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February 15, 2024

Sanjay K. Rai, Ph.D., Acting Secretary of Higher Education
Maryland Higher Education Commission (MHEC)
6 N. Liberty Street, 10th Floor
Baltimore, MD 21201

Dear Dr. Rai:

The University of Maryland, Baltimore is seeking authorization to offer a **New Area of Concentration from an existing PBC in the M.S. in Health Science Area of Concentration: Social Entrepreneurship**. The PBC in Social Entrepreneurship provides the program's curriculum.

Please find attached a brief proposal that addresses COMAR's requirements. Thank you for your time and consideration of this request. Please contact Dr. Courtney Resnick at cresnick@umaryland.edu or 410-706-1527 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Roger J. Ward".

Roger J. Ward, EdD, JD, MSL, MPA
Provost and Executive Vice President



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

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

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

Payment Submitted:	Yes No	Payment Type:	R*STARS # Check #	Payment Amount:	Date Submitted:
Department Proposing Program					
Degree Level and Degree Type					
Title of Proposed Program					
Total Number of Credits					
Suggested Codes			HEGIS:	CIP:	
Program Modality			On-campus	Distance Education (fully online)	Both
Program Resources			Using Existing Resources	Requiring New Resources	
Projected Implementation Date <small>(must be 60 days from proposal submission as per COMAR 13B.02.03.03)</small>			Fall	Spring	Summer Year:
Provide Link to Most Recent Academic Catalog			URL:		
Preferred Contact for this Proposal			Name:		
			Title:		
			Phone:		
			Email:		
President/Chief Executive			Type Name:		
			Signature:		Date:
			Date of Approval/Endorsement by Governing Board:		

**THE UNIVERSITY OF MARYLAND, BALTIMORE GRADUATE SCHOOL
SUBSTANTIAL MODIFICATION TO AN EXISTING MASTER OF SCIENCE IN
HEALTH SCIENCE**

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A. Centrality to institutional mission statement and planning priorities

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The University of Maryland, Baltimore (UMB) Graduate School is pleased to submit a proposal to substantially modify the existing and previously endorsed Master of Science in Health Science.

The proposed substantial modification to the MSHS will:

- Create a new area of concentration composed of an existing PBC within the UMB Graduate School: Social Entrepreneurship.

The M.S. in Health Science program is interdisciplinary in its delivery and prepares students from diverse professional backgrounds for careers in the health sciences. It was originally proposed to support Physician Assistant Accreditation needs in partnership with Anne Arundel Community College. Several years later it was expanded to include seven new non-clinical areas of concentration, and this proposal is a substantial modification to add an additional area of concentration.

The M.S. in Health Science (MSHS) program is designed completely online and organized around a core curriculum (18 credits) as well as the selection of an area of concentration additional credits to meet the requirements for the degree. The majority of the areas of concentration are also standalone PBCs, with the exception of the concentration in Physician Assistant. The existing areas of concentration for the MSHS include 1) Aging and Applied Thanatology (12 credits); 2) Global Health Systems (12 credits); 3) Global Research Ethics (12 credits); 4) Implementation and Dissemination Science (12 credits); 5) Integrative Health and Wellness (12 credits); 6) Research Administration (12 credits); 7) Science Communication (12 credits); and 8) Physician Assistant which requires additional online and clinical coursework and is accredited through ARC-PA for a total of 116 credits. This proposal seeks to add an additional area of concentration as follows:

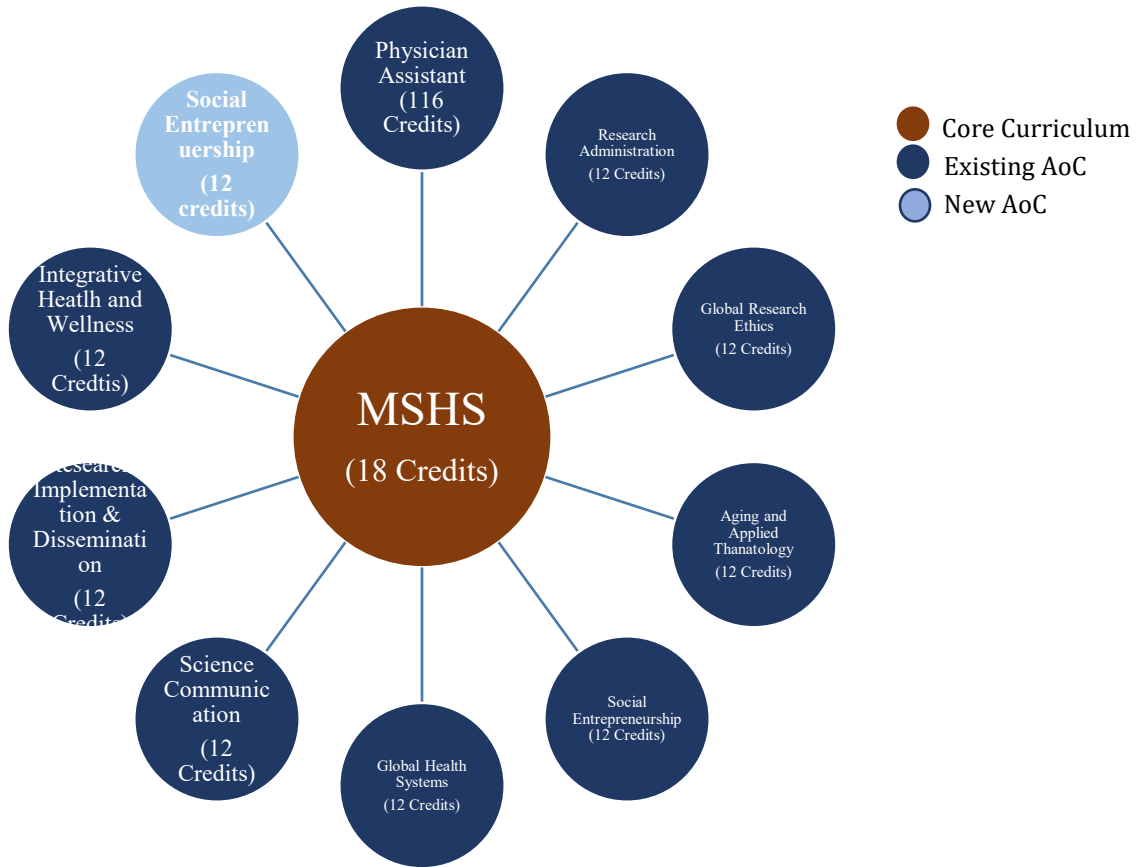
Social Entrepreneurship (12 credits)

