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

Institution Submitting Proposal	Capitol Technology University -and-Notre Dame of Maryland University

Cover sheet 1 of 2. Capitol Technology Responses and Signatures

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

○ Substantial Change to a Degree Program

◉ Cooperative Degree Program

○ Off Campus Program

○ Offer Program at Regional Higher Education Ctr.

Department Proposing Program	Engineering (Capitol Tech)
Degree Level and Degree Type	Bachelor of Science
Title of Proposed Program	Joint Bachelor of Science in Healthcare Engineering Technology
Total Number of Credits	120
Suggested Codes	HEGIS: 905 — CIP: 140501
Program Modality	○ On-campus ○ Distance Education (*fully online*) ◉ Both
Program Resources	◉ Using Existing Resources (CapTech) ○ Requiring New Resources
Projected Implementation Date	◉ Fall ○ Spring ○ Summer Year: 2026
Provide Link to Most Recent Academic Catalog	URL: https://catalog.captechu.edu

Preferred Contact for this Proposal at Capitol Technology	Name: Dr. William Butler
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President, Capitol Technology	Type Name: Dr. Bradford Sims	
	Signature:	Date: 09/29/2025
Approval/Endorsement by Governing Board, Capitol Tech	Type Name: Dr. Bradford Sims	
	Signature:	Date: 09/29/2025

Revised 5/7/18

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

Institution Submitting Proposal	Capitol Technology University -and-Notre Dame of Maryland University

Cover sheet 2 of 2. Notre Dame of Maryland Responses and Signatures

Each action below requires a separate proposal and cover sheet.

○ New Academic Program   ○ Substantial Change to a Degree Program

○ New Area of Concentration   ◉ Cooperative Degree Program

○ New Degree Level Approval   ○ Off Campus Program

○ New Stand-Alone Certificate   ○ Offer Program at Regional Higher Education Ctr.

Department Proposing Program	Health Sciences (NDMU)
Degree Level and Degree Type	Bachelor of Science
Title of Proposed Program	Joint Bachelor of Science in Healthcare Engineering Technology
Total Number of Credits	120
Suggested Codes	HEGIS: 905 CIP: 140501
Program Modality	○ On-campus ○ Distance Education (*fully online*) ◉ Both
Program Resources	◉ Using Existing Resources ○ Requiring New Resources
Projected Implementation Date	◉ Fall ○ Spring ○ Summer Year: 2026
Provide Link to Most Recent Academic Catalog	URL: https://catalog.ndm.edu
Preferred Contact for this Proposal at NDMU	Name: Dr. Martha Walker
	Title: Provost
	Phone: (410) 532-5321
	Email: mwalker12@ndm.edu
President, NDMU	Type Name: Dr. Marylou Yam
	Signature: Date: 09/29/2025
Approval/Endorsement by Governing Board (<u>not applicable</u>)	Type Name: ~~Dr. Marylou Yam~~
	Signature: Date:

Revised 5/7/18

Bachelor of Science (B.S.) in Healthcare Engineering Technology
Capitol Technology University, Laurel, Maryland
And
Notre Dame University of Maryland, Baltimore, Maryland

A. Centrality to Institutional Mission and Planning Priorities:

1. Program description and alignment with institutional mission

Capitol Technology University (Capitol Tech) and Notre Dame of Maryland University (NDMU) propose an innovative, joint degree program leading to a Bachelor of Science in Healthcare Engineering and Technology. Recognizing the alignment of their missions, their shared desire to develop valuable institutional partnerships, and their complementary disciplinary strengths in preparing students to meet the demands of the current and the future workforce, they collaborated on a unique program. Demonstrable demand exists for graduates trained in engineering specific to healthcare technology. NDMU proposes to offer students many of the core general education courses as well as important components of the healthcare portion of the new program's curriculum. With its programs in health sciences, nursing, pharmacy, occupational therapy, and physician assistance, as well as its upcoming acquisition of Maryland University of Integrative Health, NDMU has a recognized record of success in healthcare education. Capitol Tech currently affords students opportunities to pursue multiple engineering specializations: astronautical and space, computer, electric, mechatronics, and software. This joint degree proposal brings those strengths together.

The missions of both institutions share important characteristics that this program reflects. Capitol Tech strives "to educate individuals for professional opportunities in engineering, computer and information sciences, and business [and] provide relevant learning experiences that lead to success in the evolving global community." NDMU's mission is to "educate leaders to transform the world." The shared commitment to educating graduates who can go out into their many communities as leaders with beneficial skills is an ideal foundation for this program. Its goal of bringing together service to those seeking healthcare with expertise in state-of-the-art technology that enables that care to be as current as possible exemplifies what both universities seek to do.

2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

From a strategic perspective, the proposed program is a key step in both universities' efforts to meet stated goals in the next several years. Both universities cite as key strategic goals 1) enrollment growth, 2) new program development, and 3) increasing productive external partnerships. Because of the labor market demand in healthcare technology engineering, Capitol Tech and NDMU will be able to recruit students to this program and leverage their respective strengths in partnership.

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 joint degree's curriculum is built primarily on existing courses at both institutions. The courses already serve other majors, minors, and/or programs. Faculty are available to teach them, and each university has the necessary equipment and infrastructure to support its part of the program. Student demand for the courses is consistently strong. For that reason, there is no reason that either institution would seek to withdraw any type of institutional support – financial, administrative, or otherwise – from the curriculum, faculty, or facilities necessary to launch Healthcare Engineering & Technology. Students who enter the program will be able to get the courses they need to finish their degrees as planned.

Some additional instructional resources may be necessary to keep the curriculum up to date and to obtain new hardware, software, and other materials. Current instructional budgets should be adequate over the next five years to handle this since these courses are part of other ongoing academic programs as well. If programmatic growth requires additional faculty to offer the requisite courses, the budget will accommodate that from the additional revenue from the enrollment growth. Administrative oversight at both institutions will come through existing channels at each university: the School of Arts, Science, and Business and, more broadly, Academic Affairs, at NDMU and Engineering and Academic Affairs at Capitol Tech.

4. Provide a description of the institution's commitment to:

a) The proposed degree is integral to Capitol 'FY 2017-2025 Strategic Plan'. The institutional and departmental budgets for FY 2024-2025 and the forecasted budgets going forward include funding for the new degree's administrative, financial, and technical support. The case is the same for Notre Dame University of Maryland. The institutional and departmental budgets for FY 2023-2024 and the forecasted budgets going forward include funding for the new degree's administrative, financial, and technical support.

b) Capitol Technology University and Notre Dame University of Maryland are fully committed to continuing the proposed **Joint BS Healthcare Engineering Technology degree** program for a sufficient period to allow enrolled students to complete the program. The attached Memorandum of Agreement offers assurance of both institutions' commitment.

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

New developments in technology with application to healthcare command a premium in contemporary society as healthcare systems work to improve the efficiency of delivery of care and to manage costs. This joint degree will not only prepare students to understand the current state, the program will also equip them to contribute to the next generation of technological solutions in healthcare. The engineering principles of healthcare technology students learn to apply in their undergraduate studies will be building blocks for future advances in a field where it is all but impossible to imagine a decline in demand.

b)   Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education

The academic content of the proposed program in healthcare engineering technology meets a societal need for solutions to the challenges of healthcare costs and accessibility. At the same time the joint degree itself, offered by two institutions committed to creating opportunity for their graduates, meets a societal need for fostering social mobility. NDMU is annually a top-ranked institution for enabling social mobility, and it serves a student body drawn from demographics not traditionally well represented in American higher education. More than half of the university's undergraduates are students of color, and almost 40% of them are Pell-eligible. The proposed program will prepare students for in-demand jobs that will enable them to contribute valuably to their communities materially, personally, and intellectually.

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

Neither institution is an HBI.

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

Access

This program demonstrates both institutions committed to expanding access to high-quality, workforce-relevant education for students throughout Maryland. The Bachelor of Science in Healthcare Engineering Technology was developed to reach students who may be underserved by traditional engineering programs, including transfer students, adult learners, first-generation college students, military veterans, and underrepresented minorities in STEM. The program creates accessible career pathways through targeted recruitment efforts at Maryland high schools and community colleges, articulation agreements that facilitate seamless transfer from two-year institutions, and the provision of financial aid, institutional scholarships, and military tuition assistance. In addition, flexible scheduling and a curriculum that emphasizes applied, hands-on learning appeal to nontraditional and working students.

These strategies reflect a commitment to removing barriers to entry and increasing representation in high-demand engineering fields. They also align with the State Plan's Priority 1, which calls for a study of affordability; Priority 2, which promotes financial literacy and planning for students and families; and Priority 4, which focuses on evaluating and improving systems that affect access for specific student populations.

Given NDMU's long history of supporting students from marginalized communities, this program continues to provide access to rewarding careers for first-generation students Currently more than 1/3 of NDMU 's undergraduate population is first-generation. NDMU and Capitol Tech are collaborating in recruiting students to this plan and will clearly present financial aid opportunities to applicants. Currently more than 90% of NDMU 's and most of Capitol Tech's undergraduate students receive need-based aid. The institutions' focus on recruiting Maryland students will continue, and Maryland students will be prominent among those who have the opportunity to pursue this joint degree, bolstered by federal and institutional financial aid as well as academic support.

Both institutions were recently recognized by the Carnegie Foundation for the access provided to educational opportunities which result in a high return on investment based on income. As Opportunity Colleges, both institutions remain committed to serving students representative of the communities in which the institutions are located.

These strategies reflect a commitment to removing barriers to entry and increasing

representation in high-demand engineering fields. They also align with the State Plan's Priority 1, which calls for a study of affordability; Priority 2, which promotes financial literacy and planning for students and families; and Priority 4, which focuses on evaluating and improving systems that affect access for specific student populations.

Success

The Healthcare Engineering Technology program is intentionally designed to promote student progression, degree completion, and career readiness. It incorporates project-based learning, teamwork, and experiential instruction to help students develop deep technical knowledge and practical problem-solving skills.

