



Cover Sheet for In-State Institutions

New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	Morgan State University
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Each action below requires a separate proposal and cover sheet.

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

Payment ☒ Yes	Payment ☒ R*STARS #	Payment	Date
Submitted: ☐ No	Type: ☐ Check #	Amount: \$850	Submitted: 5/18/2021

Department Proposing Program	Academic Affairs
Degree Level and Degree Type	Graduate - Doctor of Philosophy
Title of Proposed Program	Interdisciplinary Engineering, Information, and Computational Sciences
Total Number of Credits	36
Suggested Codes	HEGIS: 490400.00 CIP: 30.7099
Program Modality	☒ On-campus (Both) ☐ Distance Education (fully online)
Program Resources	☐ Using Existing Resources ☒ Requiring New Resources
Projected Implementation Date	☐ Fall ☒ Spring ☐ Summer Year: 2022
Provide Link to Most Recent Academic Catalog	URL: https://catalog.morgan.edu

Preferred Contact for this Proposal	Name: Dr. Farzad Moazzami
	Title: Assistant Vice President for Academic Affairs
	Phone: (443) 885-3350
	Email: farzad.moazzami@morgan.edu

President/Chief Executive	Type Name: Dr. Lesia Crumpton-Young, Provost and SVP for Academic Affairs
	Signature:  Date: 05/18/2021
	Date of Approval/Endorsement by Governing Board: 05/04/2021

Revised 1/2021

A. Centrality to Institutional Mission and Planning Priorities:

Morgan State University proposes a new Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences to provide a graduate education for students, who are interested in creating an individualized academic program with a strong business, mathematics, engineering foundation, and with applied, experiential training that integrates valued workplace standards, experience and past academic work. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is designed for students whose academic interests are broad and interdisciplinary and whose career interests require diverse and transdisciplinary exposure. This program is being proposed as part of Morgan State's *Morgan Completes You (MCY)* initiative which targets primarily non-traditional and professional citizens with some graduate education but no degree. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences appeals to potential students who are working in Information Technology (IT), construction, or field technician jobs, or students who have degrees in business, mathematics, engineering. The potential graduates of this program will have advanced growth opportunities in education, business, aeronautics, computational engineering, government, big data, software development, finance, pharmaceuticals, and a variety of technical specializations.

A large segment of the population with some graduate education but no degree in the State will qualify to enroll in this program and will benefit from earning a Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences. Students will have the opportunity to select courses from various academic units to tailor their curriculum for preparation and advancement in a chosen career or profession. This program targets students who seek to explore a number of areas that interest them, rather than a singular discipline; and who want to develop practical, functional skills and knowledge base for advancement in the job market. The current professional job market has expressed a need for college graduates who are well grounded in these areas with focus on soft skills and critical thinking, and can apply their knowledge to addressing the issues and problems of contemporary society and of an emerging global community. Employers want graduates who are knowledgeable of theory, action-oriented and equipped to develop and implement solutions to complex problems. This program is designed to produce potential graduates who can bring theory to practice and who are committed to service and leadership.

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences program is being proposed as part of MSU's *Morgan Completes You (MCY)* initiative. MCY comprises 18 interdisciplinary academic degree programs; 8 baccalaureate, 5 master's, and 5 doctoral degree programs.

The *Morgan Completes You* is strategically aligned with the University's mission statement. Morgan's current mission is to offer a comprehensive array of undergraduate programs and graduate programs to a broad cross section of students in a supportive environment that encourages research and service towards the needs of underserved communities. The vision embedded in the current plan is for Morgan to be recognized statewide and nationally for demonstrating both student access and success in higher education.

As the state of Maryland's premiere public urban research University and largest HBCU, Morgan endeavors to meet and serve the needs of a significant segment of the state's population with its mission and vision. Traditional academic degree program delivery systemically limits college access to a significant portion of the state's population. This demographic possesses the academic ability and desire to pursue and complete a degree but is challenged by the restraints and

requirements of adult life. The evidence of the academic ability has been demonstrated by the successful completion of some coursework. The MCY initiative directly addresses the multi-faceted barriers, which stand in opposition to degree completion for adult and other non-traditional collegiates and provides a navigable path to degree completion.

The MCY initiative specifically addresses the University's mission in offering: "a comprehensive range of undergraduate programs and graduate programs." The MCY initiative provides a myriad of programs on the bachelors, masters and doctoral level. The University's mission statement affirms that the MCY initiative is an institutional priority.

Morgan	State	University	Mission	Statement
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Morgan State University serves the community, region, state, nation, and world as an intellectual and creative resource by supporting, empowering and preparing high-quality, diverse graduates to lead the world. The University offers innovative, inclusive, and distinctive educational experiences to a broad cross section of the population in a comprehensive range of disciplines at the baccalaureate, master's, doctoral, and professional degree levels. Through collaborative pursuits, scholarly research, creative endeavors, and dedicated public service, the University gives significant priority to addressing societal problems, particularly those prevalent in urban communities.

Specifically, the mission statement addresses: inclusivity, and a comprehensive range of academic disciplines at every degree level. The MCY initiative is strategically aligned with these aspects of the Mission Statement.

Although the MCY initiative addresses the statistically documented needs of both the nation and the state of Maryland, the financial support required to establish the MCY initiative is minimal. Although administrative leadership and other professional staff will be secured to staff and operate the MCY initiative, the overall academic program delivery rests upon capitalizing on existing academic programs and will utilize available seats in our courses. In a corporate sense, the MCY initiative can be viewed as intersecting subsidiaries of larger corporations. Rather than the more costly process of conceiving a completely new academic program, the MCY initiative is primarily undergirded by existing University academic programs that have been reimaged.

This "reimagination" that will occur as the MCY initiative is delivered may require the hiring of some additional faculty in the existing academic programs. However, a cursory look at the potential tuition income generated in comparison to the possible cost of additional faculty and aforementioned administrative staff quickly reveals that in a short time horizon the MCY will pay for itself.

In very recent years the University has made herculean efforts to improve both retention and graduation rates. The commitment to this endeavor is evidenced in the establishment of a centralized Office of Student Success and Retention, which provides dedicated staff members for each academic school and the college of liberal arts. These staff members are responsible for maintaining positive retention and graduation rates through a number of strategic initiatives and activities. Students are monitored, advised, mentored, engaged and encouraged in an effort to support and ensure their success and retention through graduation. The University continues to invest in software application platforms that allow the office to assess student academic statuses in real time.