A new area of concentration in Social Entrepreneurship will leverage the coursework of an existing PBC of the same name. The area of concentration in Social Entrepreneurship is a 12-credits and is comprised of 4 courses, and the goal of the program is to provide learners with advanced knowledge in best practices of innovation, entrepreneurship, and design-thinking to solve complex health and social challenges. Students will learn:

- Use the principles of human-centered design to identify societal, community, and individual needs.
- Apply concepts of innovation and entrepreneurship in new ventures and existing ventures.
- Identify and apply tools, methods, and self-reflection techniques necessary to evaluate the market viability of new ideas.

- Identify various social, health, and biomedical enterprise strategies and critically assess their effectiveness in economic development and social transformation.
- Demonstrate the ability to develop and execute a work plan leading to a social, health, or biomedical innovation.
- Build strong professional relationships with and draw upon the resources of faculty, community practitioners and entrepreneurs, student colleagues, and external advisors.
- Explain basic principles of accounting, financing models, equity financing, investing and different types of funding including crowdfunding, angel investors, grants, and venture capital.
- Develop a sustainable business and financing model to advance a health or social innovation concept, emphasizing principles of growth strategies and scaling.
- Conduct a market analysis and apply the marketing mix as it relates to health and social enterprises.
- Develop a marketing plan for a social, health, or biomedical venture.

Figure 1: Proposed 30-Credit MSHS Degree and Areas of Concentration (AoC)



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

The proposed modifications to the MSHS advances UMB's mission "to improve the human condition and serve the public good of Maryland and society at-large through education, research, clinical care, and service." Additionally, the modified MSHS contributes to the fulfillment of related strategic goals for UMB in a number of significant ways:

- One of the university's key strategic themes is to "excel at interdisciplinary research and interprofessional education, clinical care and practice, and public service. The modified MSHS directly responds to this theme by building areas of concentration which are focused on interdisciplinary research (i.e. Research Implementation, Global Research Ethics, Science Communication), interprofessional education (i.e. Aging and Thanatology, Global Health Systems, Social Entrepreneurship), and clinical care and practice (Physician Assistant Studies).
- The university has recognized the important role the Graduate School plays in creating accessible education for individuals already engaged in their professions. The modified MSHS is a professional master's degree, which may be completed by a working professional in as little as 21 months in an online environment.

3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation.

The proposed program has steadily grown since its launch nearly ten years ago. There is already existing faculty and coursework to support the proposed area of concentration since it already exists as standalone PBC. The UMB Graduate School has the capacity to offer the proposed degree program within existing resources and to ensure continued funding to support the program into the foreseeable future even if enrollment should not meet our expectations, which we do not anticipate.

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

The UMB Graduate School has an ongoing commitment to sustaining new degree programs it has developed. The Graduate School has committed significant resources in the realm of administrative support including a dean, associate dean, and program director who will provide leadership for the quality and sustainability of these new areas of concentration. Additionally, the Graduate School plans sufficiently to ensure the financial viability of all new degree programs including the provision of faculty instruction and advisement at a level to ensure a high touch learning experience for students. The Graduate School has also invested in technical assistance through our centralized Center for Information Technology Services and the Faculty Center for Teaching and Learning, which both assist our faculty and students in their success as teachers and learners, respectively. If for some unforeseeable reason the Graduate School

discontinues the M.S. in Global Health, then we are committed to a teach-out plan for all enrolled students so they may complete the program and earn their degree.

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

When we originally designed this program, we were influenced by the former Secretary of Education, Dr. James Fielder's opening letter in the last Maryland State Plan which explained that Maryland's students are "entering an economy that is challenging, innovative, global, and diverse." The former Secretary's sentiments are reflected in a growing interest in innovative curriculums that serve diverse and global learners. These competencies in health science earned by Maryland students will undoubtedly benefit the state.

The proposed area of concentration aligns well with the former State Plan when it was originally conceived, and continues to align with the new state plan, which emphasizes academic excellence and innovation including piloting learning pathways for working professionals, as well as attract, retain, and graduate more Maryland students.

Relative to access, an online program also offers post-traditional learners a pathway to earning their M.S. in Health Science in a format that allows them to balance their educational objectives with competing demands of family and work. Finally, regarding the priority of EDI, programs such as UMB's M.S. in Health Science have attracted students from diverse backgrounds originating both locally and internationally. UMB has a full-service student support model to ensure early identification of students who may be struggling academically and to intervene to improve the likelihood of graduate school completion.

