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

Institution Submitting Proposal	

*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 (must be 60 days from proposal submisison as per COMAR 13B.02.03.03)	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:

Revised 1/2021

Proposal for Substantial Modification of the UMES Doctor of Pharmacy (Pharm.D.) Program

A. **Centrality to Institutional Mission and Planning Priorities:**
   1. **Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.**

   As a public 1890 land-grant Historically Black University that embraces diversity, UMES is committed to serving first-generation and underserved students and providing educational, research, and community engagement opportunities to transform the lives of its students who will impact the state, region, and the world. In keeping with this mission, UMES received approval from the University System of Maryland (USM) Board of Regents to establish an accelerated, 3-year Doctor of Pharmacy program in 2007. The new pharmacy program complemented the previously-established healthcare programs in exercise science, physical therapy, physician assistant studies, and rehabilitation services, leading to the creation of the School of Pharmacy and Health Professions at UMES.

   Since its inception, the UMES School of Pharmacy has been dedicated to developing exemplary pharmacy professionals and scholars who are committed to patient-centered care, lifelong learning, discovery, and service for diverse communities of the Delmarva Peninsula, the State of Maryland, and around the world. To achieve this mission, the School of Pharmacy developed the following strategic goals:
   - Develop, implement and strengthen academic programs to advance patient care, promote innovation in pharmacy practice and research, and enhance personal growth
   - Increase scholarly activity and research to enhance the contribution of new knowledge and to provide opportunities for student and faculty engagement in scientific discovery
   - Enhance academic and professional development opportunities focused on advancing the integrative model of healthcare practice
   - Build a positive reputation with local, state, and regional communities through Community outreach and education by faculty and student members
   - Promote and sustain a campus that supports a high quality of life and learning

   From the beginning, the UMES Doctor of Pharmacy program has utilized a 3-year accelerated learner-centered program that prepares graduates to assume responsibility for provision of patient-centered and population-based care, promotion of health and wellness initiatives, and management of personnel and medication use systems within a dynamic, team-based healthcare environment. A combination of modular and longitudinal courses is employed in a progressive and integrated manner, beginning with a strong foundation in the biomedical, pharmaceutical, clinical, and social sciences, and culminating in the application of this knowledge to situations encountered in contemporary pharmacy practice. This is accomplished through the use of a variety of teaching methods, including traditional lectures, small group discussions, laboratory exercises, and practice-based experiences. Case studies based on the principles of the Pharmacists' Patient Care Process are incorporated systematically throughout the curriculum, along with opportunities for students to develop essential skills and abilities in critical-thinking, problem-solving, communication, professionalism, leadership, cultural competence, and interprofessional interactions. Faculty adhere to sound pedagogical principles which encourage student engagement through the use of active learning and evidence-based educational practices. In this way, students are empowered to become self-directed, life-long learners through reflection

and continuing professional development activities. The current curriculum is compliant with all accreditation standards set by the Accreditation Council for Pharmacy Education (ACPE), which enables students to sit for pharmacist licensure examinations upon graduation.

As part of its commitment to continuous quality improvement, the UMES School of Pharmacy embarked on a multiyear, comprehensive curriculum review process to ensure adherence to evidence-based pedagogical practices and to maintain a contemporary approach to pharmacy education and success. Input was solicited from multiple stakeholders including faculty, staff, students, and preceptors. Based on this feedback, several key themes emerged that have been incorporated into the proposed curricular modifications:

- Horizontal and vertical integration of foundational and clinical sciences throughout the didactic curriculum
- A combination of modular and longitudinal courses

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

The current 2020-2022 UMES Strategic Plan (https://wwwcp.umes.edu/president/strategic-plan/) includes the following goals:

- Goal 1 - Support diversity and inclusion on and off campus and foster a climate of equity for all stakeholders
- Goal 2 - Increase access, attainment and degree completion through improved communication and pro-active data analysis
- Goal 3 - Become a leading USM partner in research, innovation, and economic competitiveness
- Goal 4 - Meet the educational needs of the state of Maryland with high-quality and innovative academic programming
- Goal 5 - Maximize the university resources
- Goal 6 - Achieve and maintain national eminence and global impact

The Doctor of Pharmacy supports all of these institutional objectives, with a particular emphasis on the subgoals listed below:

- Subgoal 1.2: Replace or modify non-accessible facilities – In April 2023, the UMES School of Pharmacy and Health Professions relocated into a new, $90 million, 130,000 square foot facility. This building provides state-of-the-art technologies and sufficient space for classrooms, offices, and research facilities to enhance interprofessional collaborations among the university's health professions programs.
- Subgoal 1.5: Enhance cultural competencies through curricular and co-curricular activities, including study abroad – The mission and values of the UMES Doctor of Pharmacy program emphasize "service for diverse communities of the Delmarva Peninsula, the state of Maryland, and around the world" through the cultivation of cultural proficiency. Students are inculcated with these values through contemporary coursework and a robust continuing professional development program including curricular and co-curricular activities.

- Subgoal 3.2: Align academic program, educational centers and enterprises, and co-curricular activities with workforce development needs – The Doctor of Pharmacy program supports the development of a diverse group of pharmacists who are well-adapted to providing collaborative health care to meet the needs of patients locally, regionally, nationally, and globally.
- Subgoal 4.4: Deploy program review cycles and accreditation activities in support of mission-centric program development – The Doctor of Pharmacy program has achieved and maintained full accreditation through its accrediting body (ACPE) since it was first eligible in 2013.

The proposed modifications to the current Doctor of Pharmacy program will enhance its ability to support the institution's goals by continuing to meet the workforce needs of the local community and beyond while enhancing the university's footprint and reputation as a destination for healthcare education, research, and service. The university's administration has reinforced its continued commitment to the support of this program through the construction of the new SPHP building, additional funding for student scholarships, and financial support for faculty and staff.

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

   UMES will provide the proposed program modifications with adequate resources, facilities, and faculty in the same manner that it currently has in place. This program is already self-sustaining from the revenue generated by tuition and fees from the currently-matriculated students. No increase in the annual operational budget from state funds is necessary since existing faculty will be teaching the course. The completion of the new SPHP building in April 2023 provided the program with sufficient space for classrooms, offices, and research facilities.

4. **Provide description of the institution's commitment to:**
   a) **Ongoing administrative, financial, and technical support of the proposed program**

   The UMES School of Pharmacy and Health Professions (SPHP) is composed of five departments: Kinesiology, Pharmacy Practice and Administration, Pharmaceutical Sciences, Physical Therapy, Physician Assistant, and Rehabilitation Services. The SPHP operates as an autonomous entity within the policies of the university and is headed by a Dean who reports directly to the Provost and Vice President for Academic Affairs. The Dean oversees several direct reports, including one Associate Dean, three Assistant Deans, six Department Chairs, and one Director of Assessment. This administrative structure supports the operation of the programs within the SPHP, including the Doctor of Pharmacy program. Technical support for the program is provided by multiple entities within the university, including the Department of Information Technology, the Center for Instructional Technology and Online Learning, and the Center for Teaching Excellence. Additionally, the Doctor of Pharmacy program has a dedicated Information Technology Specialist to provide assistance with computers and A/V equipment for faculty, staff, and students.