The University's partnership with the ReUp organization ensures that even after the University's direct efforts have been exhausted, a third-party vendor is then involved in the process of reclaiming students who have separated from the University. In addition to the efforts of ReUp,

the statistical data provided by their engagement activities have become an invaluable resource to informing our efforts at retention, graduation and reclamation. Without question, the University has clearly demonstrated its commitment to student success. The MCY initiative is the University's direct response to the analysis of data from countless sources regarding challenges to degree completion. The University's commitment to the MCY initiative is the next logical step in the progression towards maintaining its relevance and achieving its mission statement. The establishment, support and expansion of the MCY initiative is key to not only Morgan's relevance but also in successfully completing its mission.

The proposed Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences moves the university forward in achieving two initiatives of the goal to enhance student success in its strategic plan: (a) increasing student enrollment by developing unique high demand online degree programs and (b) enhancing students' educational experiences by expanding the curriculum to include more credit for prior learning and work experiences as well as an interdisciplinary courses and degree programs. This proposed interdisciplinary program is a hybrid degree program that will enable students to combine on-site classes with on-line courses. This combination will afford them greater time management, if they have full-time employment commitments.

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences also advances the statewide goal that 55% of adult Marylanders will hold a degree by 2025. Likewise, the State Plan for Postsecondary Education, *Maryland Ready*, established deliverables that include increasing college enrollments and completion. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is consistent with the Maryland Higher Education Commission's (MHEC) One Step Away State Grant Program (OSA) which provides funds to support public and independent nonprofit two- and four-year institutions' efforts to identify, re-engage, re-enroll, and graduate near-completer students. As noted in MHEC's OSA Grant Program guide:

“The successful graduation of near-completers benefits students, institutions, and the State. Students gain a recognized employment credential that may lead to promotion in an existing career, new career opportunities, and the personal intrinsic value of obtaining a college degree. Institutions can increase graduation rates, expand their engaged graduate alumni base, collect additional tuition revenues, and better recognize return on institutional investments in these students. The State benefits from an increased pool of college educated, credential bearing workers with the skills needed to support its growing knowledge-based economy. State investment in higher education is more fully realized when students complete a degree. “

In sum, the proposed Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is central to Morgan's mission and its strategic plan priorities. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences supports the goals to increase career readiness and degree completion among residents of the State of Maryland.

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

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is being proposed as part of Morgan's *Morgan Completes You* initiative. This interdisciplinary program is an integral part of Morgan's plan to assist the state and nation's some graduate education but no degree population to re-enroll and earn valuable academic degrees. In this section, National and Statewide need is presented in the larger context of the *Morgan Completes You* initiative.

According to the National Student Clearinghouse (NSC) database, 36 million Americans have acquired some postsecondary education and training but did not matriculate to completion and are not enrolled¹ resulting in almost one in five college students falling short of earning a degree or credential. This population of students, defined as Some College, No Degree ("SCND"), represents a group that attended college since 1993 but failed to earn a credential at any U.S. institution and were no longer enrolled in college². Of the SCND population, approximately 3.5 million or ten percent deemed as "Potential Completers" carry the equivalent of at least two years' worth of full-time college enrollment during the past decade and have a high potential to earn a credential if they re-enroll. And of the 3.5 million Potential Completers, 1.1 million students have completed college, or are on track to do so, without much concerted effort to help them on the part of educational leaders and policymakers.

Morgan envisions the advancement and attainment of goals for this sector of students by responding to the national and statewide data to re-enroll students from the some graduate education but no degree population, reaching out with tailored programs such as the proposed Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences to meet their needs. Thus, Morgan proposes this new degree program as part of the *Morgan Completes You* initiative in direct response to the national call to action and the institutional and academic needs of these students. At its core, the *Morgan Completes You* initiative addresses the state of Maryland's lack of navigable paths to degree completion for a broad segment of the adult learner population. This initiative caters to traditional and non-traditional undergraduate and graduate students who have excellent potential to complete a degree but need flexibility, opportunity, and accessibility to various completion options. The *Morgan Completes You* program will afford students the opportunity to pursue interdisciplinary studies by selecting from a variety of degree programs that target vital local, national and global workforce opportunities.

National Landscape

¹Students who had at least one enrollment record at U.S. colleges and universities after January 1, 1993 (the beginning of the NSC database), with no enrollment records between August 14, 2017, and December 31, 2018, and no degree or certificate awarded anywhere as of December 31, 2018. The resulting number of students in this 25-year cohort was 35.9 million.

² NSC Maryland State Profile offers 570,129 SCND students (1.7 times the current Maryland postsecondary enrollment from Spring 2019) last enrolled in December 2018.

Adult students can return at any point to finish college. The some graduate education but no degree population of adults identified as potential completers have the highest potential to return and finish their graduate education. As with undergraduate degree completion, implications can be drawn from a follow-up analysis of the data. States have a disproportionately large number of potential completers relative to the overall some graduate education but no degree population. An increase in total graduate enrollment over the last two decades has resulted in a growing number of potential completers that have some graduate education but no degree. The below data on potential undergraduate degree completers may inform policy makers and secondary institutions as they create programs for students who are in a similar situation with some graduate education but no degree.

- 58 percent are below age 30, compared to 23 percent of total SCND.
- 75 percent were more likely to have been in their 20s when they last attended college and were enrolled more recently, compared to 56 percent.
- 53 percent are White; 22 percent are African American; 16 percent are Hispanic; and 3 percent are Asian American students.
- 64 percent of potential completers “stopped out”³ of college more than once, compared to 40 percent of the broader population.
- 24 percent were far more likely to have returned to postsecondary education compared to 9 percent of the overall SCND population.
- 33 percent of re-enrolled potential completers earned a credential compared to 23 percent of those with only a single term of prior enrollment and 22 percent of those with multiterm enrollments of less than the equivalent of two years.

State Landscape

In 2018, The Institute for Higher Education Policy (IHEP) launched a three-year initiative to help states and colleges increase the number of adults with degrees by targeting those who earned course credits but did not complete college. Although the majority are community colleges, some are four-year institutions. Forty-one states have developed ambitious strategic plans focused on the re-enrollment and reengagement of students with some college but no degree, potential completers and some graduate education but no degree. Many of these states’ policymakers, including the Maryland Higher Education Commission’s (MHEC), proposed established innovative initiatives to target this population. MHEC’s “Targeting Near-Completers” strategy in the Maryland State Plan for Postsecondary Education (2017-2021). At the state level since December 2018, higher education in Maryland has experienced:

- 570,129 SCND students last enrolled.
- 330,929 postsecondary enrollment (Spring 2019).
- postsecondary attainment rate for adults age 25 and over in Maryland⁴ is 46 percent (N=1.86M) compared to the national rate at 40 percent.

³ Stopped out is defined as a period longer than 123 days between the end-date of an enrollment record and the begin-date of the next enrollment record

⁴ Adults age 25 and over with an associate degree or higher, based on the 2013-2017 American Community Survey 5-Year Estimates, U.S. Census Bureau.

