process (data flow, data curative, and data analytics) and the associated ethics and challenges such as availability, reliability/quality, privacy and security.
Gen Ed Elective 1I		3	
Gen Ed Elective III		3	

Public Health Sciences: 10 courses and 31 credit hours			
IDIS 240	Medical Terminology	3	This course introduces students to common medical terms in health care. Students learn principles of medical word building and terms specific to the human body systems, standardized medical abbreviations, acronyms, and meanings associated with these systems. Basic examination procedures and positions, common blood, urinalysis lab, and diagnostic tests are included.
NURS 320	Cultural Diversity and Special Populations in Health Care	3	The focus of this course is on diverse populations in health care and factors of diversity which include culture, race, language and communication, that impact health and the care of the targeted population. This course is designed to help students recognize the significance of diversity, and develop cultural sensitivity and competence that will enhance the ability to care for, and meet the needs of, the ever-changing diverse populations in health care.

PHSC 200	Introduction to Human Diseases	3	This course is an introduction to human diseases and examines the origin and progression of disease processes which have a significant impact globally and within our society. Current interventions being used to effectively manage those diseases will be discussed. Students will develop the ability to apply the concepts of human diseases to real world situations.
BIOL 311	Anatomy & Physiology	4	This course focuses on the structure and function of the human body from molecular to whole individual level, providing current principles of anatomical terminology and techniques, histology, and the integumentary, skeletal, muscular, nervous, and sensory systems. The effects of age, stress and pathology (disease) on normal systems are incorporated throughout the course.
PHSC 304	Fundamentals of Epidemiology	3	This course introduces students to the field of public health and epidemiology, emphasizing the socio-cultural factors associated with the distribution and etiology of health and disease.
PHSC 300	Health Equity and Social Justice	3	This course will focus on the relationship between social determinants of health and health inequities within the United States. Specifically, students will examine past and present social and ethical issues which affect health outcomes among the most vulnerable populations.
PHSC 310	Organization of Healthcare	3	This course will explore the healthcare delivery system and its components.

	Facilities		This will include a comprehensive look at its history and development, as well as the economic, social, political, and cultural influences which shape the structure within a healthcare facility.
PHSC 350	Public Health Perspectives	3	This course explores the art and science of disease prevention, prolonging life, and promoting the health of not only an individual but entire communities or populations of people.
PHSC 420	Public Health Strategic Planning	3	This course will prepare students to apply knowledge of public healthcare organizations, health determinants, public health systems and policy for public health strategic planning. They will use public health data analytics, utilization metrics, and demographic data to create a strategic plan for addressing a current public health problem.
PHSC 406	Public Health Research	3	This course will prepare students to critically evaluate research evidence and methodologies used in public health policy making, resource allocation and delivery systems. Students will be prepared to analyze and design practical research methodologies to evaluate contemporary public health issues and learn the necessary concepts and skills required for research design, implementation, data analysis, statistical testing, and results reporting.
Data Science and Analytics, Information Technology and Systems: 14 courses and 43 credit hours			
MATH 155 or PSYC 204	Statistics	3	This course is an introduction to basic descriptive and inferential statistics as they are utilized in psychology and education.
PHIT 285	Introduction to Public Health Informatics and Technology	3	This course is an introduction to the application of informatics and technology in public health. It provides an overview of specialized

			public health applications such as bio-surveillance, registries, and epidemiological databases and covers the use of clinical data sources to improve public health outcomes.
PHIT 320	Public Health Predictive Analytics	3	This course will explore the use of predictive analytics to find patterns in public health data which will identify risks and opportunities.
PHIT 480	Big Data and Analytics for Public Health	3	The course introduces the learner to Big Data in healthcare, which refers to the abundant health data amassed from numerous sources including electronic health records (EHRs), medical imaging, genomic sequencing, payer records, pharmaceutical research, medical devices, and more. The learner will be able to understand how Big Data analytics in public health can generate new knowledge, improve clinical care and streamline public health surveillance.
PHIT 485	Special Topics in PHIT	3	This course will provide students with advanced knowledge about selected current topics in public health and informatics. Students will examine controversial topics in the field of PHIT to acquire alternative and challenging perspectives on these topics.
PHIS 305	Programming for Healthcare	3	This course introduces students to the object-oriented (OO) approach to programming with emphasis on solving public health care problems.
PHIS 361	Public Health Information Systems Analysis and Design	3	This course will provide students with an understanding of the principles involved in the analysis and design of public health management information systems (HMIS).
PHIS 362	Public Health Data Management	3	This course will provide an understanding of how data resources can be managed to support decision-making within healthcare organizations. It will examine the use, development, and implementation of