   In keeping with the university's policies and procedures, the proposed modifications to the Doctor of Pharmacy program have been reviewed and vetted by the SOP Curriculum

Committee, the SOP Faculty Council, the SOP Associate Dean for Academic Affairs and Assessment, the Dean of the SPHP, the Faculty Assembly Academic Standing Committee, the Faculty Assembly (faculty shared governance body), the Provost and Vice President for Academic Affairs, and the President of UMES. This reinforces the administration's continued support for the program.

b) **Continuation of the program for a period of time sufficient to allow enrolled students to complete the program.**

As mentioned in previous sections, the Doctor of Pharmacy program has been in operation since 2010, and has already graduated 10 cohorts of students. The program is already financially self-sustaining, and the university is committed to supporting any students who are currently enrolled in the program until they have completed the requirements for graduation.

Additionally, the UMES SOP is required to maintain ACPE accreditation for the Doctor of Pharmacy program in order for its students to be eligible for licensure after graduation. The ACPE accreditation policies require the university to support a teach-out program in the event of program discontinuation or loss of accreditation. Failure to provide a teach-out plan for supporting all enrolled students until completion of the program will result in immediate withdrawal of accreditation by ACPE.

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**

   The need for advancement and the evolution of knowledge are embedded in the mission, vision, and values of the Doctor of Pharmacy program. As part of its mission, the program is dedicated to developing exemplary pharmacy professionals who are dedicated to lifelong learning and discovery, and the program's vision emphasizes the leadership in fostering pharmacy research and enhancing the quality of life for all people. Since its inception, the program has been successful in advancing knowledge in the profession of pharmacy as evidenced by securing extramurally-funded grants, publishing of scholarly reports, and receipt of several patents.

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

   As the only HBCU located on the Eastern Shore of Maryland, UMES is uniquely adapted to provide educational opportunities for minority and economically disadvantaged students in the area. UMES is located in Somerset County, which is one of the poorest counties in the state of Maryland. UMES is also the only HBCU in the state that offers a Doctor of Pharmacy program. Graduates from a Doctor of Pharmacy program can expect to receive starting salaries of over $100,000 annually, which provides financial stability for populations at-risk for poverty. A recent publication concluded that HBCU pharmacy schools accounted for nearly one-fourth of the African-American students enrolled in Doctor of Pharmacy programs nationwide, which led to increased opportunities for minority and underserved students and

an increased diversity of the pharmacist workforce (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8655140/pdf/ajpe8589.pdf).

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

Currently, there are no Doctor of Pharmacy programs offered at any of the other HBCUs in the state of Maryland. Similarly, UMES offers the only 3-year accelerated program in the region. The proposed modifications to the Doctor of Pharmacy program will allow UMES to support its goal of meeting the educational needs of the state of Maryland with high-quality and innovative academic programming.

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

The 2022 Maryland State Plan for Higher Education emphasizes three areas, including *Student Access*, *Student Success*, and *Innovation*. In particular, the plan challenges each higher education institution in the state to create initiatives to address these goals through an "equity lens."

- The goal for **_Student Access_** is to ensure equitable access to affordable and quality postsecondary education for all Maryland residents. As the only HBCU in the state of Maryland that offers the Doctor of Pharmacy degree, this provides an opportunity for first-generation college students and minoritized and underserved students. Similarly, UMES is the only Doctor of Pharmacy program located on the Delmarva Peninsula, which provides access to educational opportunities for students on the Eastern Shore of Maryland as well as the surrounding areas. The table below illustrates the diversity of our recent graduating cohorts as an example of our commitment to providing student access with an eye towards equity.

Graduation Year	2020	2021	2022	2023
Number of graduates	43	28	44	39
Sex/Gender†				
Male	42%	39%	32%	49%
Female	58%	61%	66%	51%
Unknown	0%	0%	2%	0%
Race/Ethnicity†				
White	21%	18%	32%	18%
Black	51%	46%	34%	72%
Other	28%	36%	34%	10%

†Data is from self-reported answers to demographic questions on each matriculated student's application submitted to the Pharmacy Centralized Application Service (PharmCAS).

With the only three-year pharmacy curriculum in the state of Maryland, the UMES Doctor of Pharmacy program allows students to complete their degree requirements and enter the workforce or pursue additional post-graduate training opportunities one year earlier than the other state or regional programs. This offers several advantages for access and affordability. First, it provides the lowest total pharmacy program tuition for in-state students, who can save approximately $15,000 to $60,000 in tuition and fees over four-

year schools. Second, it provides earlier access to a pharmacist salary compared to graduates from a four-year program. As mentioned earlier, graduates from a Doctor of Pharmacy program can expect to receive starting salaries of over $100,000 annually, which provides financial stability for populations at-risk for poverty. Finally, the accelerated curriculum facilitates opportunities for non-traditional students to pursue a pharmacy career by shortening the time to degree completion. Affordability has also been enhanced through resources from the recent HBCU Settlement Fund, with $350,000 earmarked annually towards scholarships for students matriculating into the UMES Doctor of Pharmacy program.

- The goal for ***Student Success*** is to promote and implement practices and policies that will ensure student success. As stated in the 2022 Maryland State Plan for Higher Education, compelling needs include the need for advancement of knowledge, societal needs, and the need to strengthen the capacity of HBCUs, which were previously discussed above. Beyond those needs, the UMES SOP Doctor of Pharmacy program is committed to providing a high-quality postsecondary education (priority #5) and to improving systems that prevent timely completion of an academic program (priority #6) to meet Maryland's current and future needs for exemplary pharmacy professionals in the workforce.

  The process for ensuring student success begins before a student officially matriculates into the UMES Doctor of Pharmacy program. Online resources to assist with a review of foundational science concepts are provided to incoming first-year students upon acceptance into the program. Additionally, all students are required to attend a mandatory orientation covering various topics including academics, resources, and policies. Staff within the Office of Student Affairs also assist incoming students with housing, financial aid, and other logistical issues.

  To address priority #6 (improving systems that prevent timely completion of an academic program) in the 2022 Maryland State Plan for Higher Education, the UMES SOP has several intervention measures in place for early detection of academic difficulties. These include the Student-Faculty Mentor program and the Student Academic Progression Committee (SAPC). The SAPC supports students by identifying sources of academic difficulty, while making recommendations for academic success. If a student is in danger of failing one or more courses/blocks, it is recommended that they meet with their faculty advisor to discuss ways to improve their performance. They are also required to complete a Student Progression Assessment Form that asks the student to identify potential reasons for academic difficulty and is used by the SAPC to inform tailored improvement strategies. The UMES SOP has also conducted faculty development workshops, and routinely reviews course assessment processes and policies, admissions criteria, the progression policy, and the curriculum. The peer tutoring program was enhanced, with tutors now assigned to specific non-class time periods each week providing open access during those times. An online repository of resources is available for students and tutors. The table below shows the degree completion rates at various time points for every cohort in the UMES Doctor of Pharmacy program, which illustrates the overall success of these initiatives.