Consequently, the most salient and compelling implication suggested by the data is that, “[p]otential completers are the most relevant sub-group for institutions looking to increase enrollments today, as well as for policymakers looking to reach state and national postsecondary attainment goals tomorrow,” (Shapiro et al., 2019).

Morgan State University’s Role

Designated as Maryland's preeminent public urban research university and consistent with its vision for strengthening its "historic mission of providing an excellent undergraduate education to a broad segment of the population, including many of the best prepared as well as some who might not otherwise have the opportunity to enroll in college but who have the potential to complete a degree" (Growing the Future, Leading the World: Strategic Plan for Morgan State University, 2011) (“Strategic Plan”), it is incumbent upon Morgan to provide an educational environment for this population of students, both some graduate education but no degree and potential completers, that supports their efforts of degree completion.

Aligned with the first Strategic Plan goal to enhance student success (4-5) and the first associated strategic initiative of "improving retention and degree completion among students with particular emphasis on undergraduate retention and graduation rates by enhancing programs and practices at Morgan that are successful retention strategies", Morgan is positioned to join forces with the efforts of such organizations as The Lumina Foundation, Kresge Foundation, Great Lakes Higher Education Corporation and ECMC Foundation that have funded paralleled initiatives with over \$5.7M to date.

Economic Impact

As Maryland’s largest HBCU and contributor to over \$1.1B of the state’s economic impact, it is paramount that Morgan act as an assiduous leader of four-year, public institutions to prepare the state workforce for the new post-pandemic economy. In today’s market, employers want graduates grounded in theory, experienced, and equipped with problem-solving skills. The proposed academic degree programs are designed to produce graduates who are knowledgeable and committed to service and leadership. The program curriculum is also designed to link students’ employment experiences with past academic preparation and create a customized study plan that bridges the gap between their incomplete academic preparation and career aspirations. This program, through the *Morgan Completes You* initiative, is designed to enhance the marketability and career vitality of its graduates.

Students in the program will gain a recognized employment credential that may lead to promotion in an existing career, new career opportunities, and the personal intrinsic value of obtaining a graduate degree. As a result of implementing this proposed program, Morgan will realize an increase in graduation rates, expand its alumni base, increase tuition revenues, and realize a higher return on institutional investments in these students. Also, the state and nation will benefit from an increased pool of college-educated, credential-bearing workers with the skills needed to support its growing economy. Additionally, the State’s investment in higher education is fully realized when students complete a degree. In summary, this completion initiative is central to Morgan's mission and strategic priorities. It creates innovative academic degree pathways to increase career readiness and degree completion among residents of the State of Maryland and beyond.

Student Impact

Since its inception, American higher education at its core has been exclusionary. The opportunity to pursue and earn collegiate credentials was a privilege that primarily belonged to wealthy elites. Over time, American higher education gradually became accessible to non-traditional populations. In order to remain relevant, the American academy had to adapt and become more accommodating to the actual needs of the larger population. These needs present a constantly moving target, which American Colleges and Universities must continue to address by strategically and effectively evolving.

Morgan State University's efforts to effectively serve its students is additionally hindered and compounded by challenges specifically faced by students of color. Accordingly, the *Morgan Completes You* initiative specifically and strategically addresses "real life" scenarios that impede retention and graduation rates. At its core, the *Morgan Completes You* initiative addresses the state of Maryland's lack of navigable paths to degree completion for adult learners negotiating "real life" in the "real world." This cohort includes scholars with more than adequate potential to complete their graduate education but lacking an effective path to achieve their degree. "Real life" demands fluid accessibility to educational opportunities. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences effectively and strategically provides potential students with a path to degree completion while simultaneously navigating "real life." If successfully implemented, this program will assist in removing "real life" barriers to degree completion.

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

Morgan State University is in a prime position to address the growing need for equipping students with advanced degrees to meet the projected demands within the global workforce. The Morgan Academic Affairs office has therefore produced a Market Analysis and Demand report to guide the decision making of potential program development. Morgan has a long history of designing program options that cater to a variety of learning options for full and part time students and that utilize a rich faculty pool with blended expertise in teaching and scholarship to create innovative interdisciplinary learning options that meet the changing demands of the workforce. The Maryland Chamber of Commerce, Bureau of Labor Statistics (BLS) and the US Department of Education provide datasets at the national and state levels that are invaluable for guiding the direction of Graduate School program development. Concurrently, trusted job market analyses are available to provide workforce data and trends that provide dashboard analytics as to programs that are of interest to prospective students, based on market demands.

According to the US Department of Education, the percentage rates among 25 to 29-year-olds with a master's or higher degree increased from 5 to 9 percent between 2000 and 2019.

According to the Maryland Chamber of Commerce, the top five industries with the highest predicted growth in Maryland are Biopharma and Life Sciences, Construction, Cybersecurity and IT, Energy and Utilities, and Manufacturing. The state reports over 3,000 biopharma companies in Maryland that combine for an annual economic activity of \$17B. The Chamber predicts a 12.6% increase in the construction workforce into 2026. The State of Maryland has the largest cybersecurity employee population in the country. With top cybersecurity agencies including: U.S. Cyber Command, National Security Agency, Defense Information Systems Agency, and

National Institute of Standards and Technology. Additionally, the state is home to several leading energy companies and manufacturing companies, encompassing sectors such as aerospace and defense, food and agribusiness, biopharma, medical devices, fabricated metal, computers, electronics.

The overwhelming amount of data available to businesses via the internet and various tracking devices has led to a significant amount of private sector demand for advanced degrees in data analytics, a field that has seen a 37% annual growth in the past three years, according to emerging job reports. Per the BLS, who categorizes data analysts within Computer and Information Research Scientists, the job outlook in this area through the year 2028 is expected to grow by 16%. Unsurprisingly, data science is a field seeing continued annual growth on a perpetual and lucrative scale across all industries for several years in a row.

According to MHEC, in 2019, in the State of Maryland the top master's degrees included Health, Biological Science, Engineering, and Physical Science. And the top doctorate degrees were in Business, Computer Science, Social Science, Health, Education, and Engineering. This degree program, as part of the *Morgan Completes You* initiative, is a prime opportunity to create non-traditional undergraduate and graduate programs to meet the changing needs of the workforce.

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences appeals to potential students who are working in Information Technology (IT), construction, or field technician jobs, or students who have degrees in business, mathematics, engineering. The potential graduates of this program will have advanced growth opportunities in education, business, aeronautics, computational engineering, government, big data, software development, finance, pharmaceuticals, and a variety of technical specializations.

The proposed program is central to Morgan's mission and it's strategic plan priorities. The degree supports the goals to increase career readiness and degree completion among residents of the State of Maryland.