Student success is an integral part of every element of the program from its pluridisciplinary approach designed to develop a variety of career-focused skills to the individual course design that offers resources to build academic success. As outlined below, students have access to the university's learning management system and email to facilitate learning and communication. Additionally, NDMU has a well-staffed and well-conceived Center for Student Success, funded through a recent Title III grant and maintained as central to the University's educational mission. The Center offers a variety of tools from study skills workshops to subject-specific tutoring to support students' academic achievement. Thoughtfully advising students and identifying resources for them that will help keep them on track to timely graduation is a priority. For that reason, since spring 2025, NDMU has prioritized continuing professional development for academic advisors to support their work and increase student satisfaction. As the students in this program move through their general education curriculum and introduction to healthcare fields, they will benefit from personalized investment in their college trajectory. Programs for first-generation and other affinity groups help students to find community and build bonds throughout the university community. That sense of community is as important to student success to graduation as academic support, and the two institutions intend to maintain an inclusive student success model.

During their time at Capitol Tech students will benefit from individualized support through academic advising, faculty mentoring, tutoring services, and early alert systems that allow for timely interventions when needed. The program's connection to the workforce is reinforced through a senior capstone design sequence based on real world engineering challenges, internship and research opportunities, and ongoing collaboration with employers in Maryland's advanced manufacturing, automation, and systems integration sectors. These components reinforce student engagement, motivation, and preparation for high-skill employment. They also support the State Plan's Priority 5, which promotes a sustained commitment to quality postsecondary education; Priority 6, which seeks to improve systems that prevent timely program completion; and Priority 7, which emphasizes the importance of postsecondary education as a platform for lifelong learning.

Innovation

There is only one similar undergraduate program in the nation that melds engineering and healthcare knowledge.

The interdisciplinary, application-focused model of the Healthcare Engineering Technology program reflects emerging industry expectations and prepares students to work across disciplines in modern technical environments. The curriculum was developed through consultation with faculty, industry partners, and academic planners to ensure alignment with Maryland's economic and technological priorities. Program innovations include the joint institution residential design that allows each institution to focus on curriculum within their area of strength and use existing laboratory and simulation resources to minimize startup costs while preserving instructional quality, and industry-driven capstone projects that ensure students graduate with meaningful, applied experience. These innovations are consistent with the Maryland State Plan's Priority 8, which encourages experimentation and development of new pedagogical strategies; Priority 9, which supports the expansion of innovative academic practices; and Priority 10, which emphasizes the integration of work-based learning and apprenticeships into postsecondary programs.

Capitol Tech and NDMU are in the educational forefront in creating a program that gives engineering students specific knowledge of healthcare system technology needs, building blocks, and applications to inform career pursuits. Particularly in Maryland where healthcare is a vital economic engine, this joint degree program will appeal to students in the state. Their degree completion and entry into the workforce will serve the state's residents.

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.

Employment opportunities in healthcare-related fields abound in Maryland. The integration of technology in healthcare is leading to a need for professionals who can bridge the gap between medicine and technology. Graduates can pursue careers in hospitals, health systems, government agencies, insurance companies, and technology firms focused on healthcare solutions. Credentialed engineers from this program will be competitive in bioengineering and biomedical engineering fields.

2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

Generally speaking, employment for medical and health services managers is projected to grow by approximately 32% from 2020 to 2030, significantly faster than the average for all occupations (U.S. Bureau of Labor Statistics, fall 2024). Maryland Department of Labor

projections show a 5% growth rate in demand for jobs in bioengineering and biomedical engineering in the state over the 10-year period from 2023 to 2033.

Source: MDOL Occupational Projections 2023-2033; BLS Employment Projections 2024-2034;

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.

Employment for medical and health services managers is projected to grow by approximately 32% from 2020 to 2030, significantly faster than the average for all occupations (U.S. Bureau of Labor Statistics).

Average annual number of job openings in bioengineering and biomedical engineering requiring a bachelor's degree or higher is projected to be 388 over the next 10 years in Maryland.

Source: MDOL Occupational Projections 2023-2033

4. Provide data showing the current and projected supply of prospective graduates.

The three-year average of bachelor's level graduates annually in bioengineering and biomedical engineering in Maryland is 111. The three-year average number of post-bac degrees awarded in the same engineering fields is 290. Based on demand projections, above, graduates of the proposed program should not expect to graduate into a job market glutted with those who have comparable credentials.

Source: MHEC Trends in Degrees and Certificates by Program 2024
Updated: 09/10/2025

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.

No other institution of higher education in the state or region has a similar program. In fact, there is only one other (slightly) analogous program in the country, and it is in Indiana. The Capitol Tech/NDMU joint degree is particular in its engineering focus. Other Maryland program combine technology and health or bio-sciences only. University of Maryland Global Campus offers an online BS in Biotechnology. UMBC-Shady Grove offers a BS in Translational Life Science Technology (TLST) for undergraduate students who have earned 45 to 60 college credits

at a prior institution, and Salisbury University has a Biotechnology concentration option in its BS in Biology.

2. Provide justification for the proposed program.

The strong demand for a workforce with knowledge of both healthcare systems and engineering technology and the program's unique integration of these disciplines justifies its launch.

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

None of Maryland's HBIs offers similar programs in healthcare and engineering.

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

The proposed program would not be in competition with any similar program at a Maryland HBI.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR13B.02.03.10):

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

In spring 2023 executive leadership at Capitol Tech and NDMU began a discussion of ways to leverage the respective strengths of each institution, technology/engineering and healthcare, and increase enrollment at both by offering programs in partnership. Academic leadership and faculty joined the conversation, and several innovative ideas emerged. The two institutions have signed an MoU to offer engineering to NDMU students as well as creating off-site locations. Capitol Tech will offer cybersecurity in Baltimore on the NDMU campus, and NDMU will offer Hospitality Management in Laurel at Capitol Tech. This joint degree is the culmination of the partnership: a unique program that allows students to take courses offered by both institutions in pursuit of a bachelor's degree awarded jointly by Capitol Tech and NDMU .

Faculty involved in those planning conversations are among those who will participate in the program as outlined below.

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

Program Educational Objectives (PEOs)

Graduates of the program, within 3–5 years, will be able to:

1. Apply engineering technology, biomedical instrumentation, and computing knowledge to healthcare environments.
2. Pursue continuous learning, professional certifications, or graduate study to adapt to emerging healthcare technologies.
3. Advance into leadership roles supporting patient care, healthcare delivery, and technology integration.

Student Learning Outcomes

Graduates of the BS-HET program will demonstrate:

1. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to broadly defined healthcare engineering technology problems.
2. Design systems, components, or processes to meet healthcare needs within realistic constraints such as safety, regulation, cost, and sustainability.
3. Conduct standard tests and measurements, analyze results, and apply findings to improve processes or patient outcomes.
4. Communicate effectively in written, oral, and digital forms on healthcare engineering technology topics with both technical and non-technical audiences.
5. Function effectively as a member or leader on technical teams, demonstrating accountability, collaboration, and professional responsibility in healthcare environment

3. Explain how the institution will:

a) provide for assessment of student achievement of learning outcomes in the program

The B.S. in Healthcare Engineering and Technology program employs a rigorous and systematic approach to assessing student learning outcomes, aligned with ABET accreditation standards. Each required course is mapped to specific program learning outcomes, ensuring that students develop competencies in areas such as biomedical systems design, healthcare technology integration, regulatory compliance, and patient safety engineering.

Curriculum mapping is conducted at the program level to ensure alignment of learning outcomes with course content. Once mapping is complete, the Program Chair develops a five-year assessment plan that identifies which outcomes will be assessed annually, the courses in which they are embedded, and the reassessment cycle to monitor longitudinal progress.

Faculty teaching each course are responsible for selecting or designing signature assignments that directly measure the designated learning outcomes. These may include technical design projects, case studies, simulation-based evaluations, or industry-aligned capstone experiences. Assignments are evaluated using standardized rubrics that assess both technical proficiency and application of engineering principles in healthcare contexts.

b)   document student achievement of learning outcomes in the program

Student achievement of learning outcomes is collected, disaggregated, and analyzed to identify trends in student performance and areas for instructional improvement. Results are reviewed by the program's faculty and used to inform curriculum enhancements, faculty development, and resource allocation. Annual assessment reports are submitted to academic leadership and integrated into institutional effectiveness processes to ensure continuous improvement and alignment with accreditation and workforce expectations.

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

See Appendix A for curriculum map

NDMU COURSE DESCRIPTIONS:
BIO-111: Fundamentals of Biology
Credits 4.00
Focuses on the structure and function of the fundamental unit of life, the cell. Examines basic biological molecules, membrane structure and function, basic metabolism, photosynthesis, cellular reproduction, evolution, genetics and introductory systematics. In weekly laboratory exercises, students design and conduct experiments to answer scenario-based questions. Includes independent small-group laboratory research project that culminates in a student research symposium. Three hours lecture and four hours laboratory. Designed for students with a strong high school background in biology, chemistry and mathematics. Prerequisite: Satisfactory score on the NDMU Placement Exam or BIO-110 with minimum grade of C, or permission or chair. For STEM majors only. Fulfills general education requirement in natural sciences. Corequisite: BIO-111L, Fundamentals of Biology Lab.

BIO-201: Human Anatomy and Physiology I
Credits 4.00
Integrates the study of structure with function of the human body. As a suite of courses, BIO-201 and 202 are intended for students interested in satisfying requirements for pharmacy, nursing, and various allied health programs. The content and level of delivery of both BIO-201 and 202 are structured so that they are compatible with similar courses offered by cooperating institutions. BIO-201 includes discussion of cellular, tissue, integumentary, skeletal, muscular and neural systems. Includes laboratory study of anatomical models of humans and skeletal components, and dissection of a cat. BIO-202 includes discussion of endocrine, circulatory, immunological, digestive, urinary and reproductive systems. Strongly emphasizes study of physiological functions that includes monitoring of body systems with analog and digital hardware. Each course includes three hours lecture and three hours laboratory. A competency exam covering basic chemistry and biology may be administered at the first-class meeting and

weighed in the final grade.
Prerequisite: BIO-111 or obtain permission of the instructor.

BUS-202: Principles of Management
Credits 3.00
Examines organizational, human resources, operational, and functional aspects of ethically managing activities of diverse workforces in organizational settings. Analyzes traditional managerial functions of planning, organizing, leading and controlling within the context of changing demands in organizations that compete effectively in an interconnected, global environment.