COHORT YEAR†	3-YEAR GRADUATION RATE‡	4-YEAR GRADUATION RATE‡	5-YEAR GRADUATION RATE‡	6-YEAR GRADUATION RATE‡
2010	87.5%	92.2%	93.8%	93.8%
2011	85.2%	91.8%	96.7%	96.7%
2012	78.6%	92.9%	96.4%	98.2%
2013	78.2%	89.1%	90.9%	94.5%
2014	82.5%	92.1%	95.2%	95.2%
2015	70.5%	88.5%	88.5%	90.2%
2016	77.0%	91.8%	93.4%	93.4%
2017	79.2%	89.6%	91.7%	93.8%
2018	67.7%	74.2%	74.2%	80.6%
2019	83.7%	93.9%	93.9%	93.9%
2020	64.6%	[72.9%]	[77.1%]	[79.2%]
2021	[66.7%]	[81.8%]	[87.9%]	[87.9%]
2022	[79.3%]	[86.2%]	[86.2%]	[86.2%]
2023	[90.1%]	[100%]	[100%]	[100%]

†Cohort Year indicates the year of initial matriculation. All students in the Doctor of Pharmacy program begin as full-time students in the fall semester of the given year. Students without any delays are able to complete the program requirements in 3 years.

‡Percentages listed in brackets are the projected graduation rates based on the current academic standing for all students who began in the given cohort year.

To address priority #5 (providing a high-quality postsecondary education) in the 2022 Maryland State Plan for Higher Education, the UMES SOP Curriculum Committee (CC) works in conjunction with the Assessment Committee (AC) to implement the Doctor of Pharmacy program's Curriculum Assessment Plan (CAP) that evaluates the effectiveness of the curriculum. This process is designed to ensure student achievement of learning outcomes. The CC makes recommendations to the SOP faculty who then may endorse, modify, or reject the recommendations. In 2016, a comprehensive assessment matrix was developed to guide the overall assessment process. The assessment matrix is mapped to the SOP's stated mission, vision, goals, and strategic objectives. As part of the overall assessment matrix, the CAP consists of multiple assessment activities that are tied to the program's accreditation standards and programmatic goals, and data from the CAP is used to provide an effective method to evaluate and modify the curriculum as well as identify other programmatic issues.

The AC oversees the Continuous Quality Improvement (CQI) program for the UMES SOP. The CQI process involves the creation of a query, delegation, follow up, and closing of the loop. All surveys and assessment data are reviewed by the AC members, who then compare the data to the assessment matrix metrics. If the metrics for action necessitate a CQI, then the referral is made to the appropriate person or committee. CQIs are reviewed quarterly and followed up by the Director of Assessment. The action plan and follow through of the plan sections are updated accordingly by the responsible parties, until it has been determined that the CQI can be closed. Consistency in review and closing the loop on CQIs is regularly reviewed for process improvement. As

assessment data from the CAP are reviewed, CQIs are created for the CC as needed. Joint Curriculum and Assessment Committee meetings are held once a semester so that items with extensive overlap can be discussed. Through the CQI program and other independent processes, the CC systematically reviews the curriculum structure, content, and outcomes to determine the appropriateness of content-emphasis and proper sequencing to provide the optimal progression for learning. This review includes assurances for coordination of course material, identification of content omission or unnecessary repetition, identification of outdated or unessential content, and recommendation of a reasonable course load for students. The CC collects and disseminates information to the faculty regarding successful methods of innovative teaching as means of continuous improvement. The CC develops policies related to the delivery of the curriculum as assigned. The CC is responsible for assuring that outcome measures of learning are systematically applied as an additional means of continuous quality improvement.

One important measure of success for graduates from any Doctor of Pharmacy program is their performance on the North American Pharmacy Licensure Exam (NAPLEX). Obtaining a passing score on this exam is a requirement for obtaining licensure from a state board of pharmacy, and it serves as a potential surrogate marker for the quality of the educational experience for the students. The table below shows the first-time pass rates on the NAPLEX for UMES graduates in each of the last six years, along with the pass rates of the two other in-state programs and the five other HBCUs across the US.

School	2018	2019	2020	2021	2022	2023
UMES	96%	80%	81%	68%	68%	67%
In-State Doctor of Pharmacy Programs						
Notre Dame of Maryland	88%	64%	88%	67%	60%	65%
University of Maryland	87%	87%	89%	87%	87%	84%
Doctor of Pharmacy Programs at Other HBCUs						
Florida A&M	75%	79%	79%	90%	84%	70%
Hampton	73%	62%	52%	62%	59%	100%†
Howard	86%	67%	73%	65%	74%	56%
Texas Southern	89%	78%	69%	77%	76%	84%
Xavier	75%	79%	69%	66%	56%	55%

†Hampton only had 4 graduates in the Class of 2023 since their accreditation was withdrawn

Although the annual pass rates by UMES graduates are comparable to the other schools, and have consistently been within one standard deviation of the national average for each year, a noticeable decline was identified beginning in 2019. As part of our program's continuous quality improvement initiatives, a comprehensive curriculum review was initiated to identify and address any deficiencies. As a result of this review, the UMES SOP is proposing to implement the curricular modifications to the existing UMES Doctor of Pharmacy program as described in this document to ensure the use of evidence-based pedagogical practices that will facilitate the successful completion and on-time graduation for our students. For example, several new or redesigned courses are being implemented to ensure that the curriculum is contemporary and addressing the needs of future pharmacy practitioners. Some of these changes are listed below:

- A new, four-course Skills Lab sequence will run simultaneously with the integrated block courses during each of the first two years to ensure reinforcement of knowledge and development of essential skills and entrustable professional activities
- A new, 2-credit course on Informatics and Telehealth to address the evolving role of automation, artificial intelligence, and machine-learning in pharmacy practice
- A redesigned course on Pharmacy Law and Ethics, which is being moved closer to the end of the didactic curriculum to address student deficiencies on their MPJE licensure exam
- A new, integrated block course on special populations to enhance the student's abilities to manage the pharmacotherapy needs of geriatric and pediatric patients

- The goal for **_Innovation_** is to foster innovation in all aspects of Maryland higher education to improve access and student success. The UMES SOP is one of only five pharmacy schools located at an historically black college or university (HBCU) in the country, which provides students with a unique opportunity to learn in a culturally-diverse institution. Also, as the only accelerated Doctor of Pharmacy program located at an HBCU in the country, our students are able to complete their degree in a total of 3 years, which allows them to begin working as a pharmacist or transition to postgraduate training one year earlier than most pharmacy graduates. The proposed modifications to the UMES Doctor of Pharmacy program will utilize an innovative combination of modular and longitudinal courses in an integrated format to increase student success by allowing them to focus on one major theme at a time while reinforcing key concepts in a progressively-challenging manner. Our program has also been a leader in developing professional attributes in students through the use of our 4-course series on Professional Development and our incorporation of a mandatory Continuing Professional Development (CPD) program that ties SMART goals with participation in co-curricular and interprofessional education (IPE) activities. Recent initiatives in this area include partnerships with collaborating institutions to increase the availability, quality, and visibility of IPE in health care academic programs and to recognize student competencies in IPE through microcredentialing and digital badging. These curricular components complement our early introduction of pharmacy experiential learning activities to better prepare students for their future roles as pharmacy practitioners in contemporary, team-based healthcare settings.

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.**

   Graduates of the UMES Doctor of Pharmacy program will be eligible for licensure as pharmacists. As a registered pharmacist, entry-level employment opportunities are available in a variety of settings. These include community pharmacies in chain drug stores, independent drug stores, grocery stores, and general merchandise retailers. Employment opportunities for graduates also exist in hospitals, clinics, other healthcare facilities, and the pharmaceutical industry.