D. Reasonableness of Program Duplication:

The proposed Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences and all degree programs in the *Morgan Completes You* initiative, are unique by design as the curriculum for each student is uniquely designed to address the personal, career, and professional goals of the individual student. Trained and professional advisors and staff will work with individual students to create the appropriate academic curriculum that is tailored to the students incoming competencies and expectation from this completer's program.

A number of public universities in Maryland offer graduate programs in interdisciplinary or liberal studies. All of these programs, with many features in common, enable students to self direct their studies and, to some extent, design their own curriculum for the Ph.D. degree. Offering such a flexible program has become a standard feature at many of Maryland's public institutions of higher education, and the existence of these programs on a number of campuses has not been adjudged as duplicative. The addition of the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences at Morgan would not, it logically follows, be duplicative either.

The market analysis and the national and statewide overview of the some graduate education but no degree population, cited earlier, illustrates a lack of sufficient capacity in and access to affordable similar completers programs. Data clearly shows that there is neither enough capacity in the institutions across the state nor a clear path to transfer the academic credits and earn

credits for work experience and other types of non-traditional education and training. Combining these factors with a well-rounded and individualized educational experience, will produce graduates who are ready to move to the next level in their professional life with confidence. The requirements that would qualify a potential student to enroll in the proposed Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences program is set in a way that the program does not compete with any of traditional undergraduate programs at any state institution. This program, as part of MCY initiative, is solely designed to serve the students who are in need of an opportunity to earn their degree after spending time away from their last college or training. This is the right moment for Morgan State University to serve this population. Duplication concerns are not valid while the data shows this huge demand by the some graduate education but no degree population. In the meantime, based on our analysis, there is no program in the Maryland institutions that will be harmed by offering the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences at Morgan State.

This broad interdisciplinary approach to the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences degree will give Morgan (and Maryland) graduates a unique breadth of knowledge and skills and enhanced versatility and marketability in the job market.

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

Morgan State University is one of four HBIs in Maryland. Data does not reveal that there are similar high-demand interdisciplinary programs in the other HBIs that the MSin Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences will negatively impact.

It is likely, instead, that this program will attract mainly students in the some graduate education but no degree population that have been away from formal academic education for a period of time. This program is consistent with Morgan's established mission, identity and uniqueness and does not duplicate that of any other HBI. Furthermore, this program will enhance Morgan's reputation across the country since there is a need nationwide for such a program. Indeed, this program is anticipated to be in high-demand and benefit Morgan State University substantially.

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

Morgan is the largest and most comprehensive of the State's four HBIs. In 2017, Morgan was designated by the General assembly as Maryland's Preeminent Public Urban Research University. Morgan was also elevated from a Carnegie research classification to a high-research classification in 2019. Morgan's undergraduate and graduate student populations are roughly 80% African-American. Morgan is committed to the academic success and achievement of all students. For reasons previously discussed, the proposed Program is essential to supporting Morgan's mission and identity as an HBI.

Moreover, this program will significantly increase the graduation figures for Morgan, an HBI whose graduation rate, like all Maryland HBIs, falls understandably somewhat below the average for state institutions. Some graduate education but no degree students often have accumulated almost enough credits for graduation, these credits are so dispersed that they are

insufficient to meet the requirements of a single program. This program will salvage many of those students and increase proportionately the graduation rate at Morgan.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences provides opportunities for students to pursue a non-traditional course of study that combines a strong academic education foundation with substantial external experiences that focus on service and leadership. It gives them the freedom to choose courses and topics from a broad variety of disciplines, to study an interdisciplinary and integrated body of knowledge, and to shape their graduate education to suit their needs and interests. It also gives them the advantage of combining on-site education with off-site hands-on experience in the urban community and/or with their current place of employment.

This program is especially valuable for students interested in returning to school to finish their degree program to ensure upward mobility in their careers. For those non-traditional students, it offers a number of hybrid, or online courses, thereby enabling those students to complete those courses while fulfilling other commitments. It is advantageous for working students whose time away from the work place is limited and who are undecided about a major and can benefit from completing some of their degree requirements off-site. This interdisciplinary degree program will use existing Morgan State coursework to help students fulfill their degree requirements. Students have the opportunity to create a program plan in conjunction with their advisor to fulfill any remaining degree requirements. Because students will enroll in courses that are currently being offered by the university, faculty assignments to courses will not be affected.

The head administrator of the *Morgan Completes You* initiative will oversee the implementation of the program. Advisors will be charged with individually meeting with all students to develop a program plan that assists the students in reaching both their academic and professional goals. Advisors will have the capacity to approve student program plans. Additionally, advisors will review transfer coursework and assist the student in integrating prior coursework into their academic plan. Faculty and professional academic staff will assist in the instruction and assessment of capstone courses for the program.

Objectives and Goals

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences degree has been constructed for students who already have experience in their field. Because of this expectation, students will be expected to integrate their professional learning to concepts and ideas learned within their interdisciplinary coursework. Additionally, students will be expected to demonstrate how they will apply the integration of the learning to a complex problem/issue within their field.

Program Goals

The goals of the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences are to:

1. enable students to establish a firm foundation in Interdisciplinary Engineering, Information, and Computational Sciences
2. provide students with the opportunity to create an individualized program plan tailored to their academic and professional goals
3. prepare students for 21st century career opportunities and give them versatility in the ever-changing job market through interdisciplinary instruction;
4. provide students with opportunities to apply learning from coursework to their professional work experience;
5. afford greater access to the Ph.D. degree for nontraditional students with significant professional work experience.

The interdisciplinary nature of the program allows for students to fulfill learning objectives in a variety of disciplines and fields. Faculty within existing departments and programs will assess the learning outcomes for individual courses.

Learning Outcomes

Upon completion of the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences students will be able to:

1. gather information independently through extensive reading, viewing, listening and researching in both online and print from a variety of mediums and databases.
2. evaluate sources for credibility and appropriateness and demonstrate a high-level of understanding of the history, theories, principles, contributors, developments and contemporary applications based on their general education and interdisciplinary program plan;
3. synthesize, analyze and apply learning from academic sources.
4. communicate learning through both traditional and non-traditional mediums.
5. articulate significant insights and their importance, gained during professional work experiences.
6. explain connections between insights identified and theoretical frameworks from their coursework.
7. demonstrate how the integration of learning from professional work experiences and academic frameworks and theories has prepared them to solve complex problems in their field.
- 8.

Assessment of Outcomes

The vast majority of student course work will be completed in an interdisciplinary method. Faculty in individual departments and schools will be responsible for the assessment of student learning outcomes within their courses. Program specific learning outcomes will be assessed through the completion of the capstone course and resulting project.