BUS-380: Introduction to the U.S. Health Care System
Credits 3.00
Introduces the student to the organization and structure of the U.S. health care system, including institutions, health care professionals and government programs that influence the delivery of health care services. The student is also introduced to policy issues relating to access, efficiency and quality of health care services.

CHM-110: General Chemistry I
Credits 4.00
Focuses on fundamental chemical concepts and principles with emphasis on inorganic compounds. Guided inquiry methods are used to explore descriptive and quantitative aspects of chemistry, including atomic and molecular structure, chemical bonding, states of matter, solutions, basic thermodynamics, electrochemistry, equilibrium, acids and bases, and kinetics. Laboratory is coordinated with lecture and emphasizes basic techniques such as titration, spectroscopy, and quantitative and qualitative analysis, along with inorganic synthesis and calculator-based experiments. Three lectures, one discussion period and one laboratory each week. High school algebra strongly recommended. Satisfies the general education requirement in natural science.

ENG-101: College Writing
Credits 3.00
Provides students with an understanding that clear thinking is fundamental to clear writing. It also demonstrates every stage of the composing process: generating and organizing ideas, prewriting and drafting, critiquing, revising, final editing and proofreading. In addition, students work to accomplish clarity, unity, coherence and emphasis in sentences, in paragraphs, and in the overall structure of an essay. They develop techniques of style and tone toward more fluent and appealing prose and strive to sharpen their analytical, critical and editing skills by interacting with other students about their own writing and about the writing of professionals. Students learn to use standard English and develop a sensitivity to sentence structure and diction and to appreciate effectively written prose and recognize characteristics that make such prose effective. To fulfill the general education requirement in written communication a minimum grade of C is required.

ENG-103: Hrs: Writing Well

Credits 3.00

This is an intensive course in writing designed to help students develop superior facility in the various types of expository writing, including reporting, analysis, interpretation, criticism, persuasion, synthesis and research writing. The course will also study the writing process and rhetorical theory and present ways that enable students to assess writing tasks and to develop practical strategies to accomplish each task effectively.

MAT-107: Elementary Functions

Credits 3.00

Provides preparation for study of calculus and is also designed for pre-service elementary educators with a strong interest in mathematics. Covers polynomial, exponential, logarithmic and trigonometric functions and their applications. Graphing calculator is used throughout the course. Prerequisite: Strong algebraic background (as evidenced by placement test) or completion of MAT-100 or MAT-103. Fulfills General Education Requirement in Quantitative Reasoning.

MAT-211: Calculus I

Credits 4.00

Introduces functions, limits, continuity, differential calculus of polynomial, rational, trigonometric, inverse trigonometric, exponential and logarithmic functions, as well as basic integration techniques. Applications are considered throughout the course with an emphasis on the natural sciences. Weekly laboratory is an integral part of the course. Graphing calculators are used to explore topics covered. Fulfills the general education requirement in Quantitative Reasoning.
Prerequisite: Placement in MAT 211 or successful completion of MAT-107.

MAT-212: Calculus II

Credits 4.00

Studies applications of integrals; integration techniques including substitution, integration by parts, and using computer algebra systems; improper integrals; differential equations; infinite sequences and series; basic series convergence tests; and power series and Taylor series. Applications are considered throughout the course with an emphasis on the natural sciences. Weekly laboratory is an integral part of the course. Graphing calculators are used to explore topics covered.
Prerequisite: MAT-211or placement into MAT-212.

MAT-215: Basic Statistics

Credits 3.00

Introduces the basic ideas of statistics: descriptive statistics, central tendency variability, probability distributions, sampling, estimation, hypothesis testing, correlation and regression, multinomial experiments, contingency tables and analysis of variance. A statistical software

package is used. Designed for students in a variety of fields that rely on regular statistical analysis in decision-making. Fulfills general education requirement in Quantitative Reasoning. Prerequisite: MAT-107.

PHL-201: Introduction to Philosophy
Credits 3.00

Explores some of the major issues that have intrigued reflective people from time immemorial: How do we know? What is human nature? Is there life after death? Where did the universe originate? We will evaluate replies suggested from the time of Plato to the 20th century. Fulfills general education requirement for Pursuing Meaning and Purpose. Does not fulfill the general education requirement for 200+level religious studies or philosophy course.

PHL-339: Medical Ethics
Credits 3.00

Explores the study of moral problems in medical practice and health care delivery while providing an historical overview of the field of medical ethics. Against the background of traditional ethical theories, students will critically explore, examine, analyze, and engage in the study of issues that arise in medical ethics. Specific attention will be given to examining the major areas of discussion and debate within the realm of medical ethics and social justice/responsibility such as paternalism and patient autonomy, disparities in health care, and issues of life and death, and, through critical analysis and applied ethical theory, to the critical oral and written evaluation of case studies specific to these issues.
Prerequisite: PHL-201.

PHY-101: General Physics I
Credits 4.00

Examines the fundamental physical laws of nature and their use in understanding natural phenomena. Course provides a knowledge base for study in all areas of science and mathematics. Topics include kinematics, conservation of energy and momentum, dynamics of motion, Newton's laws, rotational mechanics, and waves. Special topics such as the universal law of gravity and fluids will be covered depending on time and student interest. Development of the concepts of vector algebra and calculus are provided as needed. Three lectures, one three-hour laboratory weekly. Course must be taken with PHY-101L.
Pre-requisites: MAT-107.

PHY-102: General Physics II
Credits 4.00

Examines the fundamental physical laws of nature and their use in understanding natural phenomena. Continues the development from PHY-101 to topics including: Thermodynamics, electricity and magnetism, circuits, optics, and the wave nature of light. Special topics such as the universal law of gravitation and A/C circuits will be covered depending on time and student interest. Development of the concepts of vector algebra and calculus are provided as needed.

Three lectures, one three-hour laboratory weekly. Course must be taken with PHY-102L.
Prerequisite: MAT-211.

PSY-101: Introductory Psychology
Credits 3.00
Examines psychology's perspective on human behavior through many human experiences:
learning and memory, perception, motivation and emotion, personality, social interaction, normal
and abnormal behavior, and human development. Draws from experience and fosters application
to the students' own lives. This is a foundational course, and it meets prerequisite requirements
for most psychology courses. Fulfills general education requirement in social science and
thinking critically and analytically. Lecture.

Social Science Elective
Credits 3.00
Students may choose from courses related to the social sciences such as **Economics, Sociology,
Political Science, Anthropology, or related disciplines**.
 Prerequisite: Varies by course.

CAPITOL TECH COURSE DESCRIPTIONS:
AIT 201 – Introduction to Artificial Intelligence
Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)
Introduction to Artificial Intelligence explores the foundational principles and applications of AI.
Students delve into key concepts such as machine learning, data representation, and problem-
solving algorithms. The course introduces ethical considerations in AI development and its
societal impact. Exploring various types of AI, from rule-based systems to machine learning
approaches, students gain insights into the breadth of AI applications. Hands-on projects provide
practical experience in implementing AI techniques. This course equips students with a broad
understanding of AI's capabilities and challenges, laying the groundwork for advanced studies
and real-world applications.
Prerequisite(s): MAT 215

BME 201 – Biomedical Instrumentation
Class Hours: 2 | Laboratory Hours: 2 | Credit Hours: 3
This course introduces the principles, design, and application of biomedical instrumentation used
in clinical and healthcare environments. Topics include physiological transducers and sensors,
measurement of biopotentials (ECG, EEG, EMG), blood pressure, flow, temperature, and
respiration. Emphasis is placed on signal acquisition, conditioning, amplification, safety, and
reliability of biomedical devices. Students gain hands-on experience with biomedical
instrumentation systems through laboratory experiments and simulation tools, reinforcing
theoretical concepts with practical applications in healthcare technology.
Prerequisite(s): EL 200 – Electronic Devices and Circuits (or equivalent)

BME 202 – Sensors & Biomedical Signal Processing
Class Hours: 2 | Laboratory Hours: 2 | Credit Hours: 3

This course examines biomedical sensors and the fundamental methods of processing physiological signals. Topics include the design and operation of biosensors for pressure, flow, temperature, biochemical, and optical measurements; principles of data acquisition; and digital signal processing techniques applied to biomedical signals such as ECG, EEG, and EMG. Emphasis is placed on filtering, noise reduction, feature extraction, and interpretation of physiological data. Laboratory sessions provide hands-on experience with sensor interfacing, data collection, and analysis using modern software tools.
Prerequisite(s): BME 201 – Biomedical Instrumentation

BME 303 – Control Systems for Healthcare Applications
Class Hours: 3 | Laboratory Hours: 0 | Credit Hours: 3
This course introduces the principles of control systems with a focus on healthcare and biomedical applications. Topics include mathematical modeling of dynamic systems, feedback and stability analysis, time and frequency response, and controller design (PID and compensator methods). Applications emphasize medical devices and healthcare systems such as infusion pumps, ventilators, prosthetic control, and physiological regulation. Students apply MATLAB/Simulink and related software tools to analyze, model, and design control systems relevant to biomedical engineering technology.
Prerequisite(s): MAT 212 – Calculus II and BME 202 – Sensors & Biomedical Signal Processing

BME 304 – Occupational Safety & Health (OSHA Certification)
Class Hours: 3 | Laboratory Hours: 0 | Credit Hours: 3
This course covers the principles of occupational safety and health with emphasis on healthcare and laboratory environments. Topics include OSHA regulations, workplace hazards, ergonomics, chemical and biological safety, fire protection, personal protective equipment, hazard communication, and emergency response. Students complete training modules aligned with OSHA standards and are prepared to earn OSHA 30-Hour General Industry Certification upon successful completion of course requirements. Emphasis is placed on applying safety practices to biomedical engineering technology workplaces, clinical engineering, and healthcare facilities.
Prerequisite(s): None, but recommend completion of at least 30 credits (sophomore standing)

BME 405 – Medical Wearable Devices & IoMT in Healthcare
Class Hours: 2 | Laboratory Hours: 2 | Credit Hours: 3
This course explores the design, integration, and application of wearable medical devices and the Internet of Medical Things (IoMT) in healthcare systems. Topics include wearable physiological monitoring (ECG, SpO_2, glucose, motion), wireless communication protocols (Bluetooth, Wi-Fi, LoRa), data acquisition and cloud integration, cybersecurity and privacy considerations, and regulatory standards for medical devices. Emphasis is placed on patient-centered applications such as remote monitoring, telehealth, rehabilitation, and chronic disease management. Laboratory sessions focus on prototyping wearable devices, interfacing with sensors, and implementing IoMT platforms for healthcare data analysis.
Prerequisite(s): BME 202 – Sensors & Biomedical Signal Processing

CS 120 – Introduction to Programming Using Python

Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)

The course will cover basic concepts and elements of computer programming using Python. Topics include variables, constants, operators, expressions, statements, branching, loops, and functions. Additionally, Python specific data structures, built-in functions, library modules and working with external files will be applied in developing working code.