The MSHS is a post-professional degree designed to prepare individuals for emerging leadership roles in the rapidly changing health care and research environments and to enhance opportunities for advancement in clinical, educational, and administrative areas. Emphasis is on independent, self-directed learning and the development of diverse roles. The University of Maryland, Baltimore with its health, human services, and research focus is well-positioned to meet this growing need in Maryland and in the region.

The MSHS program is intended for practicing professionals or those with an undergraduate degree in a health-related area with plans to pursue a career working in health, human services, and research settings. Courses are primarily offered online to accommodate the needs of working professionals.

Due to the nature of the MSHS, which is combined strategically with a PBC, graduates from the MSHS program and its associated concentrations will be trained for a number of positions in areas of growth in the state of Maryland and in the region. Graduates will be qualified to fill positions of high demand in Maryland, which has been described in previous sections of this proposal, but may include:

- Physician Assistant
- Orthopedic Physician Extender
- Nurse Practitioner
- Advance Practice Provider
- Research Coordinator
- Research Associate
- Laboratory Researcher
- Grants Analyst
- Grants Program Manager
- Research Assistant
- Research Analyst
- Research and Development Specialist
- Strategy Analyst
- Research Coordinator
- Reporting and Analytics Specialist
- Medical Liaison
- Clinical Data Specialist
- Hospice Case Manager
- Coordinator of Bereavement Services
- Spiritual Care Coordinator
- Grief Counselor
- Care Leader
- Funeral Director
- Refugee Behavioral Research Manager
- Program Director
- Disaster Manager
- Program Manager
- Science Communication
- Program Director
- Project Coordinator
- Disaster Relief Counselor
- Clinical Trials Assistant
- Learning Development Specialist
- Disaster Relief Counselor
- Program Manager
- Project Manager
- Technical Writer
- Grant Writer
- Medical Writer
- Scientific Writer
- Communications Consultant
- Social Media Specialist
- Policy Editor
- Wellness Consultant
- Life Coach
- Health and Wellness Advisor
- Wellness Support Coach
- Active Life Coordinator
- Substance Abuse Counselor
- Health Promotions Instructor
- Clinical Services Representative

The list of occupations within the health sciences is long because health science professionals work in hospitals, dental offices and laboratories, government and private research centers, pharmaceutical and biotechnology companies, community and public agencies, and large health care organizations, entrepreneurs, to name just a few. Additionally, there are very few economic sectors that are experiencing growth at the rate of health sciences. Due to the aging population and major changes in the health care market, careers in health sciences are expected to see substantial growth over the next decade and into the future. Job growth for most health science occupations, however, are

expected to double, triple, or even quadruple that rate over the same period.

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

To meet the high demands of employers for candidates that are well-trained in the healthcare industry, we have created this Master of Science in Health Sciences degree program. We have strategically aligned the courses in our program to coincide with the current needs of employers in the industry to ensure that our graduates are well prepared for professional success.

The chart below represents the number of positions available for common job titles for people with Master of Science in Health Sciences degrees and is specific to the concentrations offered in our degree program based on information provided by www.indeed.com.

Table 1. Job Availability for Selected Careers Relevant to the MSHS

Keyword Search	Number of Jobs Available in Maryland	Number of Jobs Available Nationally
Physician Assistant	582	16,142
Health Educator	310	16,220
Hospice Case Manager	42	6,791
Research Coordinator	856	24,089
Disaster Manager	256	10,622
Biostatistician	58	812
Clinical Researcher	2,369	71,003
Scientific Writer	84	1,178
Wellness Consultant	72	449
Grants Manager	448	11,173
Health Science Specialist	435	9,953

According to Payscale.com, the average salary for MSHS degree holders is \$57,133 in the first four years after graduation. As with any degree, the more experience and tenure one has in their field, the higher the increases the earning potential. The figures below represent the average salaries for individuals with MSHS degrees in various industries:

- Private Practices: \$78,612
- Hospital: \$83,706
- College/University: \$67,175
- State & Local Government: \$52,000
- Non-Profit Organizations: \$64,046

These figures are also dependent upon where the individual lives and the cost of living for that state. The figures below represent some of the average salaries for MSHS degree holders, by state:

- Florida: \$77,841
- Maryland: \$60,678
- California: \$81,231
- North Carolina: \$80,992
- Massachusetts: \$86,993
- Virginia: \$75,000
- Ohio: \$64,749

D. Reasonableness of Program Duplication

Towson University is the only school in Maryland that currently offers a master’s in science in Health Sciences degree. Towson’s program offers students concentrations in Administration, Community Health, and School Health Education. Graduates from Towson’s program often go on to work in government sectors, school settings, and public and private sectors. Our program is different because the majority is exclusively online and designed for adult learners.

Although the upcoming MS in Biomedical Sciences at Morgan State University is categorized under the same CIP code (HEGIS: 1201.00; CIP: 51.0000), there are significant differences between this program and UMB’s MS in Health Science. Most notably, the MS in Biomedical Sciences at Morgan State University was tasked by Congressionally Directed Spending request to the Labor, Health and Human Services, Education and Related Agencies Appropriations Subcommittee for fiscal year 2023 to serve as a feeder program for medical school and to support the physician shortage as well as support the growing need for physicians from structurally excluded groups. The proposed AoC in Social Entrepreneurship does not compete with Morgan State University’s important charge and aim, but instead has a different audience of students and intended outcomes.

University of Maryland, Baltimore’s MS Health Science degree is further unique because it emphasizes concepts and practices that health science professionals will need for career advancement in their specialized areas. Social Entrepreneurship doesn’t exist as an AoC in other health science degrees in the state, and we do not see the potential for program duplication.