Learning outcomes for the capstone course are tied to learning outcomes 5, 6, and 7 above. The completion of the capstone project will provide an artifact that can be assessed by the instructor. The course learning outcomes will be assessed using modified versions of the VALUE rubrics created by the Association of American Colleges and Universities. Instructors for the capstone course will be normed on the use of the shared rubric which will result in consistent and valid assessment of learning outcomes. Student learning outcomes will be documented and tracked through the CANVAS Learning Management platform.

Advisement and Student Support

All students will be assigned an academic advisor. Through the use of a proactive and appreciative advising model, advisors will form intentional relationships with each student. Advisors will continually check-in with students throughout the semester through email, phone, video conferencing, and if applicable in-person meetings. Advisors will meet with students individually at least once a semester to review the student's academic progress and plan for the completion of degree requirements. Advisors will utilize Starfish as both an early warning tracking system and an advising tool to create and share notes documenting academic progress. Students will have access to DegreeWorks through EAB which will allow them to monitor their own degree progress.

Non-traditional students can be competent in the use of a variety of technologies. However, university systems and processes will require orientation. Advisors will work individually with students to acclimate them to both technological and structural systems at the university. Advisors will connect students with a variety of university services, including but not limited to: academic support services, mental health and well-being support, student disability support services, financial aid, funding and payment resources.

Accurate Representation of the Program

All advertising, recruitment, and promotional materials will be carefully reviewed by multiple staff members within the *Morgan Completes You* initiative. The review of materials will examine the clarity, accuracy, and appropriateness for the target audience. The Public Relations team of the University will consult on marketing materials to ensure that all advertising conforms to the branding and messaging of the university.

Admission to the Program

Students must hold a Masters degree in a relevant field. In addition all students must be able to transfer a minimum of 18 credits from a combination of completed graduate coursework and Internship/externship/project/work experience to be accepted to the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences program. Applicants must have a

minimum combined GPA of 3.0 for courses transferred. Returning students to the university may be admitted to the program if they have been stopped out for at least one academic year.

Curriculum

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences requires successful completion of 36 credit hours of academic preparation in the following categories:

I.	Approved Graduate elective courses in select areas	12 credit hours
II.	Internship/externship/project/work experience	12 credit hours
III.	Graduate Research Seminars	9 credit hours
IV.	Dissertation Defense	3 credit hours
	Total	36 credit hours

The expectations and requirements in each of the categories are explained in the following section:

I. Approved Elective courses in select areas (12 credit hours)

All students that have successfully applied and been admitted to the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences program will work with their major advisor to create a 12 credit hours curriculum from the relevant areas and graduate programs on campus. Due to the minimum of 18 credit hours transfer requirement to enroll in this program, a sizable percentage of the approved elective 12 credits will be transferred in, leaving room for targeted 600 and 700 level courses to match the needs of the students.

All courses in this category must be completed by the student with a grade of “C” or higher. Elective courses for the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences must be approved by the major advisor. Elective courses completed must be relevant to the student’s academic program. In consultation with the advisor, the student has the opportunity to complete elective courses from across all graduate courses offered at the university, regardless of the academic unit.

Internship/externship/project/professional work experience (12 credit hours)

The Internship/externship/project/professional work experience component allows students to gain hands-on experience in the application of the knowledge and skills and knowledge in their area(s) of specialization. It allows students to hone their skills by functioning as apprentices, practitioners, externs and interns, especially in urban and suburban settings, both on-campus and off campus. It also enables students to earn credit for approved work-force experience at their current place of employment in support of the University's commitment to service, students may be assigned to a variety of Morgan community service projects (that link them to communities and community organizations), such as the Morgan Community Mile, and to community

organizations and projects in the Baltimore metropolitan area or other urban or suburban projects and organizations in areas where students are located; or they may be assigned projects and programs at their current place of employment, under the joint cooperation between their work-site supervisor and Morgan faculty.

The managing office may assign students to the same agency or project for both semesters, or they may assign students to different agencies each semester. Students may also utilize externships and internships related specifically to an area of interest with the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences or disciplinary focus. These externship / internship assignments must be university-approved. Students must receive prior approval to utilize their current employment sites.

In all cases, students are monitored and counseled by the on-site and Morgan supervisors and must submit regular written reports of their progress.

Externship/internships will be coordinated with the student, the designated representative at the institution/agency/organization where the apprenticeships, internships and work-force learning will occur. The externships/ internships and work-force learning should be agreed upon by the student and the academic advisor in the semester immediately preceding the activity.

In order to earn the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences, students must maintain a cumulative average of 3.0 or higher and earn no grades below "C" in the twelve (12) credits comprising this category.

Students will be allowed to transfer/earn up to 12 credits (adjustable 1 to 12) for applicable professional work experience to their relevant degree plan of study after proper verification by the program office and the advisor.

Since only 12 credit hours of graduate level course work is transferable and the minimum requirement to qualify to start this program is 15 credits, all students must transfer/earn at least 3 credit hours toward this category from their past internship/externship experiences or from their qualified work experience.

Graduate Research Seminars and Dissertation Defense courses are part of Morgan's well established doctoral level programs. The Research Seminar courses will prepare the student for PhD candidacy and the Dissertation Defense course.

Course Transfer Considerations

Students must transfer a minimum of 15 credits of completed coursework and/or Internship/externship/project/work experience to be accepted to the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences program. Additionally, applicants must have a minimum combined GPA of 3.0 for courses transferred. Transfer credits may come from accredited secondary institutions or previously completed coursework from Morgan State.

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is designed to allow for maximum flexibility in meeting Morgan's academic degree requirements. Students may utilize numerous venues and times to complete the degree requirements. For example, degree requirements may be completed through courses offered in daytime, weekday classroom settings and/ or online, as well as through weekend and evening classes or combining them with day classes whenever a student's schedule permits.;

Due to the highly individualized nature of the curriculum design in this program, the academic advisor and the transfer evaluation team play a vital role in evaluating and accepting the

incoming course work and work experience. Those support units will establish and create the study plan for each student based on incoming competencies and prior academic preparation.