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

According to the Occupational Outlook Handbook (U.S. Bureau of Labor Statistics, 2021), employment of pharmacists is expected to grow by 2% from 2021 to 2031, with an average of 13,600 job openings expected annually over the next decade (https://www.bls.gov/ooh/healthcare/pharmacists.htm). From a regional perspective, the Maryland Department of Labor projects that job openings for pharmacists in the state of Maryland are expected to grow by 5.78% from 2020 to 2030, nearly three times the anticipated growth rate for pharmacists nationally (https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml). Both of these projections are based on baseline employment data from 2020-2021, which corresponds to the early Covid-19 pandemic. Since that time, pharmacist responsibilities and workloads have been increasing, which have exacerbated pharmacist burnout and staffing shortages particularly in retail pharmacies (https://www.washingtonpost.com/wellness/2023/03/30/pharmacy-shortages-staffing/). Similarly, nearly one-fourth of pharmacy owners and managers surveyed by the National Community Pharmacists Association reported difficulty filling positions for pharmacists in 2022, and this contributed to reduced pharmacy operating hours, increased prescription wait times for patients, and a reduced ability to provide immunizations and other services (https://ncpa.org/newsroom/news-releases/2022/08/11/survey-three-quarters-community-pharmacies-report-staff-shortages).

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.

According to the Occupational Outlook Handbook (U.S. Bureau of Labor Statistics, 2021), every state requires a pharmacist to be licensed. Every applicant for licensure who completes their education in the US must receive a Doctor of Pharmacy degree from a program that is accredited by the Accreditation Council for Pharmacy Education (ACPE). As mentioned in the previous section, the expected growth rate for pharmacists nationally from 2021 to 2031 is 2%, while the expected growth rate in Maryland from 2020 to 2030 is 5.8%. The table below shows the number of current and projected pharmacist positions nationally and in the states of Maryland and Delaware (which represents the focused region of the Delmarva Peninsula area).

Region	Current positions (2020-2021)	Projected positions (2030-2031)	Projected change in positions	Projected percentage change
United States[1]	323,500	331,100	7,600	2.35%
Maryland[2]	6,176	6,533	357	5.78%
Delaware[3]	845	883	38	4.50%

[1]US Bureau of Labor Statistics (https://www.bls.gov/ooh/healthcare/pharmacists.htm)
[2]Maryland Department of Labor (https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml)
[3]Delaware Department of Labor
(https://labor.delaware.gov/divisions/oolmi/projections/projections-oes-lt/)

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

The Doctor of Pharmacy program graduated its first class in 2013. Since that time, the program has graduated over 500 students as detailed in the table below.

Graduation Year	Number of Graduates
2013	56
2014	56
2015	50
2016	53
2017	61
2018	59
2019	54
2020	43
2021	28
2022	44
2023	39

Nearly all of the Doctor of Pharmacy programs in the US utilize the Pharmacy Centralized Application Service (PharmCAS) as a centralized system for receiving and vetting potential applicants. Data from the American Association of Colleges of Pharmacy for PharmaCAS applications is shown in the table below (https://connect.aacp.org/discussion/pharmcas-applicant-data-for-2021-2022). From 2010 to 2022, the number of pharmacy schools using PharmCAS nationwide has increased over 50% from 96 to 134, while the annual number of individual applicants to PharmCAS schools has decreased over 35% from 17,451 to 11,219. This reflects a change in the average number of potential applicants per school from 182 to 84 annually over those same years.

Cycle	# of Schools in PharmCAS	# of PharmCAS Applications	% Change	# of PharmCAS Applicants	% Change	Applications to Applicant Ratio
2003-04	43	43,055		13,722		3.14
2004-05	43	47,358	10.0%	14,433	5.2%	3.28
2005-06	45	56,396	19.1%	14,650	1.5%	3.85
2006-07	47	60,193	6.7%	14,869	1.5%	4.05
2007-08	59	71,403	18.6%	15,908	7.0%	4.49
2008-09	72	79,091	10.8%	16,246	2.1%	4.87
2009-10	86	86,350	9.2%	17,328	6.7%	4.98
2010-11	96	85,253	-1.3%	17,451	0.7%	4.89
2011-12	103	80,977	-5.0%	17,405	-0.3%	4.65
2012-13	110	80,497	-0.6%	17,617	1.2%	4.57
2013-14	116	79,313	-1.5%	17,225	-2.2%	4.60
2014-15	119	72,654	-8.4%	16,858	-2.1%	4.31
2015-16	124	68,918	-5.1%	16,369	-2.9%	4.21
2016-17	126	63,888	-7.3%	16,204	-1.0%	3.94
2017-18	129	51,020	-20.1%	15,886	-2.0%	3.21
2018-19	133	43,268	-15.2%	15,335	-3.5%	2.82
2019-20	135	35,947	-16.9%	13,988	-8.8%	2.57
2020-21	134	36,006	0.2%	13,324	-4.7%	2.70
2021-22	134	32,848	-8.8%	11,219	-15.8%	2.93

The UMES School of Pharmacy originally had a target enrollment of 56 students per class, but these nationwide trends have impacted the number of potential applicants and graduates for the program. The table below shows the number of applicants, the number of admitted students, the number of enrolled students, and the number of projected/actual graduates for the UMES Doctor of Pharmacy program for the last few years.

Cohort	Total Applicants	Verified Applicants†	Enrolled Students	Graduates‡
Fall 2020	344	159	48	38
Fall 2021	301	123	33	30
Fall 2022	289	146	29	25
Fall 2023	290	102	22	22

† Verified applicants include only those with a completed application and verified coursework and GPA
‡ The number of graduates for each cohort includes students who have completed the degree requirements or who are still enrolled and eligible for degree completion.

In response, a Strategic Student Outreach and Recruitment Plan was developed to address the declining enrollment trends. Several measures have been taken in an effort to mitigate the reduced applicant pool. In 2023, construction was completed on a state of the art, $90 million, 130,000 square foot School of Pharmacy and Health Professions building, which should serve as

an important recruiting tool for students and faculty. In addition, several memoranda of understanding and articulation agreements have been created to enhance the applicant pipeline. Assuming a 5% annual increase in applicants and graduates resulting from these actions, the projections for the next few years are shown in the table below.

Cohort	Projected Number of UMES Applicants	Projected Number of Enrolled Students	Projected Number of Graduates
2024	263	32	25
2025	276	34	27
2026	290	36	29
2027	304	38	30

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.**

UMES has one of the three established Doctor of Pharmacy programs in the state of Maryland. The other two programs are at the University of Maryland Baltimore and Notre Dame of Maryland University. Importantly, UMES has the only three-year Doctor of Pharmacy program in the state of Maryland, and it is the only one located at an historically black institution (HBI). The similarities and differences among the three programs are summarized in the table below.

	UMES	Notre Dame of Maryland University	University of Maryland Baltimore
University Mission	As a public 1890 land-grant Historically Black University that embraces diversity, UMES is committed to serving first-generation and underserved students and providing educational, research, and community engagement opportunities to transform the lives of its students who will impact the state, region, and the world.	Notre Dame of Maryland University educates leaders to transform the world. Embracing the vision of the founders, the School Sisters of Notre Dame, the University promotes the advancement of women and provides a liberal arts education in the Catholic tradition.	To improve the human condition and serve the public good of Maryland and society at-large through education, research, clinical care, and service.