			databases and how the database environment is used to support decision-making as well as public and healthcare data governance. Database design and implementation issues will be addressed from both logical and physical perspectives. In addition, strategic and administrative issues of databases will be considered. The course covers SQL and a database management system.
PHIS 367	Fundamentals of Public and Population Data Privacy and Security	3	This course provides the foundation for understanding the key issues associated with information security and assurance with special emphasis on the acquisition and usage of protected public health data and Fair Information Practices (FIP).
PHIS 475	Public Health Informatics Project Management	3	This course explores the emerging project process and the management approaches needed to make Public Health Informatics projects successful. Students will compare project management methodologies and analyze strategies including concepts and technologies for health information management (HIM)
PHIS 410	Public Health, Clinical Classifications & Information Systems	3	This course introduces the principles of taxonomy and purposes of controlled terminologies and classification systems used in the United States and internationally in public health. The course is designed to provide a survey of clinical vocabularies and controlled terminologies and classification systems standards commonly used in public health care settings. It will address the importance of standards conformance, design of interoperable data and systems, and the processes, policies and procedures used in the collection, coding, mapping, and modelling of public health data.
PHIT 490	Internship	4	The Internship provides an opportunity for the student to

			synthesize, integrate, and apply the practical skills, knowledge, and training acquired throughout the program. Students are engaged in real-world projects for solving real-world problems that involve the application of public health informatics and associated issues. A semester long project is required using informatics tools for supporting public health functions and addressing related issues. Students are placed at sites independently or in a team to acquire practical experience. The internship effort is jointly supervised by a faculty member and/or a manager at the site.
PHSC 450 (Elective)	Special Topics in Public and Population Health	3	This course integrates foundational principles of ethics, social justice, culture, community and diversity to enable students to explore special topics in public and population health. Students will learn and discuss key global health conditions, both communicable and non-communicable. Students will explore how epidemiological transitions, public health challenges and the burden of disease impact public and population health.
PHIT Elective		3	

5. *Discuss how general education requirements will be met, if applicable.*

   Students in this program will satisfy general education requirements by taking 100-level and 200-level courses, identified as general education courses, required of all Bowie State University students per the BSU course catalog.

6. *Identify any specialized accreditation or graduate certification requirements for this program and its students.*

   The program may be certified by the Commission on Accreditation for Health Informatics and Information Management (HIIM) Education (CAHIIM).

7. *If contracting with another institution or non-collegiate organization, provide a copy of the written contract.*

   N/A

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.

BSU's internal process, grounded by the "shared governance principle", for academic program review and approval, has been practiced consistently. This process will be used for the proposed program where department curriculum committees, college curriculum committees, the university curriculum committee, and the faculty senate will review and approve the program proposal. Next, the Provost reviews and approves the program with final approval by the President. Once the program is approved through the USM and MHEC, information on the curriculum, courses, degree requirements, admission requirements, etc. will be added to the university catalog and made available to the university community and the public. Information regarding technical equipment requirements, the learning management system, availability of academic support services, financial aid resources, and costs and payment policies is already available on the BSU web site.

9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The Bowie State University's Relations and Marketing (URM) department has the authority to review and approve content about programs and related information before it is posted and shared on the website, social media, pamphlets, flyers, and other media sources. Therefore, the Dean of the College of Professional Studies and Chairs of the Department of Management Information Systems, Nursing and the Department of Computer Science will provide their assurance that advertising, recruiting, and admission materials will clearly and accurately represent the proposed program and the services available. Departments do not represent their programs in any manner other than what is approved by the BSU President and MHEC. If approved, this program will be presented to current and potential students in accordance with program goals, courses, facilities, and services set out by this proposal and BSU administration directives pertaining to all programs.