CS 150 – Programming in C

Class Hour(s) 3 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)

This introductory course in programming will enable students to understand how computers translate basic human instructions into machine executable applications. The language of choice for this course is C. The C syntax that will be covered includes functions; variables and memory allocations including pointer notation; conditional statements and looping. Students will also learn binary to hexadecimal and decimal conversions along with basic computer architecture. Memory management, data input output and file manipulations will be among some other topics discussed and applied during this course. Formerly titled Introduction to Programming Using C.

Prerequisite(s): MAT-107 and CS 120

CS 220 – Database Management

Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)

An overview of database systems, with an emphasis on relational databases. Terminology, basic analysis and design using Entity-Relationship diagrams and relational schemas. Database implementation, queries and updates in a modern relational database management system. An overview of database administration, transactions and concurrency. Data warehouses. Projects, which are assigned as homework, are implemented in Oracle.

Prerequisite(s): CS 120

DS 101 – Introduction to Data Science

Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)

Fundamental coursework on the standards and practices for collecting, organizing, managing, exploring, and using data. Topics include preparation, analysis, and visualization of data and creating analysis tools for larger data sets.

Corequisite(s): MAT-107

EL 100 – Introduction to DC/AC Circuits

Class Hour(s) 2 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)

Basic electrical concepts and laboratory techniques. Current, voltage, resistance and power. Ohm's law, series and parallel resistive circuits. Kirchhoff's voltage and current laws. Loading effects on meters and supplies. Capacitors and Inductors. Charging and discharging. RC and RL time constants. Introduction to AC. Sinusoidal waveforms, phasors and use of the J operator. Reactance and admittance. Average values and RMS. Laboratory emphasis is on the proper use of standard meters, testing equipment and circuit breadboarding. MATLAB Part I: Introduction

to MATLAB, variables, MATLAB functions, data types, writing a MATLAB program, using basic plotting functions.
Corequisite(s): MAT 107

EL 150 – DC/AC Circuits and Analysis
Class Hour(s) 2 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)
Applications of Kirchhoff laws to multiple source and complex series-parallel circuits. Determinants and matrices. Mesh and nodal analysis. Network Theorems: Thevenin, Norton, superposition, maximum power transfer. Review of complex number manipulation. Application to capacitive and inductive circuits, impedance. Complex Mesh analysis. Network theorems applied to complex RLC networks. Frequency response of RL and RC circuits. Plotting frequency response. Bode plots. Laboratory emphasis on the use of standard test equipment to verify theory. MATLAB Part II: input and output statements, importing data from spreadsheets, text files and other formats into MATLAB, conditional statements, loops, arrays, array functions.
Prerequisite(s): EL 100
Corequisite(s): MA 114 or MA 261 (or placement equivalent)

EL 200 – Electronic Devices & Circuits
Class Hour(s) 2 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)
Principles and characteristics of semiconductor devices. Devices covered include diodes, Zener diodes, bipolar junction transistors, field-effect transistors, and operational amplifiers. Includes bias networks, operating points, maximum output and optimum bias, and DC and AC load lines. Input and output impedances, and voltage and current gains for each amplifier configuration.
Prerequisite(s): EL 150

EL 204 – Digital Electronics
Class Hour(s) 2 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)
Number systems, including binary, octal and hexadecimal bases. Binary arithmetic. Boolean algebra, Karnaugh map simplification. Design of combinational circuits. Decoders, multiplexers, flip-flops and other multi-vibrator circuits. Logic families including TTL, CMOS, ECL and others. Memory, shift registers and counters.

EL 262 – Microprocessors and Micro assembly
Class Hour(s) 2 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)
Introduction to microprocessors. Architecture. Fetch and execute cycles. Microprocessor instruction set and assembly language programming. Hardware configuration, pin functions and modes of operation of a typical microprocessor. Basic I/O timing, control and memories.
Prerequisite(s): EL 204

EE 362 – Microcontroller System Design
Class Hour(s) 2 | Laboratory Hour(s) 2 | 3 Semester Credit Hour(s)
Study of a state-of-the-art microcontroller and related families. Evaluation board hardware preparation and checkout. PC to board interfaces. Assembler and C-compiler. Configuration

registers for code and program protection. On-chip memories. Serial peripheral interface and parallel I/O routines. A/D converter, real-time interrupts and timer applications. A series, of three group projects, is required leading up to a final stand-alone project.
Prerequisite(s): EL 262 or microcomputer, micro-assembly background

IAE 201 – Introduction to Information Assurance Concepts
Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)
This course covers topics related to administration of network security. Topics include a survey of encryption and authentication algorithms; threats to security; operating system security; IP security; user authentication schemes; web security; email security protocols; intrusion detections; viruses; firewalls; Virtual Private Networks; network management and security policies and procedures. Laboratory projects are assigned as part of the homework requirements. Classes are a mixture of lecture, current event discussions, and laboratory exercises. NOTE: Students enrolled in this course incur an additional lab fee of $100.
Prerequisite(s): MAT-107

IAE 250 – Comprehensive Computer and Network Security
Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)
Building on IAE-201, this course provides learners with detailed and hands-on knowledge of computer and network security. The course emphasizes current topics such as network security, compliance and operational security, threats and vulnerabilities, application security, access control, as well as cryptography. Additionally, underlying theory and concepts are presented in order to extend learners' understanding of computer and network security. Weekly laboratory exercises are utilized to reinforce practical, real-world security techniques. Classes are a mixture of lecture, current event discussions, and laboratory exercise review and will prepare learners for the CompTIA Security+ certification.
Prerequisite(s): IAE-201

SDE 457 – Senior Design I
Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)
Students/teams select a project, develop an understanding of the project scope that includes research and documentation of related work, prepare a feasibility study, develop project requirements (constraints) and engineering, software, and/or security specifications, propose solutions and multiple designs, analyze proposed designs, select a final proposed design, and prepare and present a preliminary design review (PDR). Students are expected to apply proper systems engineering and project management to their work. Additional components may be required in some projects. Students/teams submit a final report at the end of the semester. *Note: Course must be completed with a grade of "C" or higher to enroll in SDE 458. (This course was formerly AE 457, BUS 457, CE 457, CS 457, EE 457, IAE 457, SE 457, UAS 457 and MEC 455)*
Prerequisite(s): Senior standing

SDE 458 – Senior Design II
Class Hour(s) 3 | Laboratory Hour(s) 0 | 3 Semester Credit Hour(s)

Students/teams build and test their selected designs (completed in SDE 457). Each student team delivers a tested prototype and defends its project in front of a panel of experts. Students/teams submit a final report that includes description of the design, realization, and test processes as well as test results, discussion, and conclusion. Failure to deliver a completed design and a working prototype that meets engineering, software, and/or security specifications by the end of the semester may result in failing the course. Note: Course must be completed with a grade of "C" or higher to meet undergraduate graduation requirements. (This course was formally AE 458, BUS 458, CE 458, CS 458, EE 458, IAE 458, SE 458, UAS 458 and MEC 462) *Prerequisite(s): SDE 457*

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

General education requirements will be met through a coordinated approach between NDMU and Capitol Tech. During the first two years at NDMU 's Baltimore campus, students will complete foundational coursework in the humanities, social sciences, and healthcare, benefiting from NDMU 's broad liberal arts offerings. In the final two years at Capitol Tech, students will fulfill remaining general education requirements through courses emphasizing communication, ethics, quantitative reasoning, and professional practice. This structure supports ABET's expectations for holistic student development, ensuring graduates are prepared to engage in lifelong learning, function effectively in diverse teams, and understand the societal impact of their work.

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

This program is designed to align with the criteria set forth by the Accreditation Board for Engineering and Technology (ABET), specifically under the General Criteria and Program Criteria applicable to Engineering programs. While the program is not yet ABET-accredited, the curriculum, faculty qualifications, assessment processes, and continuous improvement mechanisms are being structured to meet ABET standards in anticipation of future accreditation review.

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

A formal Memorandum of Understanding (MoU) between Capitol Tech and NDMU is included in Appendix B. This agreement outlines the roles and responsibilities of each institution in delivering the joint program, including provisions for curriculum delivery, faculty coordination, student support services, and data sharing for assessment and accreditation purposes.

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 degreerequirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

All requirements and academic information on the joint degree program will be available in both NDMU 's and Capitol Tech's Academic Catalogs. Student support services, including support for the LMS, are available online and/or through remote interaction. Similarly, students can access financial aid and student account information remotely online.

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.

For the past year, NDMU 's and Capitol Tech's Enrollment Management and Marketing/Communications teams have been collaborating on appropriately publicizing and promoting this program. Both universities' brands will be part of the effort. The teams will ensure that information is updated and readily available to students through both universities' communications channels as well as widely disseminated in recruiting campaigns.

H. Adequacy of Articulation (as outlined in COMAR 13B.02.03.19)

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

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, <u>terminal degree title and field</u>, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

Both NDMU and Capitol Tech have well-qualified faculty to deliver the general education and specialized major courses that comprise this joint degree. At each institution, the majority of courses in the program will be taught by full-time faculty with terminal degrees as illustrated in the table below.