Location	Princess Anne, MD	Baltimore, MD	Baltimore, MD
Prerequisite coursework required prior to matriculation	66-67 credits	52 credits	65 credits
Program Duration	3 years	4 years	4 years
Total Program Credits	160 credits	144.5-149.5 credits	146 credits
Certificates & Pathways	• None	• Leadership and Entrepreneurship	• Geriatrics and Palliative Care • Pharmacotherapy • Pharmapreneurship • Research
Duel Degrees	• None	• None	• PharmD/JD • PharmD/MBA • PharmD/MPH • PharmD/MS Medical Cannabis • PharmD/MS Palliative Care • PharmD/MS Pharmacometrics • PharmD/MS Regulatory Science • PharmD/PhD Pharmaceutical Health Services Research • PharmD/PhD Pharmaceutical Sciences

2. **Provide justification for the proposed program.**

Although the expected growth rate in jobs for pharmacists nationwide is slower than the average for all occupations, the need in the state of Maryland is nearly three times higher. In rural areas such as the Eastern Shore of Maryland, pharmacy staffing shortages are even more severe, leading to reduced access to vital pharmacy services for the patients in these areas. The modifications to the existing UMES Doctor of Pharmacy program are designed to increase student success in degree attainment to ensure an adequate pharmacist workforce to meet these demands. At the same time, the continued offering of the only Doctor of Pharmacy program at an HBCU in the state of Maryland will provide access to underserved and minoritized students.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs):
1. **Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.**

As the only Doctor of Pharmacy program located at an HBCU in the state of Maryland, this program is essential to maintaining a high-demand program at an HBI. As mentioned earlier, one recent publication reported the outsized effects that HBCUs have on enrollment of African-American students and other peoples of color in pharmacy programs, and the continued operation of the Doctor of Pharmacy program at UMES is essential at ensuring access and success of underserved and minoritized students in creating a diverse pharmacy workforce.

F. Relevance to the identity of Historically Black Institutions (HBIs):
1. **Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.**

The Doctor of Pharmacy program has been offered continuously at the University of Maryland Eastern Shore since 2010, and its continued offering has a significant impact on the identity and mission of the university. The program offers opportunities for disadvantaged and minoritized students to obtain rewarding and lucrative careers as pharmacists. Similarly, the program provides opportunities for research, service, and community engagement, all of which contribute to the mission of the university to serve first-generation and underserved students to transform the lives of its students who will impact the state, region, and the world.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes: (as outlined in COMAR 13B.02.03.10)
1. **Describe how the proposed program was established, and also describe the faculty who will oversee the program.**

The Doctor of Pharmacy program at UMES was initially developed in 2010 by the founding faculty and administration in the UMES School of Pharmacy. The original curriculum was based on a modified version of a Doctor of Pharmacy program that was implemented at the University of Southern Nevada, who was the innovator of the 3-year accelerated pharmacy curriculum. As part of our commitment to continuous quality improvement, the UMES SOP Curriculum Committee oversaw a comprehensive review of the entire curriculum beginning in 2019. Feedback was solicited from various stakeholders, including students, faculty, staff, administrators, and external preceptors. A summary of the key findings was developed, and the Dean of the SPHP (Dr. Rondall Allen) charged the Associate Dean for Academic Affairs (Dr. Timothy Gladwell) with convening a Curriculum Review Task Force (CRTF) to develop recommendations for modification to the existing curriculum. Volunteers to serve on the CRTF were recruited from the SOP faculty and staff, and included the following members:
- Timothy Gladwell, PharmD, BCPS, BCACP (Chair) – Associate Professor of Pharmacy Practice and Associate Dean for Academic Affairs
- Dana Fasanella, PharmD, CDCES, BCACP - Assistant Professor of Pharmacy Practice and Chair of the UMES SOP Assessment Committee
- Patrice Jackson-Ayotunde, PhD - Associate Professor of Medicinal Chemistry and Richard A. Bernstein Endowed Professor
- John Jordan, PharmD, BCPS - Associate Professor of Pharmacy Practice and Clinical Coordinator of Peninsula Regional Medical Center

- Adel Karara, PhD - Professor of Pharmaceutical Sciences
- Lynn Lang, PhD – UMES SPHP Director of Assessment
- Miguel-Martin Caraballo, PhD – Professor of Pharmaceutical Sciences
- Hoai-An Truong, PharmD, MPH, FAPhA, FNAP – Professor of Pharmacy Practice and UMES Director of Public Health

Over the course of several meetings throughout 2019-2021, the CRTF discussed the findings of the comprehensive curriculum review process, and several key recommendations for modifying the existing curriculum emerged. These included:
- Implementing complete vertical and horizontal integration of the block courses, instead of the previous system which separated foundational sciences in the first year of the program from the clinical sciences in the second year of the program.
- Reducing redundancies in content delivery through integrating and combining topics into new courses.
- Changing the existing block/module course structure from 2-week blocks to 6-week blocks to improve learning and retention of the material.
- Making several changes to the grading/assessment process, including:
  - Replacing the current modified Pass/Fail system (Honors/Pass/No Pass) to a traditional letter grade system (A/B/C).
  - Removing the previous system that provided grades by the two-week block system (regardless of the course) in favor of providing grades for each individual course.
  - Eliminating the previous examination process that gave students three separate opportunities to achieve an 85% or higher grade on an end-of-block exam in order to receive a grade of Pass in the two-week block.
  - Incorporating interleaving into the assessment process through the use of multiple evaluation activities in each block course.
- Changing the sequence and format of several courses to facilitate student learning and development across the curriculum.
- Adding a continuous, 4-semester Skills Lab course to foster development and application of Entrustable Professional Activities (EPAs) to better prepare students to be "practice-ready" immediately upon graduation.

From these key themes, the CRTF developed a modified curriculum proposal that was reviewed and approved by the UMES SOP Curriculum Committee and the UMES Faculty Council. Upon implementation, course coordinators for each team-based course will be assigned from among the existing UMES SOP faculty by the Chair of the Department of Pharmacy Practice and Administration (Dr. Miriam Purnell) and the Chair of the Department of Pharmaceutical Sciences (Dr. Victor Hsia). Each course coordinator will be responsible for overseeing the conduct of their respective course in alignment with the School's academic policies and procedures. The overall conduct of the new curriculum will be overseen by the Chair of the UMES SOP Curriculum Committee (Dr. Madan Kharel), the Associate Dean for Academic Affairs (Dr. Timothy Gladwell), and the Dean of the SPHP (Dr. T. Sean Vasaitis).

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

As part of the curricular review process, the UMES SOP has adopted the 2022 Curriculum Outcomes and Entrustable Professional Activities (COEPA) that were developed by the American Association of Colleges of Pharmacy (AACP) for its programmatic outcomes.

COEPA EDUCATIONAL OUTCOMES

1. Knowledge

1.1 Scientific Thinking (Learner)

Seek, analyze, integrate, and apply foundational knowledge of medications and pharmacy practice (biomedical; pharmaceutical; social, behavioral, administrative; and clinical sciences; drug classes; and digital health)

2. Skills

2.1 Problem-solving Process (Problem-solver)

Use problem solving and critical thinking skills, along with an innovative mindset, to address challenges and to promote positive change.

2.2 Communication (Communicator)

Actively engage, listen, and communicate verbally, nonverbally, and in writing when interacting with or educating an individual, group, or organization.