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

Beyond the relationship noted above in the CIP code in Section D regarding Morgan State University, the proposed MS in Health Science does not have relevance to the uniqueness of academic programs in Maryland HBIs. Bowie State University, Coppin State University, Morgan State University, and University of Maryland Eastern Shore do not offer a M.S. in Health Science degree. No HBIs in Maryland offer a program that is comparable to the proposed MSHS (and its concentrations) offered by UMB. Thus, there is no negative impact on HBIs.

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

The proposed MS in Health Science does not have relevance to the uniqueness and/or institutional identities and missions of HBIs.

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

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

The M.S. in Health Science was proposed by the UMB faculty and approved by the faculty shared-governance body, the Graduate Council, in recognition of the compelling need for specific education and training in health science.

All courses in this proposal are already existing since this is a modification of a degree, and instead we are creating additional opportunities for students to “stack” the Social Entrepreneurship PBC into the MS in Health Science and have it exist as an area of concentration.

The faculty overseeing the program are listed with their credentials in Section I, subsection 1: Adequacy of Faculty Resources.

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

The Graduate School recognizes that each master’s prepared student must be prepared to apply specialize knowledge of their field, consolidate learning theory from different fields of study to discover and explore concepts and questions related their field of study, demonstrate intellectual skills of analytic inquiry, use of information resources, engage diverse perspective, ethical reasoning, quantitative fluency, and communicative fluency. They must be prepared to work in teams to solve the difficulty dilemmas of our time while engaging with and responding to civic, social, environmental, and economic challenges at the local, national, and global levels.

At the conclusion of their study each student enrolled in the MSHS will achieve the following outcomes:

- Search, interpret and evaluate medical and public health literature, including qualitative and quantitative studies.
- Examine and critically appraise healthcare delivery systems and health policy at the local and global level.
- Discuss and inform health care system care delivery, patient safety, quality, and risk management.
- Apply knowledge to improve; prevention of disease, maintenance of public health and participate in disease surveillance, reporting, and intervention.
- Articulate and explain principles and practice of medical and public health ethics.

Learning outcomes the AoC in Social Entrepreneurship are further listed in Section A.

3. Explain how the institution will provide for assessment of student achievement of learning outcomes in the program and document student achievement of learning outcomes in the program.

Faculty assess student achievement and mastery of learning outcomes in their courses using a variety of assessments including meaningful and substantive contributions to online course discussions, satisfactory completion of assignments and reflections, scores on quizzes and examinations, scores on team collaboration, scores on written essays and term papers, and evaluation of research and capstone project contribution to the field of Health Science.

Students also have the opportunity to evaluate courses and faculty through a standard evaluation of every course. Formal assessment planning is already in place throughout UMB Schools including the Graduate School. Our approach includes ensuring that student learning is in alignment with course learning outcomes, alignment of mission at institutional and program levels, alignment of mission with learning outcomes, then program outcomes with curriculum, flowing down to course outcomes and assignments. Assessment activities emphasize analysis of results and feedback loops for continuous improvement. Additional evaluation includes tracking of student retention, grade distributions, and cost-effectiveness, and regular academic program reviews consider these factors.

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

Students must complete all the following core courses (18-credits, online)

- **MHS 600: *Introduction to Library Resources and Scholarly Writing* (1-Credit)**
This course is designed to provide graduate learners the opportunity to develop skills in both accessing relevant online library resources and engage in scholarly writing. The portion of the course focusing on library resources teach and strengthen lifelong research and information competency skills by introducing student to the nature of research and the role of library in the research process. Students learn the core concepts of information retrieval and essential techniques for finding, evaluating, analyzing, organizing, and presenting information. The topics covered include: using online catalogs to locate books and other library resources; developing research strategies; exercising critical thinking to evaluate information; applying critical and search techniques to electronic databases; understanding citation formats and using the internet as a research tool. The scholarly writing of the course will place emphasis on organization, effective conveyance of thoughts through written words, and writing for multiple types of audiences. Students will have the opportunity to improve both their academic writing and their research skills as they write a literature review or a proposal. Emphasis is placed on conventions of scholarly writing and organizational strategies as well as grammar, editing, and usage.
- **MHS 602: *Legal and Ethical Issues for Health, Human Services, and Clinical Professionals* (2 Credits)**
This 8-week, 2 credit online course will explore ethical and legal issues that are timely and germane to health professionals. This course is based on the premise that to act in an ethical manner means to engage in conduct according to accepted principles, and to improve moral confidence and moral action we must prepare the

next generation of health professionals with the ethical resources, tools and skills. A case based learning design will be utilized to engage students in ethical discussion, exploration, analysis with the goal of determining ethical and legal action that is sound and logical. This course will prepare students to make ethical health care decisions in the future.

- MHS 652: *Communications and Leadership* (3 Credits)
Students learn effective management and communication skills through case study-analysis, reading, class discussion and role-playing. The course covers topics such as effective listening, setting expectations, delegation, coaching, performance, evaluations, conflict management, negotiation with senior management and managing with integrity.
- MHS 615 *Biostatistics for the Health Professional* (3 Credits)
We live in a time exploding with data. Everything from individual wearable technology to community and national profiles, yet few students are prepared with the quantitative skills to analyze and evaluate that data and draw conclusions. This course will present basic statistical methods to a broad range of medical or public health problems. The course will emphasize the use of these methods and the interpretation of results using bio-medical and health sciences applications, healing clinicians move beyond the data to decisions.
- MHS 608: *Research Seminar I* (3 Credits)
This is a 3-credit seminar course designed to give students the basic information regarding health sciences research discoveries. It also provides students with the tools to approach translational research in their present and future work. The course covers the core competencies in clinical and translational research, and each session addresses a core thematic area. Students log-in once a week during the semester. Faculty members give a lecture, followed by a student-led presentation. The presentation is followed by a discussion in which all students are evaluated based on participation. Students are given a short essay assignment based on each lecture. The student presentations and short essays count toward the final grade. A research paper also is assigned.
- MHS 609: *Research Seminar II* (3 Credits)
This course is a continuation of the prior research seminar course. Students will be divided in small groups to work collaboratively, researching under the mentorship of a faculty member to discuss current clinical issues. Students will complete a literature search and propose a practice-based improvement plan. Final approval by a faculty mentor is required.
- MHS 700: *Capstone Project* (3 Credits)
The capstone is designed to be a supervised health science learning experience and a demonstration of the substantive application of the knowledge and skills that have been acquired in the courses taken as part of the M.S. in Health Science Program. The capstone functions as both the practice experience and the culminating experience for