H. Adequacy of Articulation

1. *If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.*

Bowie State University has articulation agreements with several community colleges in Maryland which creates a seamless transfer structure for students to enter the university. The fusion of academics and enrollment services for transfer students was recently implemented, since many transfer students expressed concern of not knowing the resources on the campus. In addition, the transfer student population was in need of support in order to increase efforts for retention. As a result, Bowie State University has increased the hands-on contact and communication with our

partner Community Colleges and interested students. The university has opened up lines of engagement to update and fine-tune our entire process and documents. Also, the university has participated in many webinars that inform aspiring students from the Community Colleges about our academic programs here at Bowie State University. Included on the university's website are academic Transfer Guides, MOUs, Agreements and support documentation that inform students of the academic requirements needed prior to their transfer to Bowie State University. Following are some of the Community Colleges that have partnered with Bowie State so far:

- Anne Arundel Community College
- Baltimore City Community College
- The Community College of Baltimore County
- Montgomery College
- Prince George's Community College
- Wor-Wic Community College
- College of Southern Maryland

I. Adequacy of Faculty Resources (as outlined in COMAR 13B.02.03.11).

1. *Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faulty member will teach in the proposed program.*

High quality faculty from several disciplines will teach courses in the proposed program. These include faculty from the departments of Nursing, Information Systems, and Computer Science. Two new full-time faculty members will be hired to teach Public Health Science courses and PHIT courses using funds provided initially by the grant and later, from the University budget.

Table 4 provides a list of faculty profiles and courses that they will teach.

Table 4. Faculty Profiles for the PHIT Program Courses

Name	Appointment Type	Degree Title	Field: Specializations	Academic Rank	Status	Courses
Andrew Mangle	Tenure Track	Ph.D	Information Systems: Cybersecurity	Assistant Professor	Full-time	PHIS 367, 475
Rand Obeidat	Tenure Track	Ph.D	Information Systems: Data Science & Analytics; Health Informatics	Assistant Professor	Full-time	PHIS 361, 362, 650, DANL 280, DANL 340
Philip De Melo	Visiting/Research Professor	Ph.D	Mathematics and computer science	Professor	Full-time	PHIT 285,320, 458
Birthale Archie	Tenure Track	DNP	Nursing Practice	Assistant Professor	Full-time	PHSC 406, PHSC 304,

						NURS 320
Jacqueline Hill	Tenured	Ph.D	Nursing Practice	Professor	Full-time	PHSC 406
Julie Agubokwu	Tenure Track	Ph.D	Nursing Practice	Assistant Professor	Full Time	MGMT 256, PHSC 200, 300 PHSC 350
Denise Jarboe	Tenure Track	DNP	Nursing Practice	Assistant Professor	Full-time	PHSC 304, 420 PHIT 490
Cordelia Obizoba	Tenured	Ph.D	Nursing Practice	Associate Professor	Full-time	PHSC 200, IDIS 240, PHSC 310
Tabita Rigsby-Robinson	Tenure Track	MSN	Nursing Practice	Instructor	Full-time	PHSC 200, 300, 304, 350 IDIS 240
Azene Zenebe	Tenured	Ph.D	Information Systems: Data Science & Analytics; Health Informatics	Professor	Full-time	PHIS 361, 362, 480
Grant Erhuanga	Adjunct	Ph.D	Biomedical Informatics-Health Information Technology	Assistant Professor	Part-time	PHIS 410, 320, 475, 485

2. *Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:*
    a) *Pedagogy that meets the needs of the students*
    b) *The learning management system*
    c) *Evidenced-based best practices for distance education, if distance education is offered.*

In addition to attending regional, national and international professional conferences focusing on pedagogy, faculty are also required to attend a Faculty Institute at the beginning of each Fall and Spring semester sponsored by the Center for Excellence in Teaching and Learning. There, faculty are introduced to the most current pedagogies and best practices in higher education along with topics relevant to the academic success of students. BSU offers year-round Blackboard LMS training and several faculty members have been trained or are currently undergoing training for Quality Matters review of online and hybrid courses.

J. Adequacy of Library Resources (as outlined in COMAR 13B.02.03.12)**.**

1. *Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.*

The Thurgood Marshall Library of Bowie State University supports the University's mission of teaching and learning with a collection of over 280,000 volumes (physical and electronic), over 700 academic subscription titles, an electronic portal (Research Port) to over 70 databases, as well as videos and DVD recordings, and experienced staff. The Library also promotes information literacy education by collaborating with the university faculty in utilizing current technology and teaching methods to enhance an instructional program that teaches library clientele how to access, evaluate, and utilize information.

As a member of the University System of Maryland and Affiliated Institutions (USMAI), Bowie State also has access to the collections of thirteen university libraries in the state of Maryland. A daily delivery between the participating libraries is provided to assist patrons in obtaining materials from other libraries in the system. In addition, all registered patrons have access to interlibrary loan services, which is a resource-sharing system, for materials not available within the USMAI.