The following outline shows a scenario that a potential SCND student is transferring 12 credit hours of acceptable coursework and 9 credit hours of acceptable research or qualified work experience toward completion of the program:

12 credit hours Graduate-level courses transferred
 9 credit hours Internship/externship/project/work experience earned/transferred
 3 credit hours Internship/externship/project/work experience taken at Morgan
 9 credit hours of Graduate Research Seminars taken at Morgan
 3 credit hours of Dissertation Defense taken at Morgan
 36 total credit hours

H. Adequacy of Articulation

N/A

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

Proposed Graduate Programs	Suggested Colleges/Schools Coursework	Existing Faculty Resources (FTE)
Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences	CLA, GSBM, SCMNS, SOE	308.75

Pursuant to COMAR 13B.02.02.11, Morgan State University will ensure sufficient and appropriately trained faculty for the proposed academic degree program. Thus, all upper level graduate coursework needed to satisfy the degree completion requirements of this proposed new academic degree program will be taken from the existing catalog of upper-level graduate courses offered by the suggested schools and college as indicated in the above table. The proposed *Graduate Research Seminars* course is the only new course to be offered for each program. Additionally, the *Dissertation Defense* course will be taken by each *Ph.D. student*. For most of the courses in the academic program, the faculty will be drawn from current graduate faculty in existing programs. Primarily, students will be enrolled in upper-level graduate courses that are currently being offered at the University in various schools. Thus, this proposed new degree program is designed to optimize faculty resources through the utilization of courses with the capacity to absorb enrollment from this program. Morgan's current Applied Liberal Studies Program (APLS) has a similar structure. Academic Affairs will monitor the utilization of our existing upper-level graduate courses to serve these new programs and we will make data driven decisions to direct faculty resources to units that will need them. Seat utilization percentage is amongst the most important metrics that we will monitor for this purpose. If the new enrollment exceeds the unused existing capacity, additional faculty, adjuncts, and lectures will be acquired to offer additional upper-level graduate course sections as needed. Current graduate faculty members will be utilized and compensated to serve as supervisors and instructors-of-record for the

internship/externship/project/work experience component of the curriculum in the program. Additionally, current graduate faculty will be incentivized and compensated to serve as instructors of the Research Seminar Course sections as well as Dissertation committee members as needed based on enrollment. Morgan has designed this program to ensure that the majority of students enrolling in the program will be adult, transfer, veterans, and other non-traditional students who are near completers.

Here is the information on the faculty Chairs for all the departments within the College/Schools that students in this program can take courses from:

Name	Department	Role	Appointment Type	Rank	Status	Degree
Angela Howell	Sociology	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Anthropology
Jocelyn Turner-Musa	Psychology	Department Chair	Tenured	Professor	Full Time	Ph.D., Social Psychology
Jeremiah Dibua	History & Geography	Department Chair	Tenured	Professor	Full Time	Ph.D., History
Linda Loubert	Economics	Department Chair	Tenured	Professor	Full Time	PhD, Political Economy
Jules White	English	Department Chair	Tenured	Professor	Full Time	Ph.D., English
Eric Conway	Fine Art	Department Chair	Tenured	Professor	Full Time	DMA, Piano Performance
Malikah Morgan	Military Science	Department Chair	Tenured	Professor	Full Time	Military Science
Helen Harrison	World Languages & International Studies	Department Chair	Tenured	Assistant Professor	Full Time	Ph.D., French and Romance Philology
Max Hilaire	Political Science	Department Chair	Tenured	Professor	Full Time	Ph.D., International Relations
Seth Vannatta	Philosophy & Religious Studies	Department Chair	Tenured	Professor	Full Time	Ph.D., Philosophy
Nicholas Vaught	Applied Liberal Studies	Program Director	Non-Tenured	Coordinator, Applied Liberal Studies	Full Time	M.S., Education
Daniel Campo	City and Regional Planning	Program Director	Tenured	Associate Professor	Full Time	Ph.D., City and Regional Planning
Mohammad Gharipour	GR-Architecture	Program Director	Tenured	Professor	Full Time	Ph.D., Architectural Theory and History

Laurel McSherry	GR - Landscape Architecture	Program Director	Tenured	Associate Professor	Full Time	MLA, Landscape Architecture
Suzanne Frasier	UG - Architecture	Department Chair	Tenured	Associate Professor	Full Time	MUP, Urban Planning & Urban Design
Lewis Waller	UG - Construction Management	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Teaching & Learning
Sharon Finney	Accounting, Finance	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Accounting
Erica Anthony	Business Administration	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Organizational Behavior and Human Resources
Sanjay Bapna	Information Science and Systems,	Department Chair	Tenured	Professor	Full Time	Ph.D., Management Information Systems
Anita Smith-Hawkins	Public Health	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Health Policy and Management/Social and Behavioral Sciences
Randolph Rowel	Health Science	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Community Health Education, Health Communications,
Joycelyn Peterson	Nutritional Science	Department Chair	Tenured	Associate Professor	Full Time	Dr.PH, Preventive Care with an emphasis in Nutrition,
Cleo Hughes-Darden	Biology	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Microbial Physiology and Molecular Biology
Angela Winstead	Chemistry	Department Chair	Tenured	Professor	Full Time	Ph.D., Chemistry
Shuangbao (Paul) Wang	Computer Science	Department Chair	Tenured	Professor	Full Time	Ph.D., Computer Science
Asamoah Nkwanta	Mathematics	Department Chair	Tenured	Professor	Full Time	Ph.D., Mathematics

Willie Rockward	Physics	Department Chair	Tenured	Professor	Full Time	Ph.D., Physics
Diane Wilson	Medical Laboratory Science	Program Director	Tenured	Associate Professor	Full Time	Ph.D., Animal Physiology
Thurman Bridges	Teacher Education and Professional Development	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Curriculum and Instruction
Carolyn Anderson	Advanced Studies, Leadership and Policy	Department Chair	Tenured	Associate Professor	Full Time	Ed.D., Community College Leadership
Jacqueline Holland	Family and Consumer Sciences	Department Chair	Tenured	Associate Professor	Full Time	Ed.D., Educational Leadership
Craig Scott	Electrical Engineering	Department Chair	Tenured	Professor	Full Time	Ph.D., Electrical Engineering
Tridip Bardhan	Industrial Engineering	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Industrial Engineering
Jiang Li	Civil Engineering	Department Chair	Tenured	Professor	Full Time	Ph.D., Hydrology & Hydrogeology
Anthony Saka	Transportation and Urban Infrastructure Studies	Department Chair	Tenured	Professor	Full Time	Ph.D., Civil Engineering (Transportation Systems)
Jacqueline Jones	Multimedia Journalism	Department Chair	Non-Tenured	Assistant Dean and Chair	Full Time	BA, Journalism
Baruti Kopano	Multiplatform Production	Department Chair	Tenured	Professor	Full Time	Ph.D., Rhetoric and Linguistics
David Marshall	Strategic Communication	Department Chair	Tenured	Professor	Full Time	Ph.D., Mass Media and Communication
Yvonne Greene	Bachelors-Social Work	Department Chair	Non-Tenured	Lecturer	Full Time	M.S.W., Social Work
Melissa Littlefield	Masters-Social Work	Department Chair	Tenured	Associate Professor	Full Time	Ph.D., Social Work
Jerome Schiele	Phd- Social Work	Department Chair	Tenured	Professor	Full Time	DSW, Social Work

The administration of this program may be constructed separately from our existing College/Schools, but all these programs will utilize the existing courses that have available capacity across the campus. Advising will be provided through the Morgan Completes You Initiative Graduate Program Staff, not any individual academic programs. The Graduate program

staff at Morgan will have the responsibility to advise students and create study plans based on available upper-level graduate courses at Morgan and the requirements for degree completion.