the program. The M.S. in Health Science capstone experience includes the following components: development of a capstone proposal; delivery of an oral presentation at UMB, and at the field placement site as appropriate; and preparation of a capstone portfolio.

Master of Science in Health Sciences Areas of Concentration

Students choose from one of nine areas of concentration including Physician Assistant Studies, Global Research Ethics, Aging and Applied Thanatology, Science Communication, Research Administration, Global Health Systems, Implementation and Dissemination Science, Integrative Health and Wellness and the proposed Social Entrepreneurship. All are online except for Physician Assistant Studies, which has clinical and didactic components.

NEW* - Social Entrepreneurship area of concentration (12 credits, also a standalone PBC)

- **INNO 600: *Foundations in Health and Social Innovation* (3 Credits)** This course introduces students to social and health entrepreneurship through case studies, key readings, and primary information resources. Students will become familiar with the social determinants of health, systems of public health, the science of team-based innovation, basic business fundamentals, and the essentials of social and health improvement through the lens of entrepreneurship. Students will begin to develop skills demonstrated by successful social entrepreneurs, including team building and leadership, negotiation, and working in complex social and cultural environments. They will explore the sources of funding for social enterprises, including philanthropy, governmental funding, and income generating, self-sustaining social enterprises.
- **INNO 602: *Methods in Innovation* (3 Credits)** This course provides an overview of the entrepreneurial process, while examining entrepreneurship from a range of several scholarly contexts, including the social, health and behavioral sciences. The course introduces the student to the language of entrepreneurship and covers the initial stages of idea formation and initial development of entrepreneurial opportunities. Emphasis is given in this course to developing theoretical frameworks for enhancing entrepreneurial success. Students will learn to engage with their ideas in early-stage market and rapid prototyping. Students will engage in both qualitative and quantitative approaches to understanding innovation. Students will learn the tools, methods, and self-reflection techniques necessary to bring new ideas to reality while also providing them with ways to learn about how to test the viability of and response to their ideas in the market. Learning through iteration is a key component of this course as it is expected that the first version of any idea is not likely the last. Human-centered design methodologies will be front-and-center in this course from the perspective of how to innovate based not on the ideas of the innovator but based first on the needs of the customer. This course will provide practical, real-world knowledge about the lean approach, human centered design, how to design a minimum viable product, when to pivot, and other aspects of entrepreneurial strategy.

At the end of the course students will be able to develop a strategy to launch their ideas.

- INNO 640: *Business and Finance* (3 Credits) This course is designed to provide students with an understanding of the essential elements of successful business strategy and financing. Students will create a business canvas and will gain an understanding of basic principles in accounting, financing models, equity financing, and investing. In addition, students will be exposed to different types of funding including crowdfunding, angel investors, grants, and venture capital. At the end of the course, students will be able to develop a sustainable business and financing model to advance their health or social innovation concepts. Emphasis will be placed on principles of growth strategies and scaling growth opportunities.
- INNO 642: *Marketing Strategies* (3 Credits) Students will learn how to conduct a market analysis and apply the marketing mix as it relates to health and social enterprises. Students will employ techniques to market their ideas effectively using best practices in digital marketing, SEO, social media, and public relations. Emphasis will be placed on customer discovery, determining segments and positioning, the importance of branding, consumer behavior, and strategic marketing management. By the end of the course students will be able to develop a marketing plan for their health and social venture and examining marketing needs in the context of their goals and business strategy.

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

Not applicable.

5. Identify any specialized accreditation or graduate certification requirements.

The MSHS-PA concentration is accredited by the Accreditation Commission on Education for Physician Assistants (ARC-PA). There are no specialized accreditation or graduate certification requirements for any other aspects of the MSHS for other areas of concentration.

H. Adequacy of Articulation

Not applicable.

I. Adequacy of Faculty Resources

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

UMB is committed to providing the best online teaching and learning possible and to excellence in all of its courses. Every effort is made to ensure that coherence, cohesiveness, and academic rigor between programs offered in traditional instructional formats and those offered on-line are equivalent. Courses are designed to result in learning outcomes appropriate to the rigor and breadth of the course and all courses assess student achievement of defined learning outcomes through regular and formal assessment planning.