NAME	INST	RANK	TENURE?	DEGREE	STATUS	COURSES
Dr. Mohamed Shehata	Capitol Tech	Professor	No	PhD., Electrical Engineering	Full-time	BME-303, BME-405

Dr. Charles D. Conner	Capitol Tech	Professor	No	PhD., Electrical Engineering	Full-time	EL-100, EL-150, EL-200
Dr. Gregory P. Behrmann	Capitol Tech	Professor	No	Ph.D., Mechanical Engineering	Full-time	EL-362, BME_201, BME-202
Dr. Jeff Chi	Capitol Tech	Professor	No	PH.D., Project Management	Full-time	BME-304
Ms. Amelia Wear	Capitol Tech	Associate Professor	No	M.S., Software Engineering	Full-time	EL-204, EL-262,
Dr. Kellep Charles	Capitol Tech	Professor	No	DSc., Cybersecurity	Full-time	IAE-201, IAE 250
Dr. Najam Hassan	Capitol Tech	Professor	No	Ph.D., Business Analytics and Decision Sciences	Full-time	AIT-201, DS-101,
Dr. Andrew Mehri	Capitol Tech	Associate Professor	No	PhD., Computer Science	Full-time	CS-220, EL-250,
Dr. Tahani baabdullah	Capitol Tech	Associate Professor	No	PHD, Computer Science	Full-time	CS-120, CS-150,
Dr. Ali Mehrabi	Capitol Tech	Professor	No	Ph.D., Engineering Science	Part-Time	SDE-457, SDE-458
Dr. Kathleen Bossert	NDMU	Associate Professor	yes	PhD, English	Full-time	ENG 101 and 103
Dr. Charles Buehrle	NDMU	Associate Professor	yes	PhD, Math	Full-time	Math 100, 107, 211, 212
Dr. Brian Christy	NDMU	Associate Professor	yes	PhD, Physics	Full-time	Physics 101 and 102
Dr. Nikeea Copeland-Linder	NDMU	Associate Professor	Tenure-track	PhD, Psychology	Full-time	Psych 101
Dr. Jewel Daniel	NDMU	Associate Professor	yes	PhD, Biology	Full-time	BIO 201: A&P
Dr. Nicole Dular	NDMU	Assistant Professor	Tenure-track	PhD, Philosophy	Full-time	PHL 339

Dr. Kristyanna Erickson	NDMU	Associate Professor	yes	PhD, Math	Full-time	Math 215: Stats
Dr. Beth French	NDMU	Associate Professor	yes	PhD, Biology	Full-time	BIO 111
Dr. Leslie Korb	NDMU	Associate Professor	yes	PhD, Organization Studies	Full-time	BUS 202, 380
Dr. Jason Labonte	NDMU	Assistant Professor	Tenure-track	PhD, Chemistry	Full-time	Chem 110
Dr. Nicole Dular	NDMU	Assistant Professor	Tenure-track	PhD, Philosophy	Full-time	PHL 201

Capitol Tech does not offer tenure

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:

NDMU 's new faculty members all receive training in use of the LMS when they join the university. In January 2025, NDMU moved to the Canvas LMS (from Bright Space), so all NDMU faculty have recently received Canvas training. Faculty members who design courses for and teach in NDMU Online are required to complete Quality Matters training to ensure their distance-learning courses align with established best practices. As part of a new professional development initiative launched in fall 2024, a tenured faculty member was appointed to the position of Faculty Development Coordinator (FDC). Among the responsibilities of that position is assessing the need for pedagogical support across the University's faculty and identifying how the needs can be met. The FDC works in consultation with the Chief Academic Officer and the Faculty Senate to ensure that pedagogical development is effective for student learning.

Capitol Tech is committed to supporting faculty through ongoing professional development focused on evidence-based instructional practices and emerging educational technologies. The university's Center for Innovation in Teaching and Learning (CITL) serves as the primary resource for faculty training, offering a range of workshops, seminars, and consultations aligned with pedagogical best practices.

a. Pedagogy that meets the needs of the students

New and continuing faculty participate in regular training sessions that promote student-centered instruction, inclusive teaching strategies, and formative assessment methods. These sessions are tailored to meet the diverse needs of Capitol's student population, including adult learners, transfer students, and underrepresented groups in STEM. Faculty are encouraged to implement active learning, project-based learning, and collaborative techniques that promote student engagement and retention.

b. The learning management system

Capitol Tech uses Canvas as its learning management system. All faculty are trained on Canvas during onboarding and have continued access to hands-on support and tutorials. Advanced training includes strategies for using Canvas tools such as integrated rubrics, discussion boards, analytics dashboards, and course modules to support effective course design and timely feedback.

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

At Capitol Tech For faculty teaching hybrid or online courses, the University provides training in Keller's ARCS Motivational Model, which focuses on:
• Engaging students in online learning
• Enhancing course interactivity
• Improving student retention and satisfaction
Faculty receive training on effective online teaching strategies, including:
• Use of virtual labs and simulations for aviation maintenance
• Creating interactive and engaging course content
• Using assessment tools to measure student learning outcomes
All training sessions are recorded and archived, allowing faculty to revisit best practices as needed.

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.

All joint degree program courses across disciplines offered by NDMU are currently part of existing curriculum, the resources of the Loyola-NDMU library are adequate to support the new program.

Capitol Tech's Puente Library provides comprehensive support for the academic and research needs of students and faculty in the Bachelor of Science in Healthcare Engineering Technology program. The library offers a wide range of physical and digital resources that are regularly evaluated and updated to ensure alignment with program learning objectives and course content.

Students have access to a growing collection of engineering and technology-focused journals, eBooks, technical manuals, and databases. Key electronic resources include IEEE Xplore, ScienceDirect, SpringerLink, JSTOR, and ProQuest, which provide full-text access to scholarly articles, conference proceedings, and applied research across engineering disciplines, including mechatronics, electrical systems, automation, and software development.

In addition to these resources, the library maintains subscriptions to standards databases and industry publications relevant to engineering design, project management, and applied

computing. Reference materials and textbooks for foundational and advanced engineering courses are also available to support curriculum requirements.

To ensure the continued adequacy of resources, the University's academic leadership works closely with library staff to assess new program needs and make targeted acquisitions. Faculty may submit requests for new materials, which are reviewed and prioritized based on course development timelines and accreditation expectations. As the Healthcare Engineering Technology program grows, library collections will expand to include additional resources in interdisciplinary technologies and emerging engineering applications.

Library services also include online research assistance, interlibrary loan, citation support, and personalized instruction on information literacy—ensuring students are prepared to access, evaluate, and apply scholarly information effectively throughout their academic careers. Capitol Tech affirms that the library infrastructure and acquisition process are fully adequate to support the launch and sustained success of the Healthcare Engineering Technology program

Measures to Ensure Adequate Support:
- The university will conduct annual reviews of library holdings to ensure resources remain
current and aligned with industry advancements.
- Additional textbooks, case studies, and technical manuals related to aviation maintenance
management, aircraft systems, and safety protocols will be procured as needed.
- Library staff will collaborate with aviation faculty to identify key academic and industry resources that enhance student learning and research.
- The university will expand access to online aviation and management databases,

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.

Each University already has infrastructure in place to support its specialized programs: engineering in the case of Capitol Tech and healthcare in the case of NDMU . This degree program was initially conceived to leverage existing curricular and facilities strengths with a goal of driving enrollment without significant infrastructure investment on the part of either institution. Office and classroom space as well as appropriate laboratories for both healthcare and engineering studies are adequate for this program.

Laboratory facilities already in use for existing programs in healthcare, biology, chemistry, electrical engineering, mechatronics, computer science, and applied technology will be utilized for this interdisciplinary program. These labs include resources for: Circuit analysis and electronics, Digital systems and microcontrollers, Control systems and automation, Embedded systems and robotics and Engineering design and CAD.

All labs are equipped with industry-standard instrumentation, prototyping tools, software (e.g., MATLAB, LabVIEW, Multisim), and safety equipment. Lab spaces will accommodate the project based and hands-on components of the curriculum without requiring significant new capital investment.

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:

Both institutions ensure that all students and faculty, including those participating in distance education, have robust access to the digital infrastructure required for successful learning and instruction

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

Upon registration students in the program will receive institutional emails (as both Capitol Tech and NDMU students currently do) and LMS access. The LMS supports both distance and face-to-face courses. Introductory instruction in LMS usage is part of the summer orientation materials students currently receive, and students enrolled in the new program will participate in the same introduction.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR13B.02.03.14)

1. Complete Table 1: Resources and Narrative Rationale. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.

TABLE 1: RESOURCES

Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated Funds	$0	$0	$0	$0	$0

2. Tuition/Fee Revenue (c + g below)	$350,060	$707,940	$1,065,072	$1,449,072	$1851644
a. Number of F/T Students	8	16	24	32	40
b. Annual Tuition/Fee Rate	$27,808	$28,503	$29,216	$29,946	$30,695
c. Total F/T Revenue (a x b)	$222,464	$465,048	$701,184	$958,272	$122,7800
d. Number of P/T Students	7	13	19	25	31
e. Credit Hour Rate	$1,519	$1,557	$1,596	$1,636	$1,677
f. Annual Credit Hour	12	12	12	12	12
g. Total P/T Revenue (d x e x f)	$127,596	$242,892	$363,888	$490,800	$623,844
3. Grants, Contracts and Other External Sources	0	0	0	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1 - 4)	$350,060	$707,940	$1,065,072	$1,449,072	$1,851,644

1. Reallocated Funds: There are no reallocated funds anticipated for this program. The Bachelor of Science in Healthcare Engineering Technology program is designed to utilize existing instructional and administrative infrastructure. As such, no current programs will be downsized or eliminated to fund this initiative.

2. Tuition and Fee Revenue: Tuition and fee revenue is based on projected enrollment of new fulltime and part-time students. The projections assume a modest increase in enrollment each year, beginning with 8 full-time and 7 part-time students in Year 1 and reaching 40 full-time and 31 parttime students by Year 5.

The annual tuition/fee rate is based on Capitol Tech's published tuition rates and assumes a 2.5% annual increase.

Part-time revenue is based on a 12-credit load per year, with annual increases in the per-credit tuition rate also assumed at approximately 2.5%. These projections are conservative and aligned with strategic enrollment goals for applied and workforce-oriented engineering programs. The revenue will directly support faculty salaries, support staff, and program operation costs.

3. Grants, Contracts, and Other External Sources: While no specific external grants or contracts are budgeted at this stage, Capitol Tech may pursue workforce development grants, applied STEM education grants, and industry partnerships to support future program enhancement, internships, and student scholarships.

4. Other Sources: No additional sources are identified at this time. However, opportunities such as philanthropic contributions, endowment funds, or state-sponsored innovation initiatives may be explored in future years.