2.3 Cultural and Structural Humility (Ally)

Mitigate health disparities by considering, recognizing, and navigating cultural and structural factors (e.g., social determinants of health, diversity, equity, inclusion, and accessibility) to improve access and health outcomes.

2.4 Person-centered Care (Provider)

Provide whole person care to individuals as the medication specialist using the Pharmacists' Patient Care Process.

2.5 Advocacy (Advocate)

Promote the best interests of patients and/or the pharmacy profession within healthcare settings and at the community, state, or national level.

2.6 Medication-use Process Stewardship (Steward)

Optimize patient healthcare outcomes using human, financial, technological, and physical resources to improve the safety, efficacy, and environmental impact of medication use systems.

2.7 Interprofessional Collaboration (Collaborator)

Actively engage and contribute as a healthcare team member by demonstrating core interprofessional competencies.

2.8 Population Health and Wellness (Promoter)

Assess factors that influence the health and wellness of a population and develop strategies to address those factors.

2.9 Leadership (Leader)

Demonstrate the ability to influence and support the achievement of shared goals on a team, regardless of one's role.

3. **Attitudes**

3.1 Self-awareness (Self-aware)

Examine, reflect on, and address personal and professional attributes (e.g., knowledge, metacognition, skills, abilities, beliefs, biases, motivation, help-seeking strategies, and emotional intelligence that could enhance or limit growth, development, & professional identity formation.

3.2 Professionalism (Professional)

Exhibit attitudes and behaviors that embody a commitment to building and maintaining trust with patients, colleagues, other health care professionals, and society.

ENTRUSTABLE PROFESSIONAL ACTIVITIES

1. Collect information necessary to identify a patient's medication-related problems and health-related needs.
2. Assess collected information to determine a patient's medication-related problems and health-related needs.
3. Create a care plan in collaboration with the patient, others trusted by the patient, and other health professionals to optimize pharmacologic and nonpharmacologic treatment.
4. Contribute patient specific medication-related expertise as part of an interprofessional care team.
5. Answer medication related questions using scientific literature.
6. Implement a care plan in collaboration with the patient, others trusted by the patient, and other health professionals.
7. Fulfill a medication order.
8. Educate the patient and others trusted by the patient regarding the appropriate use of a medication, device to administer a medication, or self-monitoring test.
9. Monitor and evaluate the safety and effectiveness of a care plan.
10. Report adverse drug events and/or medication errors in accordance with site specific procedures.
11. Deliver medication or health-related education to health professionals or the public.
12. Identify populations at risk for prevalent diseases and preventable adverse medication outcomes.
13. Perform the technical, administrative, and supportive operations of a pharmacy practice site.

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

Since its inception, the UMES SOP Doctor of Pharmacy program has utilized an Honors/Pass/No Pass grading system to evaluate student competency and achievement. The faculty of the School set the minimum standard of achievement for each student at 85% or higher with Honors at 95%. Certain courses, including didactic electives, IPPEs, and PHAR 795/796/799 were graded at Satisfactory or Unsatisfactory without the Honors designation. In order to receive a Pass, a student needed to achieve a score of 85% or higher in each course or assessment block. For courses taught in the block format, biweekly and other

summative individualized examinations were used to assess student learning and to identify potential areas of deficiency. In addition, students took summative team examinations at the end of each individualized examination. Students received additional points added to their individual examination score in the amount of 5% of the total, provided that the team examination score was at least 95%. Each summative examination was specifically structured to evaluate expected competencies and was the primary means to assign the Honors/Pass/No Pass grade to each block. If a student did not achieve the 85% competency level on the biweekly exam, he/she was required to reassess the delivered materials shortly after the original examination. Receiving a grade less than 85% on the reassessment required attending a remediation tutorial ("extended learning") at the end of the term. The standard to pass extended learning was set at an 80% competency level (no team points).

For this modified curriculum proposal, the SOP Faculty are proposing to eliminate the Honors/Pass/No Pass grading system in favor of a more traditional letter grade (A/B/C) system. Additionally, each course will assign its own grade, instead of having grades assigned by two-week blocks. Finally, didactic course grades will be determined through a weighted combination of assessment instruments, including (but not limited to) quizzes, reflections, presentations, laboratory activities, case studies, objective structured clinical examinations, and midterm & final examinations. Students will receive a final grade for each didactic course based on the weighted average of the assessment activities according to the scale below:

  A: $\geq$90%
  B: $\geq$80% to <90%
  C: $\geq$70% to <80%
  D: $\geq$60% to <70%
  F: <60%

The rationale for the change in the grading system is several-fold: (1) To provide more consistency with the grading system among other programs at UMES; (2) To better discriminate among different levels of student achievement of learning; (3) To simplify the grade notations on student transcripts, and; (4) To improve alignment of grading among external institutions for our students who are applying for post-graduate training or educational opportunities.

With this new grading system, students will be required to achieve a minimum grade of "C" in order to pass each course, and an overall grade-point average (GPA) of 2.5 will be required for a student to remain in good academic standing. Students who fail to achieve a passing grade in any course will be placed on academic probation and will need to remediate the course deficiency before progressing in the program. Similarly, any student who fails to maintain a GPA above 2.5 will be placed on academic probation and will receive a revised academic plan to address the academic deficiency.

The UMES SOP Curriculum Committee (CC) works in conjunction with the Assessment Committee (AC) to implement the Doctor of Pharmacy program's Curriculum Assessment Plan (CAP) that evaluates the effectiveness of the curriculum to ensure student achievement of learning outcomes. The CC makes recommendations to the SOP faculty who then may endorse, modify, or reject the recommendations. In 2016, a comprehensive assessment matrix was developed to guide the overall assessment process. The assessment matrix is mapped to the SOP's stated mission, vision, goals, and strategic objectives. As part of the overall assessment matrix, the CAP consists of multiple assessment activities that are tied to the

program's accreditation standards and programmatic goals, and data from the CAP is used to provide an effective method to evaluate and modify the curriculum as well as identify other programmatic issues. Timelines, responsible parties, and metrics are included to facilitate corrective actions when necessary for achievement of the goals. Examples of assessment artifacts include:

- Individual student and aggregate course grades
- Pass rates on post-graduate licensure exams [North American Pharmacist Licensure Exam (NAPLEX) and Multistate Pharmacy Jurisprudence Examination (MPJE)]
- Course-embedded assessments (CEAs)
- Objective Structured Clinical Examinations (OSCEs)
- COEPA-Based APPE evaluations
- Continuous Professional Development (CPD) program artifacts
- Student progression data
- Faculty/course evaluations
- Peer teaching evaluations
- Comprehensive course reviews
- Standardized surveys from the American Association of Colleges of Pharmacy (AACP)
- Survey results from Town Hall meetings
- PERFORM-I evaluations
- Board-licensure preparatory assessments

The AC oversees the Continuous Quality Improvement (CQI) program for the SOP. The CQI process involves the creation of a query, delegation, follow up, and closing of the loop. All surveys and assessment data are reviewed by the AC members, who then compare the data to the assessment matrix metrics. If the metrics for action necessitate a CQI, then the referral is made to the appropriate person or committee. CQIs are reviewed quarterly and followed up by the Director of Assessment. The action plan and follow through of the plan sections are updated accordingly by the responsible parties, until it has been determined that the CQI can be closed. The closed CQI is then reviewed by the AC to confirm closing the loop. Consistency in review and closing the loop on CQIs is regularly reviewed for process improvement. As assessment data from the CAP are reviewed, CQIs are created for the CC as needed. Joint Curriculum and Assessment Committee meetings are held once a semester so that items with extensive overlap can be discussed. Through the CQI program and other independent processes, the CC systematically reviews the curriculum structure, content, and outcomes to determine the appropriateness of content-emphasis and proper sequencing to provide the optimal progression for learning. This review includes assurances for coordination of course material, identification of content omission or unnecessary repetition, identification of outdated or unessential content, and recommendation of a reasonable course load for students. The CC collects and disseminates information to the faculty regarding successful methods of innovative teaching as means of continuous improvement. The CC develops policies related to the delivery of the curriculum as assigned. The CC is responsible for assuring that outcome measures of learning are systematically applied as an additional means of continuous quality improvement.