Table 2. Faculty Resources Available in the Modified MSHS and Certificate Programs

Course Title	Faculty Lead, Degree, Rank, and FT/PT Status
Master of Science in Health Sciences Core Courses (18 credits)	
MHS 600 Introduction to Library Resources and Scholarly Writing (1)	Isabell May, PhD in American Studies, Associate Professor, FT
MHS 602 Legal/Ethical Issues for Health, Human Services and Clinical Professionals (2)	Sarah Archibald, PhD in Public Policy, Adjunct Associate Professor, FT
MHS 652 Communications and Leadership (3)	Jenny Owens, ScD in Information and Interaction Design, Associate Professor, FT
MHS 615 Biostatistics for the Health Professional (3)	Larry Magder, PhD in Biostatistics, Professor, FT
MHS 608 Research Seminar I (3)	Niya Werts, PhD in Information Systems, Associate Professor, FT
MHS 609 Research Seminar II (3)	Niya Werts, PhD in Information Systems, Associate Professor, FT
MHS 700 Capstone Project (3)	Niya Werts, PhD in Information Systems, Associate Professor, FT
NEW Social Entrepreneurship AoC (12 credits)	
INNO 600 Foundations in Health and Social Innovation (3)	Jim Kucher, DPA, Associate Professor, FT
INNO 602 Methods in Innovation (3)	Jim Kucher, DPA, Associate Professor, FT
INNO 640 Business and Finance (3)	Jim Kucher, DPA, Associate Professor, FT
INNO 642 Market Strategies (3)	Jim Kucher, DPA, Associate Professor, FT

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

UMB has a robust process for training faculty and ensuring effective instruction. Based on Quality Matters standards, UMB developed a rubric which details the best practices for distance education; this rubric helps faculty and instructional designers create the courses; assesses the readiness of the course and ensures that the online courses are instructionally and pedagogically sound. The best practices are a synthesis of strategies, activities, design techniques, and organizational items that have been successful in higher education. The specific domains of this checklist are as follows:

- Course overview and introduction to the students
- Course organization and design
- Learning Objectives (competencies)
- Instructional Materials
- Learner Communication, Interaction and Collaboration
- Assessment and Evaluation (measurement)
- Course Technology
- Learner Support

The Learning Management Platform UMB utilizes and provides IT support for the Blackboard Learning Management System for online course delivery. Within Blackboard, is the Collaborate conferencing software that we will use for our synchronous live activities, i.e., orientation and presentation face-to-face class sessions and recurring webinars. Additionally, the Faculty Center for Teaching and Learning which houses expert Instructional and Educational Media Specialists, uses of a video camera to record lectures, integrate webcams, and an interactive smart board. We also use the Camtasia software for screen lecture capture.

J. Adequacy of Library Resources

The University of Maryland, Baltimore's Health Sciences and Humans Services Library (HS/HSL) collection contains more than 30,000 electronic journals, 162 current print journals, approximately 170,000 books, and 6,000 electronic books. Students can access the electronic resources offered on the library web site by logging in with their University ID number. The library serves as the regional medical library for ten southeastern states as part of the national Library of Medicines National network of Libraries of medicine. In addition to the library services and collections, the building also houses the computing services. Faculty librarians are dedicated to providing direct service to students.

K. Adequacy of Physical Facilities, Infrastructure, and Instructional Equipment

UMB's 71-acre research and technology complex encompasses 67 buildings in west Baltimore near the Inner Harbor. Faculty have offices provided within their respective departments and the Graduate School has identified office space to house the Program Manager Specialist and

instructional technology personnel. UMB has adequate facilities, infrastructure and equipment to support any distance learning needs of the master's program. Students will have full access to the computing facilities at UMB. Students will be provided with UMB e-mail and library accounts and will have complete journal searching ability via PubMed. UMB possesses computing facilities that include a networked computing environment for support of a broad range of information technology functions, including basic research, clinical research, patient information and general office management.

L. Adequacy of Financial Resources with Documentation

No new general funds will be required for implementation of the proposed changes in the MS in Health Science, which will be coordinated and administered fully through the Graduate School and using existing resources.

M. Adequacy of Provisions for Evaluation of Program

Students will have the opportunity to evaluate courses and faculty through a standard evaluation of every course. Formal assessment planning is already in place throughout UMB Schools including the Graduate School. Our approach includes ensuring that student learning is in alignment with course learning outcomes, alignment of mission at institutional and program levels, alignment of mission with learning outcomes, then program outcomes with curriculum, flowing down to course outcomes and assignments. Assessment activities emphasize analysis of results and feedback loops for continuous improvement. Additional evaluation includes tracking of student retention, grade distributions, and cost-effectiveness, and regular academic program reviews consider these factors.

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

UMB is strongly committed to cultural diversity and the recruitment and retention of underrepresented minority students. Recruitment efforts for the M.S. in Health Science include specific outreach to Historically Black Institutions. Further, UMB has established the Tiri Scholarship, which provides 10 full scholarships to students working with UMB and located on the African continent. Tiri scholars can either enroll in the M.S. in Global Health or the M.S. in Health Science.

O. Relationship to Low Productivity Programs Identified by the Commission

The proposed concentration is not directly related to an identified low productivity program identified by the Maryland Higher Education Commission.

P. Adequacy of Distance Education Programs

Context of Online Education at UMB

As the State's public health, law, and human services university, the mission of UMB is to excel at professional and graduate education, research, patient care, and public service, and to educate

leaders in health care delivery, biomedical science, global health, social work and the law. Also, UMB emphasizes interdisciplinary education in an atmosphere that explicitly values civility, diversity, collaboration, and accountability. UMB expects to achieve its mission in education excellence and to be competitive; the Graduate School has designed and offered online degree programs that respond to the following changes occurring in higher education (Allen, 2010).