2. Complete Table 2: Program Expenditures and Narrative Rationale. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

TABLE 2: EXPENDITURES

Expenditure Category	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	$113,468	$155,071	$238,421	$325,843	$417,486
a. #FTE	1.5	2	3	4	5
b. Total Salary	$94,557	$129,226	$198,684	$271,536	$347,905
c. Total Benefits (20%)	$18,911	$25,845	$39,737	$54,307	$69,581
2. Admin Staff (b + c below)	$5,942	$6,091	$6,244	$6,400	$6,559
a. #FTE	0.08	0.08	0.08	0.08	0.08
b. Total Salary	$4,952	$5,076	$5,203	$5,333	$5,466
c. Total Benefits	$990	$1,015	$1,041	$1,067	$1,093
3. Support Staff (b + c below)	$59,885	$92,076	$125,837	$161,230	$198,313
a. #FTE	1	1.5	2	2.5	3
b. Total Salary	$49,905	$76,730	$104,864	$134,358	$165,261
c. Total Benefits	$9,980	$15,346	$20,973	$26,872	$33,052
4. Technical Support and Equipment	$840	$1,425	$2,320	$3,145	$4,140
5. Library	$0	$0	$0	$0	$0
6. New or Renovated Space	$0	$0	$0	$0	$0
7. Other Expenses	$5,850	$14,210	$25,370	$39,330	$56,090
TOTAL (ADD 1 through 7)	$185,985	$268,873	$398,192	$535,948	$682,588

Because the joint degree program's design is based on existing courses and curriculum at both institutions, there are no additional instructional expenses for faculty, supplies, or space associated with its creation. Other expenses indicated cover marketing ($20,000 and student events ($2000) as well as a small allowance for unforeseen costs and adjustments for inflation and increases in student numbers.

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. provide for assessment of student achievement of learning outcomes in the program

Assessment of learning outcomes starts at the class level. Instructors use a variety of assessment tools—tests, rubrics, external evaluations—to determine a student's learning and make classroom level adjustments. These assessments are then moved to the departmental level, where department chairs, program directors, and NDMU 's and Capitol Tech's administrators responsible for assessment once again analyze the results, looking for developing patterns. In the case of NDMU , all program assessment data are shared with the University Assessment Committee, made up of faculty and administration, which provides further guidance, oversight, or correction for programming.

The documentation of student learning outcomes is held in multiple places. As mentioned above, course-level assessment is held by faculty, who pass it along to the chairs, directors, and administrators. In NDMU 's case, these assessments, plus departmental feedback and analysis are returned to faculty members and then shared with the larger University Assessment Committee. Documents are held by the UAC and become part of the University's archive of student learning.

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.

The University Assessment Plan at NDMU guides the assessment of student learning outcomes at all levels of the institution. Every course syllabus must continue learning outcomes for the program and the course and assess those outcomes every year. Departments prepare and submit an annual student learning outcomes assessment report, which is reviewed by the University Assessment Committee. Feedback for these reports is provided to the chairs and the faculty at department and individual meetings. All requests for resource allocation and budget change must be supported by assessment data, including coursed based outcomes results.

The ABET accreditation process begins only after at least one student has graduated from the academic program. In preparation for this process, the program develops Program Educational Objectives (PEOs), which articulate the knowledge, skills, and abilities that alumni are expected to attain within three to five years following graduation. These objectives are collaboratively formulated by members of the program's advisory board, which includes both industry professionals and faculty members.

To ensure alignment with ABET's prescribed student learning outcomes, the program systematically maps its courses to these outcomes. The effectiveness of this alignment is evaluated through a comprehensive five-year assessment plan, which involves the assessment and reassessment of learning outcomes across multiple courses. Student learning is measured using both direct and indirect methods. Direct measures include evaluations such as exams, projects, and assignments, while indirect measures encompass student satisfaction surveys—administered biennially—and feedback collected through course evaluations.

In addition to gathering student feedback, the program is required to convene its advisory board regularly. This board plays a critical role in reviewing program objectives, assessing outcome data, and providing strategic guidance to ensure the program remains responsive to industry needs and educational standards.

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

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

The joint degree program will continue, as Capitol Tech and NDMU have successfully done for years, to recruit and retain a diverse community of students, awarding financial aid, as mentioned above, to enable admission and a successful path to the degree. Student services, both academic and co-curricular, will address students' particular needs and support students as individuals. Academic Affairs and Student Life will partner, as always, to ensure a welcoming campus climate on both campuses. Student organizations, events, and staff will provide opportunities for all groups and individuals with attention to those who are not part of the demographic majority. Both institutions want each student to feel valued and respected within their communities. Ensuring diversity, equity, inclusion, and belonging is a hallmark of NDMU 's 2020-2025 strategic plan as well as its 2025 self-study as part of MSCHE reaccreditation.

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

NA

P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)

1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.

NDMU has been permitted since 2008 to offer distance education. In the language of the accreditors, "To acknowledge receipt of the substantive change request submitted by the institution and to include the online Weekend College major in computer information systems within the scope of the institution's accreditation." In 2011, this scope of online courses was extended to the graduate level with the University's Masters in Contemporary Communication

and has since been expanded to several other programs. The MSCHE website affirms these statements, with the approval of program through Distance Education listed under Alternative Delivery Methods. Since 2014, NDMU has participated in NC-SARA, allowing it to offer online courses in most states. The authorization to provide distance education is found at nc-sara.org.

Capitol Tech is fully authorized by the Maryland Higher Education Commission (MHEC) to offer distance education programs. The university has extensive experience delivering online and hybrid instruction across undergraduate and graduate levels in engineering, technology, and business disciplines. Capitol is also a participant in the National Council for State Authorization Reciprocity Agreements (NC-SARA), which allows it to offer distance education to students in other SARA member states.

2. Provide assurance and any appropriate evidence that the institution complies with the C-RAC guidelines, particularly as it relates to the proposed program.

Notre Dame of Maryland University has been approved by its regional accreditor to offer distance education. Distance education supports the NDMU mission of empowering leaders from historically underrepresented communities, as well as its focus on making a liberal-arts education accessible to these same students. Regardless of modality or site, NDMU 's faculty provide students with learner-centric coursework, combined with experiential opportunities.

Capitol Tech affirms that it complies with the Council of Regional Accrediting Commissions (C-RAC) guidelines for the evaluation of distance education. The university ensures the
following:
  – Curriculum quality and rigor are consistent across on-campus and distance-delivered formats.
  – Regular and substantive faculty-student interaction is maintained through scheduled virtual class
  sessions, discussion boards, and timely feedback on assignments.
  – Verification of student identity is conducted through secure login protocols and assessment
  systems that protect academic integrity.
  – Accessible student services (including advising, tutoring, library access, and career counseling)
  are provided to all online students, equal to those offered to campus-based students.
  – Technology infrastructure and support are in place to ensure reliable access to the learning
  management system (Canvas), online communication tools, and technical assistance.
  – Faculty training in online pedagogy and LMS use is required for instructors delivering online or
  hybrid courses.

While the BS in Healthcare Engineering Technology will be delivered primarily in an on-campus format due to its hands-on and lab-intensive nature, select courses—particularly in general education, computing, and technical electives—may be offered through online or hybrid delivery. All such offerings will adhere strictly to institutional and accreditation standards for distance education.

APPENDIX A – Curriculum

Semester	Course	Credits	Prerequisite
Year 1, Semester 1 (NDMU)	ENG-101 College Writing	3	
Year 1, Semester 1 (NDMU)	PSY-101 Introduction to Psychology	4	
Year 1, Semester 1 (NDMU)	MAT-107 Elementary Functions	3	Strong algebraic background (placement test) or completion of MAT-100/MAT-103. Fulfills Gen Ed in Quantitative Reasoning
Year 1, Semester 1 (NDMU)	BUS-202 Principles of Management	3	
Year 1, Semester 1 (NDMU)	BUS-380 Introduction to the U.S. Health Care System	3	
Year 1, Semester 2 (NDMU)	ENG-103 Writing Well	3	
Year 1, Semester 2 (NDMU)	PHL-201 Introduction to Philosophy	3	
Year 1, Semester 2 (NDMU)	MAT-211 Calculus I	4	Placement in MAT-211 or completion of MAT-107
Year 1, Semester 2 (NDMU)	DS-101 (CTU @ NDMU)	3	MAT-107
Year 1, Semester 2 (NDMU)	IAE-201 (CTU @ NDMU)	3	MAT-107
Year 2, Semester 1 (NDMU)	MAT-212 Calculus II	4	MAT-211 or placement into MAT-212
Year 2, Semester 1 (NDMU)	PHY-101 General Physics I	4	MAT-107

Year 2, Semester 1 (NDMU)	BIO-111 Fundamentals of Biology	4	Corequisite: BIO-111L
Year 2, Semester 1 (NDMU)	MAT-215 Basic Statistics	4	MAT-107
Year 2, Semester 2 (NDMU)	PHY-102 General Physics II	4	MAT-211
Year 2, Semester 2 (NDMU)	BIO-201 Human Anatomy and Physiology I	4	BIO-111 or instructor permission
Year 2, Semester 2 (NDMU)	CHM-110 General Chemistry I	4	
Year 2, Semester 2 (NDMU)	PHL-339 Medical Ethics	3	PHL-201
Year 3, Semester 1 (CTU)	EL-100 Introduction to DC/AC Circuits	3	MAT-107
Year 3, Semester 1 (CTU)	EL-204 Digital Electronics	3	
Year 3, Semester 1 (CTU)	CS-120 Introduction to Python	3	
Year 3, Semester 1 (CTU)	IAE-250 Comprehensive Computer and Network Security	3	IAE-201
Year 3, Semester 1 (CTU)	AIT-201 Introduction to Artificial Intelligence	3	MAT-215
Year 3, Semester 2 (CTU)	EL-150 DC/AC Circuits and Analysis	3	Prereq: EL-100; Coreq: MA-114 or MA-261 (or placement equiv.)
Year 3, Semester 2 (CTU)	EL-262 Microprocessors and Microassembly	3	EL-204
Year 3, Semester 2 (CTU)	CS-150 Programming in C	3	MAT-107 and CS-120