Faculty Development and Training

Ongoing Faculty Development and Training will be provided to ensure instructional excellence, student engagement, and meaningful learning. Development and Training will be provided through Morgan's existing Center for Excellence in Teaching and Learning (CETL), The Morgan Online Program, and the Division of Academic Technology Services.

a. Pedagogy that meets the needs of the students

The Center for Excellence in Teaching and Learning (CETL) is a unit under the auspices of the Division of Academic Affairs. The overall goal of CETL is to assist faculty, staff, and graduate teaching assistants (TAs) in creating innovative and active learning environments. Its mission is to promote best practices in teaching that celebrate diversity, equity, and inclusiveness and lead to student success. CETL's initiatives are guided by the scholarship on teaching and learning as well as best practices gleaned from scholarly literature and experimental research in the field of educational pedagogy and instructional strategies. Opportunities include orientations and training for new faculty and TAs, mini-workshops, faculty institutes and conferences, online resources, and classroom observations and consultations focused on formative assessment for continuous improvement of teaching and learning. Mini-workshops are offered weekly throughout the semester. A CANVAS learning management system site exists for the CETL and offers faculty, staff, and TAs many resources to help improve pedagogical skills and general knowledge of teaching and higher education issues. Several informative YouTube videos are included on the site and illustrate key concepts related to the improvement of teaching and learning such as how to help your students learn more effectively (i.e., how to develop their metacognitive skills), and others showing examples of active learning occurring in actual classrooms.

At the beginning of each semester, Morgan has a 3-day Faculty Institute, School/College Meeting, and Department Meeting. The keynote presentation, guest presentations, and discussions focus on pedagogy, instructional strategies, student engagement, meaningful learning, and learning management system operational effectiveness. During the academic year, the various Schools and Colleges offer faculty development workshops, seminars, and lectures on all kinds of pedagogical topics and issues. The Morgan Foundation financially supports faculty members' attendance with presentations at local and/or national "professional/technical" conferences.

b. The Learning Management System

Academic Technology Services (ATS) at Morgan provide training and development courses for the effective use of the Canvas Learning Management system for both on-site and online classes. Canvas is the LMS for the Morgan community. ATS has a website populated with tutorials and best practices for faculty, staff, and students. Canvas enables you to add online content, videos, tests, and assignments, and also has communication tools to support learning for all. Canvas is used for all course formats, such as face-to-face, hybrid, or fully online. During the academic year, Academic Technology Services organizes workshops, seminars, lectures on new technical, computing, opportunities. Academic Technology Services supports the innovative and imaginative use of technology to strengthen teaching, learning, and scholarship by staff who specialize in instructional design, educational multimedia, and professional development. ATS

enhances the use of technology by offering accessibility to online resources including the creation of instructional and training videos

ATS also supports the development and offering of training on Multimedia for Learning, Online Course Design, Remote Course Design, Teach Online. For example, ATS offers the following training and development modules:

- **Learn to Teach Online:** This 4-week online workshop introduces skills needed to teach an online or hybrid course. The course is facilitated by ATS staff.
- **Technology Guides:** Technical instructions for Morgan's classroom lecterns (Communications, Business, and Behavioral Science buildings). A calendar is published with in-person training dates.
- **Teaching with Technology:** Features ideas for using technology to enhance your course. Includes Student Response Systems, Gaming & Concept Maps.
- **Video Production Services:** ATS staff assist faculty with planning and producing instructional or training videos!
- **Web Conference/Virtual Classroom:** Features instructions on using Zoom or Big Blue Button to facilitate synchronous class sessions, hold virtual office hours, or record presentations.

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

Morgan Online creates pathways to flexibility and convenience while still offering the excellence and opportunity for achievement found in traditional classroom-based courses. Fully accredited through the Middle States Commission on Higher Education, Morgan Online programs offer individual courses, online degree programs, and workforce development. All Morgan Online courses are developed using the Quality Matters standards for excellence in online course design and faculty must complete course design and delivery workshops prior to teaching online. Online courses must pass internal review and processes are in place to ensure that online courses meet the same rigorous curriculum requirements as traditionally delivered courses follow. Morgan Online courses are taught by MSU faculty with the same levels of expertise in their disciplines. During the academic year, the Morgan Online Programs Office organizes workshops, seminars, lectures, and demonstrations on distance education course development strategies.

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

The Earl S. Richardson Library at Morgan State offers a range of services and is accessible to both face-to-face and online students. Library accounts that enable students to use the services can be activated online. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences will be delivered in concert and collaboration with existing programs and will not require additional library resources. Additionally, library services can be accessed remotely including database searches, document retrieval, and contacting a librarian for assistance in accessing resources. Course instructors can also arrange for a library staff to provide online training workshops centered on information literacy and use of the library. No additional library resources are required to deliver the proposed program.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined

The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences will be embedded in existing programs and will not, therefore, require additional physical facilities. We anticipate that the new advisors and program coordinators who will administer this program, will be housed in existing facilities on Morgan's campus to support the program.

As the President of Morgan State University, I affirm that the physical facilities, infrastructure and instructional equipment are more than adequate to offer the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences as proposed here. The university possesses the necessary classrooms, laboratories, technology platform, etc., to fully support the proposed program.

No new physical facilities are required to initiate the program. The University provides the CANVAS Learning Management System through which the courses will be delivered as necessary. Additionally, 24 hour technical support is available to students and faculty via phone or chat. Various other instructional technologies, including video conferencing, are available at the University. Online training on these technologies is available for faculty and students. Overall, the university has uniquely positioned itself to deliver the proposed online and face-to-face program.

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

This section explores the enrollment, expenses, and net profit for the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences. The projected enrollment is the basis upon which resources are projected to finance this proposal. Enrollment projections for all degree classifications are based upon data reported in the National Student Clearinghouse Research Center's October 2019 report, *Some College, No Degree, A 2019 Snapshot for the Nation and 50 States, Signature Report No. 17*. As stated in the report, approximately 600,000 Marylanders have some college, but no degree. Morgan's target is to enroll 10 students in Year 1. Each year's enrollment will increase by a minimum of 10 students. Net income is derived from the total for each year's resources less each year's associated expenses.

Table 1: Five Year Enrollment Projections				
Year 1	Year 2	Year 3	Year 4	Year 5
10	21	31	41	52

Table 2 outlines resources generated by enrollment projections for doctoral programs. The annual tuition is based upon Morgan's in-state Fall 2021 - Spring 2022 tuition rate of \$536.50 per credit for graduate study. The annual tuition fee is calculated at 18 credits or 9 credits per fall and spring semester. Resources are projected based upon the number of projected students (see table 1) multiplied by tuition.