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

All students in the revised Doctor of Pharmacy program will be required to complete a minimum of 160 credit hours as shown in the table below. The first two academic years will mostly consist of a combination of required modular (block) and longitudinal didactic courses completed in-person on the UMES campus, while each of the first four semesters also includes an introductory pharmacy practice experience (IPPE) completed in conjunction with an approved practice site overseen by a credentialed preceptor.

During the third year of the program, students complete 40 credit hours of advanced pharmacy practice experiences (APPEs). Each APPE course is a full-time, 40 hours/week, supervised rotation that is 5 weeks in duration, providing 5 credits and 200 hours towards pharmacist licensure. Students must complete four required APPE rotations in advanced community, advanced institutional, acute care, and ambulatory care practice. The remaining four APPE rotations can be selected from among various electives, with at least one patient care elective and one systems elective.

First Academic Year Fall	Credits	First Academic Year Spring	Credits
PHRM 501 Foundations of Biomedical Sciences I	5.0	PHRM 531 Foundations of Pharmaceutical Sciences II	4.5
PHRM 502 Foundations of Biomedical Sciences II	4.5	PHRM 601 Principles of Pharmacotherapy	5.5
PHRM 530 Foundations of Pharmaceutical Sciences I	5.0	PHRM 610 Integrated Biomedical & Clinical Sciences I: Neurology & Psychiatry	6.0
PHRM 540 Pharmacy Administration I	3.0	PHRM 543 Public Health for Pharmacists	2.0
PHRM 542 Concepts in Diversity and Communication for the Pharmacist	3.0	PHRM 562 Professional Development II	1.0
PHRM 550 Pharmaceutical Calculations	2.0	PHRM 609 Therapeutics of Self Care and Over-The-Counter Products	2.0
PHRM 561 Professional Development I	1.0	PHRM 650 Top 200 Drugs	1.0
PHRM 571 IPPE Introductory Community **or** PHRM 572 IPPE Introductory Institutional	3.0	PHRM 571 IPPE Introductory Community **or** PHRM 572 IPPE Introductory Institutional	3.0
PHRM 590 Skills Lab I	3.0	PHRM 591 Skills Lab II	3.0
		Electives	0.0-6.0
Total Semester Credits	**29.5**		**28.0-34.0**
Total Academic Year Credits			**57.5 – 63.5**

IPPE = Introductory Pharmacy Practice Experience

Second Academic Year Fall	Credits	Second Academic Year Spring	Credits
PHRM 611 Integrated Biomedical & Clinical Sciences II: Pulmonary & Nephrology	5.5	PHRM 614 Integrated Biomedical & Clinical Sciences V: Hematology, Immunology, & Oncology	6.0
PHRM 612 Integrated Biomedical & Clinical Sciences III: Cardiology	5.5	PHRM 615 Integrated Biomedical & Clinical Sciences VI: Infectious Diseases	6.5
PHRM 613 Integrated Biomedical & Clinical Sciences IV: Endocrinology & Gastroenterology	6.0	PHRM 616 Integrated Biomedical & Clinical Sciences VII: Geriatrics, Pediatrics, Urology, & Special Considerations in Pharmacotherapy	4.0
PHRM 640 Pharmacy Administration II	3.0	PHRM 645 Pharmacy Law and Ethics	2.0
PHRM 661 Professional Development III	1.0	PHRM 646 Informatics and Telehealth	2.0
PHRM 671 IPPE Direct Patient Care I	2.0	PHRM 662 Professional Development IV	1.0
PHRM 690 Skills Lab III	3.0	PHRM 672 IPPE Direct Patient Care II	2.0

		PHRM 691 Skills Lab IV	3.0
Electives	0.0-6.0	Electives	0.0-6.0
Total Semester Credits	**26.0-32.0**		**26.5-32.5**
Total Academic Year Credits			**52.5 – 58.5**

IPPE = Introductory Pharmacy Practice Experience

Third Academic Year Fall	Credits	Third Academic Year Spring	Credits
PHRM 795 Transitions to the Pharmacy Profession I	2.0	PHRM 796 Transitions to the Pharmacy Profession II	2.0
Advanced Practice Pharmacy Experiences (APPEs)			
Required	**Credits**	**Electives**	**Credits**
PHRM 700 APPE-Advanced Community	5.0	**APPE Patient Care Electives**	
PHRM 701 APPE-Advanced Institutional	5.0	PHRM 715 APPE – Patient Care	5.0 each x 4 = 20.0
PHRM 702 APPE- Acute Care	5.0	**APPE Systems Electives**	
PHRM 703 APPE- Ambulatory Care	5.0	PHRM 720 APPE – General Elective	
Total Semester Credits	**17.0-27.0**		**17.0-27.0**
Total Academic Year Credits			**44.0**
Total Program Credits			**160.0**

The required courses, course descriptions, and credit hours are listed below:

PHRM 501 Foundations of Biomedical Sciences I (5 credits)
This course will include a study of the key physical and chemical principles that are necessary for understanding the development, preparation, and principles of drug action. Students will also learn the composition and structure of proteins, classification of enzymes and coenzymes, enzyme kinetics and regulations, drug biotransformation, drug receptor properties, structural features of drugs, functional group properties and receptor interactions, fundamentals of pattern recognition that relate chemical structure to pharmacological action, drug dose-response curves, membrane structure and transport, and mechanisms of signal transduction.

PHRM 502 Foundations of Biomedical Sciences II (4.5 credits)
This course will review the basic concepts of mammalian biochemistry that will form the foundation for later discussions of pathophysiological disorders and pharmacological treatments. Topics that will be covered include the digestion, absorption, biosynthesis and metabolism of carbohydrates, lipids and amino acids at the cellular level in both the normal and disease states, the principles of energy transformations, nucleic acid structure and function in gene expression, nucleotide metabolism, and an introduction to pharmacogenomics and biotechnology.

PHRM 530 Foundations of Pharmaceutical Sciences I (5 credits)
This course will introduce students to the physical and chemical principles that affect the development, preparation, and stabilization of pharmaceutical dosage forms. Also included is a study of biological and physicochemical factors that influence the availability of a drug from a dosage form and the subsequent disposition and response of the drug in the body. Students will apply these concepts to develop the necessary competencies in the preparation and use of both non-sterile and sterile products.