Year 3, Semester 2 (CTU)	BME-201 Biomedical Instrumentation	3	EL-200 or equivalent
Year 3, Semester 2 (CTU)	Social Science Elective	3	
Year 4, Semester 1 (CTU)	EL-200 Electronic Devices & Circuits	3	EL-150
Year 4, Semester 1 (CTU)	EE-362 Microcontroller System Design	3	EL-262 or microcomputer/micro-assembly background
Year 4, Semester 1 (CTU)	BME-202 Sensors & Biomedical Signal Processing	3	BME-201
Year 4, Semester 1 (CTU)	SDE-457 Senior Design I	3	Senior standing
Year 4, Semester 1 (CTU)	CS-220 Database Management	3	CS-120
Year 4, Semester 2 (CTU)	BME-303 Control Systems for Healthcare Applications	3	MAT-212 and BME-202
Year 4, Semester 2 (CTU)	BME-304 Occupational Safety & Health (OSHA Certification)	3	None (recommended sophomore standing)
Year 4, Semester 2 (CTU)	BME-405 Medical Wearable Devices & IoMT in Healthcare	3	BME-202
Year 4, Semester 2 (CTU)	SDE-458 Senior Design II	3	SDE-457

MEMORANDUM OF UNDERSTANDING
BETWEEN
CAPITOL TECHNOLOGY UNIVERISTY
AND
NOTRE DAME OF MARYLAND UNIVERSITY

This Memorandum of Understanding ("MOU") is made and entered into by and between Notre Dame of Maryland University, Inc. ("NDMU") located at 4701 N. Charles Street, Baltimore, MD 21210, and Capitol Technology University ("Capitol") located at 11301 Springfield Road, Laurel, MD 20708 to pursue an educational collaboration ("Collaboration") with the mutually beneficial goals as set herein. NDMU and Capitol are sometimes referred to individually as a "Party" and collectively as the "Parties". This MOU shall be effective upon the execution of the MOU and approval by applicable regulatory entities.

I. Purpose

a. The purpose of this MOU is to formalize a partnership by which NDMU will offer its Bachelor of Arts (BA) in Leadership in Hospitality & Event Management program at Capitol in Laurel, MD, and Capitol will offer its Bachelor of Science (BS) in Cybersecurity program at NDMU in Baltimore, MD. Furthermore, subject to prerequisites and other limitations and requirements as outlined in this MOU or as further defined in a separate MOU, Capitol will permit NDMU students to enroll in Capitol cybersecurity related courses offered at NDMU as a part of the BS in Cyber Security program for the purposes of offering a minor in cybersecurity for NDMU undergraduate students.

b. This agreement sets forth the goals, objectives, rights, and responsibilities of the parties. If NDMU and Capitol develop additional agreements to accomplish or supplement specific additional transactions, those agreements shall be made in writing, executed by the parties, and incorporated by reference into this document.

II. Definitions

a. Host Institution – The institution at which the Home Institution has a satellite location providing their degree program.
b. Home Institution – The institution at which a student has been admitted and is enrolled as an undergraduate, degree seeking student.

For example, for the BA in Leadership in Hospitality & Event Management, NDMU is the Home Institution, and Capitol is the Host Institution. For the BS in Cybersecurity, Capitol is the Home Institution and NDMU is the Host Institution.

III.   **Program Description**

c. Cross-registration (i.e. Collaborative) courses include undergraduate courses offered throughout the academic year, excluding independent study courses. These courses are offered at the Host Institution where the respective Home Institution has a satellite location providing their degree.

d. Eligible students include matriculated, degree-seeking undergraduates from Capitol or NDMU enrolled in their respective major with the Home Institution.

e. All Collaborative requests must be approved by both Home and Host Institution. Both institutions have the right to deny cross registration.

f. In general, Collaborative courses should be applicable to the student's general education or elective requirements at their Home Institution.

g. Participating students must have completed the prerequisites for courses to be taken at the Host Institution as specified by the Host Institution.

h. Courses taken for anything other than regular grading (A-F) must be approved at the Home Institution in accordance with existing academic policies. Unless otherwise indicated, students participating in the Collaborative are expected to take courses for regular grades. Permission is required from the Home Institution to take a course using other than regular grading.

i. Existing academic policies of the Home Institution govern the taking of any course for audit through this program. A grade report will be forwarded to the Home Institution at the end of the semester in which the audit course was taken.

j. Registration priority for students participating in the Collaborative is determined by the Host Institution.

k. Each institution will determine which courses taken through the Collaborative are appropriate toward meeting specific general education, degree, or elective requirements.

l. A list of courses available at a Host Institution that count towards a general education or degree (including electives) requirement at the Home Institution will be defined and mutually agreed upon by the Parties. The agreed upon list of courses shall be subsequently incorporated into this MOU as Appendix A. The Parties agree to review and, as appropriate, update Appendix A on at least an annual basis. If a student wishes to take another course at the Host Institution outside of the agreed courses, the Host and Home institution must agree. Some specific courses may be periodically closed to students participating in this Collaborative because of, but not limited to, prior

institutional commitments, scheduling, admission requirements, or excessive enrollment at the Host Institution.

m. In the event that NDMU or Capitol has to, based on extenuating circumstances, pause an academic program covered by this agreement, the party shall notify the other institution in a timely manner and provide a teach-out plan that allows enrolled students to finish the academic program in course as originally approved. Academic advisors from both Capitol and NDMU shall be made available to students to work through the teach-out plan under such circumstances.

n. The Parties agree to each designate a Collaborative Coordinator to coordinate and facilitate the effective implementation of this MOU.

IV. **Policies and Procedures**

a. Students are subject to the academic and non-academic regulations of the Home Institution. Participating students are required to acquaint themselves with both the academic and non- academic regulations of the Home Institution while completing their degree at the satellite location. Additionally, a student enrolled in a Host Institution Collaborative course must adhere to the academic and non-academic regulations of the Host University as these may include, but are not limited to, class attendance-absence, deadlines for grading options, deadlines for course changes and/or withdrawals, academic honor code, student code of conduct, and final examination dates.

b. Participating students who allegedly violate the Host Institution's academic policies regarding including, but not limited to cheating, computer piracy and plagiarism are subject to the Home Institution's disciplinary procedures for handling such matters. The Host Institution's Collaborative Coordinator (or designee) will notify in a timely manner the Home Institution's Coordinator (or designee) and student conduct officer, if applicable, of the incident. The Host Institution may designate an individual to participate/advise in the investigation and adjudication process of the Home Institution. If the charges against the student are upheld, further participation in the Capitol/NDMU Collaborative may be prohibited.

c. Participating students who allegedly violate the Host Institution's code of conduct are subject to the Home Institution's disciplinary procedures. Procedures for notifying the Home Institution's Coordinator and student conduct officer and Host Institution's participation in the investigation and adjudication process are the same as outlined in the immediately preceding subsection of this section. Notwithstanding the foregoing, each institution reserves the right to refuse an individual access to its property in the event of a reasonable threat to campus health or safety as determined in that institution's sole discretion.

d. Participating students are subject to applicable non-academic regulations and penalties of the Host institution that include, but are not limited to parking, technology access and usage, etc.

e. During the add/drop period (i.e. change of schedule period without penalty), students adjust their schedules through the Home Institution's Registrar's Office following the Home Institution's policies, procedures, and deadlines. After the drop/add period, Collaborative course changes and/or withdrawals must be authorized by the Home Institution in accordance with its policies, procedures, and deadlines, in consultation with the Host Institution.

f. Participating students are responsible for attendance in classes at the Host Institution even when classes are not in session at the Home Institution.

g. Notification of the actual grade(s) earned will be sent by the Host Institution to the Home Institution. Notification of final grades will be sent to the student(s) by the Home Institution.

h. The Collaborative Coordinators and Registrars from the institution shall regularly provide each other with information about changes to academic policies, procedures, schedules, and deadlines at their institutions. The Parties agree for the Collaborative Coordinators and Registrars to meet at least bi-annually to review existing exchange policies and procedures to evaluate opportunities for improvement/alignment in furtherance of this MOU.

i. Participating students register for Collaborative courses through the Home Institution's Registrar's Office following the Home Institution's policies, procedures, and deadlines. The Home Institution's Registrar shall transmit registration and other required information on a mutually agreed upon schedule, frequency, and secure electronic format to the Host Institution's Registrar. Registration shall be confirmed by both the Home and Host institutions. If a course is closed, canceled, or needs special permission, the Host Institution's Registrar shall notify the Home Institution's Coordinator and Registrar as appropriate.

j. Courses and grades earned through the Collaborative are posted on the Home Institution's student records in accordance with Home Institution's applicable policies and procedures.

k. Credits and courses in the Collaborative are posted to the participating students' academic records at the Home Institution, and are calculated in students' academic totals (earned hours, quality hours, attempted hours, quality or grade point average) at the home institution, according to its grading policies. The Home Institution determines applicability toward degree requirements.

l. The official student academic transcript is maintained by the Home Institution of students participating in the Collaborative.

V. Facilities & Technology Provided by Parties

a. The Host Institution shall provide, at its sole cost and expense, non-exclusive or exclusive access (as determined by the Host Institution) to standard classrooms and other spaces, including electronic account access to the extent necessary, to the Home Institution's students and faculty to meet the basic instructional needs for the Home Institution's program(s) and courses offered at its facilities.

b. The Home institution shall provide, at its sole cost and expense, the learning management system and program/course specific supplies, equipment, [QUERY: WHAT TYPE OF EQUIPMENT WILL BE NECESSARY? SOME MAY BE OF A TYPE TO BE SUPPLIED BY THE HOST INSTITUTION.] technologies, and other related services necessary to meet the instructional needs for its program(s) and courses offered at Host Institution's facilities.

c. In the event more than de-minimis facility or technological related modifications or enhancements are necessary for the Home Institution to offer its program(s) at the Host Institution, the Parties shall cooperate in good faith with one another to reasonably facilitate the need. Such modifications or enhancements are subject to the approval of the Host Institution.

VI. Marketing

a. All marketing for the Collaboration will be mutually developed by the Parties.

b. The Parties will market the Collaboration as part of their regular and ongoing marketing initiatives for their respective programs, including featuring this agreement on their respective websites.

c. The Parties agree to collaborate and participate in joint public relations activities such as press releases, interviews with media, etc. regarding this Collaboration.

d. The respective deans or other designee(s) of each Party will collaborate and provide input in developing all marketing and public relations. The Parties' Collaboration Coordinators (or designees) will jointly approve all marketing materials.