The Library's physical collection of books in the fields are typical in scope and size for a university the size of Bowie State University. This collection is presently serviceable for the instructional and research expectations upon this program's majors. To ensure that this collection is more than sufficient for background reading and research undertakings by students in all of this program's core and elective courses, the program's faculty are making requests for acquisitions of hundreds of additional volumes, and those requests will be fulfilled during the coming academic year.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined in COMAR 13B.02.03.13)

1. *Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences.*

2. Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to:

   a) An institutional electronic mailing system, and
   b) A learning management system that provides the necessary technological support for distance education

Bowie State University delivers a robust technological infrastructure and state-of-the-art classrooms and offices for faculty and staff. The campus is home to a new $445,500 Cray supercomputer called the Sphinx (housed in the Computer Science Building) awarded through a grant from the Department of Defense U.S. Army Research Office. The University also has several computer labs across campus with each having up to 25 workstations containing standard application software and IBM SPSS Statistics version 23 that supports statistical data analysis and some of the machine learning algorithms.

Three of the four colleges currently reside in state-of-the-art buildings equipped with several computer laboratories with 25 to 35 PCs designed for flexible, active learning environments which are ideal for independent and collaborative work. The University also houses four additional computer laboratories in the Thurgood Marshall library containing 27 to 35 PCs along with one instructional laboratory.

All faculty (full time, part-time, adjunct) and students at BSU have access to the university's Blackboard LMS, along with a full-time staff of three who are available for technical issues and support. Furthermore, all faculty, staff and students have access to the MS Office 360 suite of applications including Outlook for communication, TEAMS for collaboration, MS Office, Power BI and more.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR 13B.02.03.14)

Resources and Expenditures

Table I projects enrollment for full-time equivalent students and the number of full-time equivalent faculty for the first five years. It is estimated that 15-20 new students will be admitted during the first year, increasing to approximately 60-75 full- and part-time students during years 4 and 5. Graduates from the program are expected by the fourth year.

Table 2 projects expenditures for the new program to include three new full-time faculty, one administrative assistant and two adjunct faculty. Other support staff is already in place in the college. Initial support for program personnel will be provided by the ONC/HHS grant. Additional support will be provided from the university when the grant funding ends.

TABLE 1: RESOURCES					
Resources Categories	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**
1.Reallocated Funds[1]	0	0	0	0	0
2. Tuition/Fee Revenue[2] (c+g below)	136,170	272,530	430,355	577,980	759,090
a. #F.T Students	15	30	45	60	75
b. Annual Tuition/Fee Rate[4]	8734	8909	9087	9269	9454
c. Annual Full Time Revenue (a x b)	131,010	267,270	408,915	556,140	709,050
d. # Part Time Students	1	1	2	2	3
e. Credit Hour Rate[5]	258	263	268	273	278
f. Annual Credit Hours	20	20	40	40	60

g. Total Part Time Revenue (d x e x f)	5,160	5,260	21,440	21,840	50,040
3. Grants, Contracts, & Other External Sources[3]	160,000	163,200	166,464	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1 - 4)	296,170	435,730	596,819	577,980	759,090

[1] Whenever reallocated funds are included among the resources available to new programs, the following information must be provided in a footnote: origin(s) of reallocated funds, impact of the reallocation on the existing academic program(s), and manner in which the reallocation is consistent with the institution's strategic plan.

[2] This figure should be a realistic percentage of tuition and fees which will be used to support the new program. Factors such as indirect costs linked to new students and the impact of enrolling continuing students in the new program should be considered when determining the percentage.

[3] Whenever external funds are included among the resources, the following information must be provided in a footnote: source of the funding and alternative methods of funding the program after the cessation of external funding.

4 Tuition Rate is based on the FY 2022 Tuition and Rate schedule with a 2% increase in subsequent years.

5 Credit Hour rate is based on the FY 2022 Tuition Rate schedule with a 2% increase in subsequent years.

TABLE 2: EXPENDITURES					
Expenditure Categories	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**
1. Total Faculty Expenses (b + c below)	301,500	301,500	307,530	313,681	319,956
a. # FTE	3	3	3	3	3
b. Total Salary[1]	225,000	225,000	229,500	234,090	238,773
c. Total Benefits[2]	76,500	76,500	78,030	79,591	81,183
2. Total Administrative Staff Expenses (b + c below)	67,000	67,000	68,340	69,707	71,100
a. # FTE	1	1	1	1	1
b. Total Salary[3]	50,000	50,000	51,000	52,020	53,060

c. Total Benefits[4]	17,000	17,000	17,340	17,687	18,040
3. Total Support Staff Expenses (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[5]	8,500	2,500	2,500	8,500	2,500
5. Library	0	0	0	0	0
6. New or Renovated Space[6]	7,000	7,000	7,000	7,000	7,000
7. Other Expenses[7]	19,620	19,620	19,620	19,620	19,620
TOTAL (Add 1 - 7)	403,620	397,620	404,990	418,508	420,176

[1]Average salary for Assistant Professors for FY 2023 with a 2% increase in year 3 and subsequent years.