1. **Education Pipeline.** The education pipeline includes a highly diverse prospective applicant pool. Prospective students are typically working adults who pursue part-time and non-residential educational opportunities, but who wish to remain in their regional geographic area, while pursuing advanced education. According to the National Center for Education Statistics, National Postsecondary Graduate Student Aid Study (NCES, NPSAS: GR; 2017), between the period of 2008 and 2017, there was a slight increase (3%) in the number of graduate students reporting full-time (FT) enrollment at a single institution. We suspect this may be partially influenced by availability of new online educational programs, where one can work, be considered enrolled FT, yet negotiate academic studies as one's lifestyle permits.
2. **Changing Demographics.** Data indicate a shift from the traditional student (the 18-22-year-old, full-time resident) to older students studying part-time. In 2015-2016, the National Center for education Statistics (NCES, 2017) reported that 37.58% of graduate students were married and the average graduate student was 32 years old ($SD= 9.66$). Nearly 9% of single/unmarried/divorced graduate students reported dependents, and nearly 60% of graduate students were female.
3. **Technology Shift.** Educational research suggests that online education achieves the same as, or better student learning outcomes, than traditional face-to-face delivery models (Tallent-Runnels, et al., 2006; Means et al., 2009. Online delivery is far outpacing traditional forms of educational delivery. Between 2002 to 2008, online enrollments grew at an annual rate of 19% vs. 1.5% versus all of Higher Education. By the fall of 2008, 25% (4.6 million) of all students took at least one online course. In 2019, the top five highest reported college enrollments nationally four were online universities, offering at least some graduate programs (NCES).
4. **Growth of Mobile Technologies.** Mobile technologies and miniaturization are changing the computing environment and the educational delivery paradigm. Technologies like netbooks, e-Readers, iPhones and iPads have revolutionized the delivery space and to provide anywhere, anytime learning.
5. **Web 2.0 Revolution.** Other technologies that are already figuring widely into the future of education are part of the Web 2.0 revolution. The use of a variety of technologies is disaggregating the educational experience into 'the cloud'. Many of the technologies for the future, like blogs, wikis, podcasts, video, social networking and social media, virtual worlds, mobile learning, and Personal Learning environments, will have profound effects on the future learning landscape.

Essentially, online education represents a strategy that can address the restrictions of traditional onsite college courses, opening up accessibility for variety of learners, for a variety of reasons and expanding access to global education opportunities and expertise, beyond the walls of the campus. Major determinants of successful online programs include 1) course design that incorporates best practices (e.g. course alignment, integration of technology and content), 2) quality faculty who can engage students in the material (e.g. provide feedback and relevant expertise), and 3) provide responsible academic oversight. All three of these determinants are present in this proposal.

Instructional Design Team

The following individuals from the Faculty Center for Teaching and Learning have been assigned to direct the distance education strategy for the four additional certificate programs:

- **Sol Roberts-Leib, EdD | Director, Faculty Center for Teaching and Learning**
Dr. Roberts-Lieb holds a doctorate in Education Policy, Organization, and Leadership. He approaches faculty development with a "competency-based" mindset, recognizing the potential for fostering ongoing, relational initiatives aimed at nurturing and enhancing faculty members' educational knowledge and skills. Dr. Roberts-Lieb led initiatives to integrate educational technology in pedagogically appropriate ways, as well as supported the College's integration of the Problem-Based Learning instructional strategy and also teaches in our Health Professions Education MS and PhD.
- **Kevin Engler, MA | Instructional and Curriculum Designer**
Mr. Engler holds a Master of Arts degree in Instructional Design. Mr. Engler provides instructional design, audio-visual support, and faculty training in the use of instructional technologies. He is responsible for the overall pedagogy, planning and designing of course content and assessments for distance education courses in the program. Mr. Engler is knowledgeable in adult learning theory, distance education pedagogical techniques, course development planning and process management. Mr. Engler is trained and certified in the Quality Matters methodology and the ADDIE approach to course design. He has experience and background in writing instructional objectives that utilize Bloom's Taxonomy.
- **Erin Hagar, MA/MFA | Instructional and Curriculum Designer**
Ms. Hagar taught Spanish at the college level and has worked in instructional and curriculum design for colleges and universities since 2000. She previously worked at Montgomery Community College and Johns Hopkins University, helping faculty incorporate new pedagogical practices and technologies into their face-to-face and online courses. Her areas of expertise include faculty development and training, online course design using the Quality Matters standards, and authentic activities and assessments. She is responsible for the overall pedagogy, planning and designing of course content and assessments for distance education courses in the program.
- **Sharon Gillooly | Senior Media Production Specialist**
Ms. Gillooly leads media production for the AIDE team. Her main focus is to produce

videos that support academic instruction. After a long career in documentary television, she completed a master's Certificate in Online Instructional Development from Florida State University where her work focused on instructional design and emerging technologies. Ms. Gillooly is especially interested in the use of media to enhance learning.

- **Eric Belt, MS | Instructional and Curriculum Designer**

Dr. Belt holds a PhD in Educational Technology, a M.A., Distance Education & E-Learning from UMUC and a B.S., Business Administration from Towson University. Prior to joining UMB, Eric was the Director of Learning Technology at the College of Southern Maryland and, formerly, the Assistant Director of eLearning at Howard Community College. Eric has served as an Instructional Designer both virtually and on-campus for various community colleges across the U.S. and is active in the Maryland Online community. Eric brings a skills and interest in advancing the scholarship of teaching and learning through course design, instructional communication, and faculty professional development.

Collectively, the distance learning team will provide the following services to ensure that best pedagogical practices are used to train and support the most effective presentation of their course content.

- Guided tutorials on the online course development process, with open questions and answer session.
- Written instructions accompanied by training videos to guide faculty on how to use the learning management system.
- A manual for the faculty regarding principles of good practice and the pedagogy of distance education.
- Provide timely support to the faculty in the use of the technology and trouble shoot any problems that might arise during the course of instruction.
- Work with faculty to design and develop courses, monitor the delivery of the course, and assess and revise the course for future offerings.