Table 2: Resources: Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences					
Resources 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)	96,480	202,608	299,088	395,568	501,696
a. Number of F/T Students	10	21	31	41	52
b. Annual Tuition/Fee Rate	9648	9648	9648	9648	9648
c. Total F/T Revenue (a x b)	96,480	202,608	299,088	395,568	501,696
d. Number of P/T Students	0	0	0	0	0
e. Credit Hour Rate	546	546	546	546	546
f. Annual Credit Hour	0	0	0	0	0
g. Total P/T Revenue (d x e x f)	0	0	0	0	0
3. Grants, Contracts & Other External Sources	0	0	0	0	0
4. Other Sources					
TOTAL (Add 1 – 4)	\$96,480	\$202,608	\$299,088	\$395,568	\$501,696

Table 3 reflects the projected expenses associated with the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences. Year 1 faculty expenses include the costs of two part-time faculty members at \$4,000. The number of faculty required for doctoral programs is calculated at 1 part-time faculty per 5 students for Dissertation. Each part-time faculty is the equivalent of a quarter of a full-time equivalent (FTE). Each successive year increases the number of part-time faculty members necessary to support the additional students. The existing programmatic support structure will not provide support for Morgan Completes You. This necessitates the engagement of a Director and Coordinator dedicated to doctoral students. The Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences will support 20% of these costs. The total costs for the Director and Coordinator(s) will be shared among other programs in MCY initiative. Other expenses include the costs of operating an office (technology, software, office supplies, etc.) and costs associated with records evaluation. These costs are estimated at \$100 per student. Net Revenue for the Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is displayed in Table 4.

Table 3: Expenses: Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	8,000	16,000	24,000	32,000	40,000
a. # FTE	0.50	1.00	1.50	2.00	2.50
b. Total Salary	8,000	16,000	24,000	32,000	40,000
c. Total Benefits	0	0	0	0	0
2. Admin. Staff (b + c below)	19,600	19,600	19,600	19,600	19,600
a. # FTE	0.2	0.2	0.2	0.2	0.2

b. Total Salary	14,000	14,000	14,000	14,000	14,000
c. Total Benefits	5,600	5,600	5,600	5,600	5,600
3. Support Staff (b + c below)	14,000	70,000	70,000	70,000	70,000
a. # FTE	0.2	0.2	0.2	0.2	0.2
b. Total Salary	10,000	10,000	10,000	10,000	10,000
c. Total Benefits	4,000	4,000	4,000	4,000	4,000
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	1,000	2,100	3,100	4,100	5,200
TOTAL (Add 1 – 7)	\$42,600	\$107,700	\$116,700	\$125,700	\$134,800

Table 4: Net Income: Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences					
Resources	\$96,480	\$202,608	\$299,088	\$395,568	\$501,696
Expenses	\$42,600	\$107,700	\$116,700	\$125,700	\$134,800
Net	\$53,880	\$94,908	\$182,388	\$269,868	\$366,896

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

The Comprehensive Assessment Plan (CAP) provides a structure for and guidance of all assessment activities across campus. These activities include assessment of student learning outcomes as well as assessment of the student experience, assessment of institutional effectiveness, and assessment of programs, units, and processes. Assessment of the student learning outcomes as well as the student experience takes place within Academic and Student Affairs through faculty grades of student coursework, student evaluation of the courses and instructors, annual department assessment plans and reports, through standardized and locally developed testing, and through participation in nationally normed and locally developed satisfaction and engagement surveys. Assessment of Institutional Effectiveness occurs quarterly and annually within a balanced scorecard model, in response to state and federal reporting requirements, and is aligned to the strategic planning process. Assessment of programs, units and processes takes place within the Annual Program Review format and occurs on a cyclical basis according to a standardized scheduled and identified institutional needs. Data are collected, maintained, analyzed, and disseminated for use in improvement and decision-making campus wide.

In accordance with our Comprehensive Assessment Plan, all new programs will also be required to develop assessment plans and annual reports for student learning outcomes. The assessment report requires each program to identify learning outcomes for their students, to develop and administer assessment methods to determine student learning on these outcomes, and to apply the findings to improving student learning within the program. Annual assessment reports are submitted to the Assessment Committee for review in January or June of each academic year. A feedback template is utilized to generate a scorecard with numeric and comments shared with each program by the Assistant Vice President for Outcome Assessment and Program Review. When needed a program of study is required to develop an action plan to correct area(s) for

improvement(s). The implementation of the plan is monitored by the AVP and members of the assessment committee. All new programs will participate in assessment plans and report on an annual basis. In addition, the Office of Assessment and Office of Institutional Research works with all programs in collecting and analyzing data and disseminating the findings to inform programs on their effectiveness, accreditation, student success, satisfaction and retention, and performance against key benchmark indicators.

Upon approval, growth in enrollments is expected to be moderate and therefore will not have a significant impact on resources. By offering the new and innovative programs the university expects to realize cost savings and that these savings will mitigate potential costs associated with growth. On an annual basis, the directors of the new programs will meet with Deans, Vice Presidents in Academic Affairs, and the Division of Finance and Management to ensure that each of the proposed programs is cost-effective; and generate strategies needed for program effectiveness.

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

Maryland has set as its goals for minority achievement implementing policies to: (1) improve recruitment, retention, and graduation of students, particularly minorities and (2) recruit, promote and retain minorities in faculty and professional staff positions (Minority Achievement Report Summary 1996). Morgan's proposed Ph.D. in Interdisciplinary Engineering, Information, and Computational Sciences is aimed at the first of those two goals. By providing a path toward completing a degree graduation for nontraditional students.

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

There is no relationship with low-productivity programs identified by the Commission

P. Adequacy of Distance Education Programs

Morgan State University has offered online courses for more than fifteen (15) years. Morgan Online was established in 2009 with funding from MHEC for the purpose of developing distance education courses to support Base Realignment and Closure (BRAC) programs. The primary impetus to the development of online degree programs at Morgan came, however, in 2009 when MHEC granted Morgan the authority to offer its degree in Community College Leadership online. Since then Morgan has been approved to offer several other online degree and certificate programs. In January 2014, a full-time Director of Morgan Online was hired and assigned an institutional budget, additional support from a federal Title III grant and office space within the university's Division of Academic Outreach and Engagement. Consistent with the Principles of Good Practice as outlined in COMAR 13B.02.03.22 C. 1 Morgan is a member of Maryland Online, and uses the Quality Matters (QM) rubric as a guide for course development. Faculty who teach online courses as well as the all online courses developed at Morgan must meet Quality Matters standards.