[2]Average benefits for Assistant Professors for FY 2024 is 34% of salary.

[3]Current salary for Administrative Assistant II in FY 2024 with a 2% increase in year 3 and subsequent years.

[4]Average benefits for Administrative Assistant II for FY 2024 is 34% of salary.

[5]Equipment – cost for 3 computers on a 3-year replacement cycle and other equipment as needed for yearly program enhancements.

[6] New or Renovated Space – cost for expansion of office space and lab space for new program.

[7] Other Expenses – cost of salary and fringes for two (2) adjunct faculty members.

M. Adequacy of Provisions for Evaluation of Program (as outlined in COMAR 13B.02.03.15).

1. *Discuss procedures for evaluating courses, faculty and student learning outcomes.*
2. *Explain how the institution will evaluate the proposed program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.*

This program's courses and faculty will be evaluated using the BSU end of course evaluation survey each semester. Course-embedded assignments and rubrics will be used to evaluate student learning

outcomes (SLOs) relevant to a course following the BS in PHIT program learning outcomes assessment plan.

The ongoing end-of-course evaluation survey will track data on students' satisfaction with the PHIT program courses and faculty. These data will be aggregated for the program to assess its effectiveness.
Student retention: Student enrollment numbers for the program will be monitored and the retention rate will be calculated and reviewed each semester.
Cost-effectiveness: Enrollment numbers in various PHIT program classes will be monitored and revenue/cost will be calculated.
Assessments of student learning outcomes: Measured through implementation of the student learning outcomes (SLO) assessment plan.

N. Consistency with the State's Minority Student Achievement Goals (as outlined in COMAR 13B.02.03.05).

1. Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

As Maryland's first Historically Black Institution, Bowie State University is committed to providing access to high quality higher education to African-Americans and other under-represented minorities. The goals established in the University's Racing to Excellence FY 2019 – FY 2024 Strategic Plan support student achievement and long-term viability of the institution and align with the goals in the *2017-2021 State Plan for Postsecondary Education: Student Success with Less Debt*. Specifically, Bowie continues to support educational opportunity for Marylanders (Success, Strategy 4), engage in a continuous improvement process to ensure that institutional policies and practices support student success (Success, Strategy 5), provide alternative modalities, new programs and pedagogies and streamlined student and academic support services to facilitate timely degree completion (Success, Strategy 6) (Innovation, Strategy 9), integrate high impact practices into the student experience, including career advising and planning into internship experiences (Success, Strategy 7), partner with business, government and other institutions to support workforce development and graduate readiness (Innovation, Strategy 8), and expand support for grant participation and research (Innovation, Strategy 10). Bowie State faculty, staff, students and administrators are engaging in change management strategies and embracing experimentation so that the university can better meet the holistic needs of our students (Innovation, Strategy 11).

Bowie State University has a long-standing commitment to diversity as the institution values and celebrates diversity in all of its forms. The University community believes that its educational environment is enriched by the diversity of individuals, groups and cultures that come together in a spirit of learning. The university fully embraces the global definition of diversity that acknowledges and recognizes differences and advances knowledge about race, gender, ethnicity, national origin, political persuasion, culture, sexual orientation, religion, age, and disability. The University creates positive interactions and cultural awareness among students, faculty and staff through infusing global diversity awareness in the curriculum, expanding co-curricular programming that promotes diversity awareness and maintaining a campus climate that respects and values diversity.

O. Relationship to Low Productivity Programs Identified by the Commission:

This program is in the College of Professional Studies and will be in the new Department of Health

Sciences. It has no relationship with a low productivity program identified by the Commission.

P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)
At this time, the program will be offered in a traditional, face-to-face format.