Supporting Students in Distance Education

The M.S. in Health Science is an online program, and in our experience we recognize that the key to the success of the online courses is dependent on a) students knowing upfront the assumptions, requirements and responsibilities of taking an online course, 2) the ability of students to have the background, knowledge, and technical skills to undertake an online program; and 3) their having access to academic and technical support services to support their online activities. Accordingly, we will provide the following services to support the students in accessing distance learning technology:

- Communicate to students the nature of online learning, including their requirements, roles and responsibilities, and access to support services. All our advertising, recruiting,

and admissions materials shall clearly and accurately represent the program and the services available.

- Ensure that enrolled students have reasonable and adequate access to the range of student services to support their learning.
- Ensure that accepted students will have the background, knowledge, and technical skills needed to undertake the program.
- Make available the library Services to students so that they can have access to research databases, online catalog of books and media, chat with or e-mail a Librarian, electronic interlibrary loan, and more.

Evaluation and Assessment of Online Courses

We will adhere to a quality improvement model for assuring the continuous quality of the online courses. The process will involve the following steps:

1. Assessment of course readiness as measured by our quality indicators of best practices (including assessment of faculty readiness)
2. Monitoring of course delivery as assessed by the instructional designers with use of our “course evaluation’ rubric.”
3. Obtainment of feedback from the faculty and students and instructional designers.
4. Analysis of feedback as performed by the Distance Learning Committee.
5. Institute course revisions based on comments by the Distance Learning Committee.

Finally, to ensure the sustainability of the distance learning program, the Academic Affairs Office at UMB affirms the following:

- UMB Policies for faculty evaluation include appropriate consideration of teaching and scholarly activities related to programs offered through distance learning.
- Commitment to ongoing support, both financial and technical, and to a continuation of the program for a period sufficient to enable students to complete their degrees

Appendix A: Plan of Study

Fall – Year 1

Course	Name	Credits
INNO 600	Foundations in Health and Social Innovation	3
INNO 602	Methods in Innovation	3
	Sub-total Credits	6

Spring – Year 1

Course	Name	Credits
INNO 640	Business and Finance	3
INNO 642	Market Strategies	3
	Sub-total Credits	6

Fall – Year 2

Course	Name	Credits
MHS 600*	Introduction to Library Resources and Scholarly Writing	1
MHS 602*	Legal and Ethical Issues for Health, Human Services, and Clinical Professionals	2
MHS 608	Research Seminar	3
MHS 615	Biostatistics	3
	Sub-total Credits	9

Spring– Year 2

Course	Name	Credits
MHS 652*	Communications and Leadership	3
MHS 609	Research Seminar II	3
MHS 700	Capstone Project	3
	Sub-total Credits	9
	Total Credits	30

*MHS 600, 602, and 652 can also be taken in the summer should a student only want to take 6 credits a semester and graduate in two years

Appendix B: Budget

Budget Narrative: The budget we included is based on the revenues and expenditures for the existing MS Health Science. It includes the salaries of full and part-time faculty as well as current and anticipated revenue from the program. The Physician Assistant Program, or “clinical” track has not been included in this budget given its alternative curriculum.

TABLE 1: PROGRAM 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)	\$420,438	\$498,000	\$540,330	\$599,850	\$620,775
a. Number of F/T Students*	0	0	0	0	0
b. Annual Tuition/Fee Rate	\$0	\$0	\$0	\$0	\$0
c. Total F/T Revenue (a x b)	\$0	\$0	\$0	\$0	\$0
d. Number of P/T Students	35	40	42	45	45
e. Credit Hour Rate	\$775	\$800	\$830	\$860	\$890
f. Annual Credit Hour Rate	15.5	15.5	15.5	15.5	15.5
g. Total P/T Revenue (d x e x f)	\$420,438	\$498,000	\$540,330	\$599,850	\$620,775
3. Grants, Contracts & Other External Sources	\$0	\$0	\$0	\$0	\$0
4. Other Sources	\$20,433	\$0	\$0	\$0	\$0
TOTAL (Add 1 – 4)	\$440,870	\$496,000	\$540,330	\$599,850	\$620,775

TABLE 2: PROGRAM EXPENDITURES:					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	\$169,531	\$172,922	\$176,380	\$179,908	\$183,506
a. Number of FTE	1.20	1.20	1.20	1.20	1.20
b. Total Salary	\$131,623	\$134,256	\$136,941	\$139,680	\$142,474
c. Total Benefits	\$37,908	\$38,666	\$39,439	\$40,228	\$41,032
2. Admin. Staff (b + c below)	\$266,665	\$271,998	\$277,438	\$282,987	\$288,647
a. Number of FTE	2.48	2.48	2.48	2.48	2.48
b. Total Salary	\$191,570	\$195,401	\$199,309	\$203,296	\$207,362

c. Total Benefits	\$75,095	\$76,597	\$78,129	\$79,691	\$81,285
3. Support Staff (b + c below)	\$4,674	\$4,767	\$4,863	\$4,960	\$5,059
a. Number of FTE	0.07	0.07	0.07	0.07	0.07
b. Total Salary	\$3,358	\$3,425	\$3,494	\$3,564	\$3,635
c. Total Benefits	\$1,316	\$1,342	\$1,369	\$1,397	\$1,424
4. Technical Support and Equipment	\$0	\$10,000	\$10,000	\$20,000	\$20,000
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$0	\$0	\$0	\$0	\$0
TOTAL (Add 1 – 7)	\$440,870	\$459,688	\$468,681	\$487,855	\$497,212