VII. Tuition & Fees, Finance

a. Except in special, mutually agreed upon circumstances, Collaborative students pay tuition and fees on a semester or per credit hour basis to the Home

Institution. Additionally, some courses require additional fees to cover materials, facilities, or equipment use. These fees must be paid directly to the Home Institution who will transfer the fee to the Host Institution in a timely manner following the add/drop period. When a student is using a Host Institution's course in the Collaborative, the Home Institution shall charge their applicable tuition and fees to the student.

b. Within 30 days following the end of each semester, the Collaborative Coordinator and Registrar for each institution shall document all of the courses and credits taken by their respective students with the other party, and vice-versa. The Collaborative Coordinators and Registrars shall share and collaboratively reconcile their lists. For the purposes of this section, courses and applicable credits shall be counted unless a course was dropped prior to the end of the respective institution's published add/drop period or as otherwise agreed to by the Parties.

c. In the event of an unbalance between the Parties, the Parties agree for the under-balance institution (i.e. their students took more credits with the other institution than vice-versa) to compensate the over-balance institution at a rate of $445 per credit hour for the number of out-of-balance credits. Any balance owed shall be paid to the corresponding institution within 60 days following the end of each semester.

d. The Home Institution shall be responsible for awarding, managing, and reporting all applicable federal, state, institutional, and other financial aid.

e. For the purposes of federal and State reporting, including for Sellinger calculations, the Home Institution shall be the institution of record and count/report Collaborative students in the same manner as any other student.

f. In the event of any uncertainty or dispute with regard to this MOU, the Parties agree to negotiate in good faith to reach a mutually acceptable solution. If unable to reach a satisfactory solution within thirty (30) days of the commencement of negotiations, the following shall apply. The controversy or claim arising out of or relating to this MOU, or the breach thereof, shall be resolved by binding arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, before a single arbitrator, in Baltimore, Maryland, and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof

VIII. Accreditation & Regulatory Approvals

The Parties agree to collaborate on any applicable required accrediting or regulatory approval applications and related submissions associated with the implementation of this MOU.

IX. TERMS AND CONDITIONS

A. Indemnification & Insurance

a. Subject to any limitations and defenses imposed or available by law, the Parties agree that each shall be responsible for its own actions and omissions, pursuant to the performance of this MOU or arising out of the arrangement described in this MOU, and neither party shall try to hold the other liable with respect to any matter not arising from the other party's actions or omissions.

b. Each Party shall purchase and maintain for the duration of this Agreement at least $1,000,000 per occurrence and $2,000,000 in aggregate for each policy year in General Liability Insurance and include coverage for bodily and personal injury, property damage, and contractual liability referring to this Agreement.

c. Each Party (hereinafter referred to as "Indemnifying University") agrees to indemnify, defend and hold harmless the other party, its agents, employees and students (hereinafter collectively or individually referred to as the "Indemnified University") from and against all claims, losses, damages, liabilities, costs, and expenses (including reasonable attorney's fees and costs of defense) arising out of or in connection with any personal injury or property damage arising from the use of the Indemnifying University's facilities or resources in connection with this MOU, except to the extent caused by the Indemnified University's own negligence or willful misconduct.

B. TERM AND RENEWAL

This MOU shall have a term of three (3) years beginning upon the effective date of this agreement and may be extended or amended by written agreement executed by both parties.

C. TERMINATION CLAUSE

a. Either party may terminate this MOU at any time by giving the other party at least ninety (90) calendar days prior written notice. Notwithstanding termination of this MOU, Sections IX(A)(c) and IX(D)(m) survives for a period of 12 months from the date of termination.

b. If this MOU is terminated, all Home Institution enrolled students taking courses at Host Institution on or before the effective date of termination will be able to complete their studies in accordance with the terms of this MOU that are relevant to their specific circumstances.

D. GENERAL TERMS AND CONDITIONS

a. This MOU shall be governed by and construed in accordance with the laws of the State of Maryland.

b. Notwithstanding any other provision of this MOU, all information relating to student educational records shall be treated in accordance with Maryland law and the Federal Educational Rights and Privacy Act (FERPA).

c. The Parties agree not to discriminate in offering equal access to their educational programs and activities or with respect to employment terms and conditions on the basis of age, color, creed, disability, genetic information, marital status, national or ethnic origin or ancestry, race, religion, sex (including pregnancy, sexual orientation, or gender identity or expression) or veteran status or any other characteristic protected in accordance with applicable federal, state, and local laws and regulations.

d. Neither Party shall use the other Party's name, logos, trademarks, service marks, trade names, or brand indicia (collectively, "Marks") for any reason or in any manner, without the other Party's prior written consent. Each Party consenting to the use of its Marks hereunder shall remain the sole and exclusive owner of and retain all right, title and interest in and to its Marks and the goodwill associated therewith. Nothing contained in this Agreement shall be construed as conferring upon any Party, by implication, operation of law or otherwise, any other rights. Upon the expiration or termination of this Agreement, any use of the other Party's Marks and name shall immediately cease (unless otherwise agreed in writing by the owner of such Marks).

e. If any section or provision of this MOU is held illegal, unenforceable or in conflict with any law by a court of competent jurisdiction, such section or provision shall be deemed severed and the validity of the remainder of this MOU shall not be affected thereby.

f. This MOU constitutes the entire understanding and agreement of the parties with respect to its subject matter and cannot be modified, amended, or supplemented, or any rights herein waived, unless such amendment or modification to this MOU (i) is in writing; (ii) refers to this MOU; and (iii) is executed by an authorized representative of each party. This MOU supersedes any and all previous agreements, whether written or oral between the parties.

g. In the event that the parties collaborate in the development of intellectual property, including but not limited to, licenses, patents, and inventions, the ownership rights to the intellectual property shall be defined in writing by a separate agreement to be executed by the appropriate administrative officials at Capitol and NDMU.

h. Notices of any action taken by either party and required to be reported to the other party under this MOU shall be in writing and shall be delivered (a) in-person, (b) by certified mail, postage prepaid, return receipt requested, (c) by U.S. Express Mail or commercial overnight courier that guarantees next day delivery or (d) electronically and shall be addressed as follows:

Capitol Technology University:

Melinda Bunnell-Rhyne
Vice President
11301 Springfield Rd, Laurel, MD 20708
mabunnell-rhyne@captechu.edu

Notre Dame of Maryland University:
Martha Walker
Provost & Vice President of Academic Affairs
4701 N. Charles Street, Baltimore, MD 21210
mwalker12@ndm.edu
CC: Jonas Prida (jprida@ndm.edu)

    i. This Agreement is not assignable but shall bind the successors of NDMU and Capitol.

    j. Nothing in this MOU shall be deemed or implied to create a joint venture or partnership of any kind between Capitol and NDMU. Neither Capitol nor NDMU shall have the right to contract on behalf of or bind the other party or make any commitment, representation or warranty for or on behalf of the other party. Employees of one institution are not deemed employees of the other.

    k. Beginning on the Effective Date and continuing for twelve (12) months after the expiration or termination of the Agreement, each Party agrees that it will not, directly or indirectly, entice, induce, solicit or attempt to cause any officer or employee of the other Party who performed work under this Agreement within the previous twelve (12) months to terminate his or her employment with the Party, or enter into any contract, whether oral or written, hire or employ any such officer or employee. If a Party breaches the provisions of this Section, that Party shall pay the other 50% of such employee's or officer's salary or 50% of such employee's or officer's salary with his or her new employer, whichever is greater. The parties agree that quantifying losses arising from a Party's breach is inherently difficult insofar as a breach may impact the non-breaching Party's reputation and operations, and further stipulate that the agreed upon sum is not a penalty, but rather a reasonable measure of damages, based upon the parties' experience and given the nature of the losses that may result from a breach.

    l. No Party shall be responsible or liable for any default in performance of its obligations under this Agreement, if such default in performance arises directly or

indirectly from causes beyond the reasonable control of that Party, including, but not limited to, fire, flood, war, embargo, strike, boycott, lockout, accident, explosion, fire, riot, insurrection, terrorist act, Act of God, epidemic, pandemic or other action by governmental authority, other than by reason of an act or omission of the Party, but only to the extent and for the duration that the cause prevents performance of the obligation.

m.   In the course of this MOU, the Parties may disclose information to each other that is considered confidential. "Confidential Information" includes any information, regardless of the form or medium in which it is maintained (written, oral, electronic, etc.), that is designated as confidential by the disclosing Party or that, by its nature, ought to be considered confidential by the receiving Party. Each Party agrees to hold in confidence all Confidential Information of the other Party and not to use or disclose such information to any third party without the prior written consent of the disclosing Party. The foregoing obligations do not apply to information that: (i) is already publicly known or becomes publicly known through no fault of the receiving Party; (ii) is lawfully acquired by the receiving Party from a third party without a confidentiality obligation; or (iii) is required by law to be disclosed, provided that the receiving Party gives the disclosing Party prompt written notice of such requirement (to the extent permitted by law) and cooperates in seeking a protective order or other confidential treatment. Each Party agrees to use the Confidential Information of the other Party only for the purposes of carrying out this MOU and will take reasonable measures to protect the confidentiality of such information. Upon termination of this MOU or at the written request of the disclosing Party, the receiving Party will promptly return or destroy all Confidential Information of the disclosing Party, in a form acceptable to the disclosing Party.

n.   This MOU may be executed in any number of counterparts, which may be transmitted electronically, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.
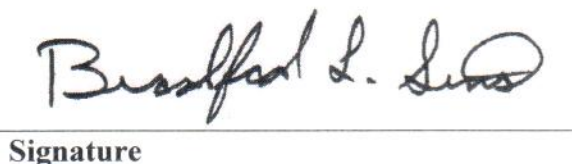
X.   SIGNATURES

_____
Signature

Notre Dame of Maryland University
Organization

President
Title

January 10, 2025
Date

_____
Signature

Capitol Technology University
Organization

President
Title:

January 3, 2025
Date

Appendix A

Notre Dame of Maryland University Host Courses
To be Completed

Capitol Technology University Host Courses
To be Completed