Appendix A

Program of Study – Bachelor of Science in Public Health Informatics and Technology

(120 Credits)

FRESHMAN YEAR			
FALL	**CREDITS**	**SPRING**	**CREDITS**
FRSE 101 - Freshman Seminar	3	**PSYC 101 - General Psychology**	3
ENG 101 – Expository Writing	3	**COSC 110 – Computer Literacy & Applications**	3
BIOL 102 – Introduction to Biology	4	**ENG 102 – Argument and Research**	3
MATH 125 – College Algebra or MATH 141	3	**Arts & Humanities Elective**	3
SOCI 101 – Introduction to Sociology	3	**HEED 102**	3
	16		15
SOPHOMORE YEAR			
FALL	**CREDITS**	**SPRING**	**CREDITS**
COMM 101 - Oral Communication	3	**PHIT 285 – Introduction to Public Health Informatics and Technology:** ***Prerequisites COSC 110 and PHSC 200***	3
BIOL 311 – Anatomy & Physiology	4	**MATH 155 or PSYC 204 – Statistics**	3
PHSC 200 - Introduction to Human Diseases	3	**Gen Ed Elective III (MGMT 256)**	3
DANL 280 – Fundamentals of Data Science and Analytics: ***Prerequisite COSC 110 or equivalent*** *(Gen Ed Elective I)*	3	**Natural** Science II	3
Gen Ed Elective II (MGMT 101 – Introduction to Business)	3	**IDIS 240 – Medical Terminology**	3
	16		15

JUNIOR YEAR			
FALL	**CREDITS**	**SPRING**	**CREDITS**
Arts & Humanities Elective	3	**PHSC 300 - Health Equity and Social Justice**	3
PHIT 320 - Public Health Predictive Analytics - *Prerequisite PHIT 285*	3	**PHIS 305 – Programming for Healthcare** – ***Prerequisite COSC 110***	3
PHSC 304 - Fundamentals of Epidemiology	3	**PHIS 361 – Public Health Information Systems Analysis and Design - *Prerequisites PHIT 285***	3
PHSC 310 - Organization of Healthcare Facilities	3	**PHSC 350 - Public Health Perspectives**	3
PHIS 362 - Public Health Data Management – *Prerequisite PHIS 361*	3	**NURS 320** Cultural Diversity and Special Populations in Health Care	3
	15		15
SENIOR YEAR			
FALL	**CREDITS**	**SPRING**	**CREDITS**
PHSC 420 - Public Health Strategic Planning	**3**	**PHSC 406 - Public Health Research**	3
PHIS 410 – Public Health and Clinical Classifications & Information Systems - *Prerequisite PHIS 361*	3	**PHIT 480–Big Data and Analytics for Public Health – *Prerequisite PHIS 362***	3
PHIT/PHSC Elective Course	3	**PHIT 485 – Special Topics in PHIT *Prerequisite PHIT 320***	3
PHIS 367 – Fundamentals of Public and Population Data Privacy and Security - *Prerequisite COSC 110*	3	**PHSC 490 - Internship**	4
PHIS 475 – Public Health Informatics Project Management - *Prerequisite PHIT 285*	3		
	15		13

References

1. Baker, Edward L. MD, MPH; Fond, Marissa PhD; Hale, Piper BA; Cook, Jessica BA, BS What Is "Informatics"?, Journal of Public Health Management and Practice: July/August 2016 - Volume 22 -Issue 4 - p 420-423doi: 10.1097/PHH.0000000000000415 @ https://journals.lww.com/jphmp/Fulltext/2016/07000/What_Is__Informatics.15.aspx
2. Gamache, R., Kharrazi, H., & Weiner, J. P. (2018). Public and Population Health Informatics: TheBridging of Big Data to Benefit Communities. Yearbook of medical informatics, 27(1), 199–206. https://doi.org/10.1055/s-0038-1667081
3. Joshi, A., Bruce, I., Amadi, C., & Amatya, J. (2021). Developing Evidence-based Population Health Informatics curriculum: Integrating competency based model and job analysis. Online journal of public health informatics, 13(1), e10. https://doi.org/10.5210/ojphi.v13i1.11517 Accessed on Feb 5th,2022 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8238051/)
4. Meyer M. A. (2019). Healthcare data scientist qualifications, skills, and job focus: a content analysis of job postings. *Journal of the American Medical Informatics Association : JAMIA*, *26*(5), 383–391. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7787353/pdf/ocy181.pdf
5. **Public Health Informatics Institute. Competency for Applied PHI, accessed on 2/2/2022 from :https://phii.org/wp-content/uploads/2021/06/Applied-Public-Health-Informatics-Competency- Model.pdf**
6. Weiner, J. P. (2018). Public and Population Health Informatics: The Bridging of Big Data to BenefitCommunities. Yearbook of medical informatics, 27(1), 199–206. https://doi.org/10.1055/s-0038- 1667081