PHRM 531 Foundations of Pharmaceutical Sciences II (4.5 credits)
The application of the concepts of biopharmaceutics and pharmacokinetics to the processes of absorption, distribution, metabolism and excretion of drugs are discussed with the purpose of assessing drug dosage forms/regimens and improving the therapeutic management of patients. The influence of physiology and

disease state on pharmacokinetics is presented to help explain clinical variability to drug response. Students will also be introduced to the basic principles of toxicology and clinical toxicology.

PHRM 540 Pharmacy Administration I (3 credits)

This course offers a study of the evolution and organization of the US healthcare system, the role of pharmacy in the US healthcare system, the influence of stakeholders, and the laws that have shaped contemporary pharmacy practice. Basic concepts of pharmacovigilance, informatics and pharmacoeconomics will be discussed.

PHRM 542 Concepts in Diversity and Communication for the Pharmacist (3 credits)

This longitudinal course emphasizes the vital role of communication in contemporary pharmacy practice. Students are evaluated in both oral and written formats. Course content includes: an overview of diversity and differences important for the pharmacist to understand, study of professional interpersonal communication, verbal and nonverbal communication strategies, effective interviewing techniques, and patient counseling.

PHRM 543 Public Health for Pharmacists (2 credits)

This course will prepare students to identify public health issues and to identify populations at risk for a variety of diseases. Principles of epidemiology as a diagnostic discipline of population health will be explored. In addition, this course will enable the student to critically evaluate current trends in the care of patient populations. Issues relating to disaster planning and emergency preparedness will be discussed. Focus will be placed on the role of the pharmacist in public health policy.

PHRM 550 Pharmaceutical Calculations (2 credits)

This course covers some aspects of pharmaceutical calculations including fundamentals of measurement and calculation, measurement systems, dosage and concentration units, isotonic solutions, electrolyte solutions, and calculations related to compounding.

PHRM 561 Professional Development I (1 credit)

First in a series of professional development courses, students will learn skills and use tools to advance their professional growth. As part of this process, students will develop professional mission statements and goals, and will explore various aspects of pharmacy through a professional forum series. Students will self-reflect and incorporate these skills to document participation in community service and continuing professional development, including professional organizations.

PHRM 562 Professional Development II (1 credit)

Second in a series of professional development courses, students will learn skills and use tools to advance their professional growth. Students continue to update their electronic portfolios and will prepare a self-reflection summarizing their development in the first professional year. They will continue to explore various aspects of pharmacy through a biweekly professional forum series, and to participate in community service and continuing professional development, including Legislative Day.

PHRM 571 Introductory Pharmacy Practice Experience – Introductory Community (3 credits)

The introductory community rotation provides an introductory pharmacy experience and links key concepts in the SP-1 curriculum with contemporary pharmacy practice within the community pharmacy setting. Students will be introduced to pharmacy practice skills and reinforce foundational knowledge through completion of the 120-experiential hour in a community pharmacy setting.

PHRM 572 Introductory Pharmacy Practice Experience – Introductory Institutional (3 credits)
The introductory institutional rotation provides an introduction pharmacy practice experience and links key concepts in the SP-1 curriculum with contemporary pharmacy practice. Students will be introduced and develop pharmacy practice skills and drug knowledge through completion of 120 experiential hour in an institutional pharmacy setting.

PHRM 590 Skills Lab I (3 credits)
The first course in a four-part series that focuses on the development of pharmacy practice Entrustable Professional Activities (EPAs) through the Pharmacists' Patient Care Process (PPCP). This course provides a foundation for practical applications of pharmacy practice with an emphasis on the use of patient charts, preparation and dispensing of prescriptions, development of maintenance of patient medication profiles, sterile and non-sterile preparations, patient education, immunizations, and prevention of medication errors.

PHRM 591 Skills Lab II (3 credits)
The second course in a four-part series that focuses on the development of pharmacy practice Entrustable Professional Activities (EPAs) through the Pharmacists' Patient Care Process (PPCP). This course provides a foundation for practical applications of pharmacy practice with an emphasis on the use of care plan documentation, patient and provider communication, and point of care testing. Additional emphasis is placed on literature evaluation and the practice of evidence-based medicine.

PHRM 601 Principles of Pharmacotherapy, Drug Information, and Medical Literature Evaluation (5.5 credits)
This course provides a foundation of the principles involved in ensuring the safe, appropriate, effective, and economical use of drugs in patient care. An overview of basic biostatistical concepts, study design, drug information, medical literature evaluation, and evidence-based medicine will be presented. Students will then apply these concepts while developing a systematic approach to rational drug selection and comprehensive medication management.

PHRM 609 Therapeutics of Self Care and Over-The-Counter Products (2 credits)
This course is designed to develop students' knowledge of self-treatable disorders of varying organ systems and prepare them to provide appropriate patient-centered care for patients that present with these disorders in an outpatient setting. The course will cover topics such as conducting a patient interview, recognition of self-treatable disorders, over the counter (OTC) treatments for common self-treatable disorders, counseling points for these treatments, and recognition of disorders that require referral to a physician or other healthcare provider. In addition, students will become familiar with various medical devices and will be able to demonstrate and recommend these devices to patients.

PHRM 610 Integrated Biomedical & Clinical Sciences I – Neurology & Psychiatry (6 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, medication use in special populations, clinical/complementary therapies, and review of pertinent drug literature as they relate to major neurological and psychiatric diseases.

PHRM 611 Integrated Biomedical & Clinical Sciences II – Pulmonary & Nephrology (5.5 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, medication use in special populations, and review of pertinent drug literature as they relate to major diseases of the pulmonary and renal systems.

PHRM 612 Integrated Biomedical & Clinical Sciences III – Cardiology (5.5 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, medication use in special populations, and review of pertinent drug literature as they relate to major cardiovascular diseases.

PHRM 613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology (6 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, medication use in special populations, and review of pertinent drug literature as they relate to major endocrine and gastrointestinal diseases.

PHRM 614 Integrated Biomedical & Clinical Sciences V – Immunology, Hematology, & Oncology (6 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, medication use in special populations, and review of pertinent drug literature as they relate to major immunologic, hematologic, and oncologic diseases.

PHRM 615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases (6.5 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, medication use in special populations, and review of pertinent drug literature as they relate to major infectious diseases.

PHRM 616 Integrated Biomedical & Clinical Sciences VII – Geriatrics, Pediatrics, Urology, and Special Considerations in Pharmacotherapy (4 credits)
This module will present an integrated study of anatomy, physiology, pathophysiology, medicinal chemistry, physical assessment, pharmacology, therapeutics, clinical pharmacokinetics, pharmacoeconomic issues, and review of pertinent drug literature as they relate to the management of special populations of patients.

PHRM 640 Pharmacy Administration II (3 credits)
This course examines the economic, social, and political forces affecting the short- and long-term operations and management of pharmacy services. Specifically, the content is intended to develop managerial and leadership skills that will prepare you to assume entry-level management positions in institutional and/or community pharmacy practice.

PHRM 645 Pharmacy Law and Ethics (2 credits)
This course provides an overview of State and Federal pharmacy laws and regulations pertaining to pharmacy practice, licensure, controlled substances, legal liabilities, laws and regulations of other health care providers, and pharmacy case law. Topics will also include an exploration of ethical decision-making and professional values in pharmacy practice.

PHRM 646 Informatics and Telehealth (2 credits)
This course is designed to explore the application of technologies for analyzing and disseminating medical information in patient care, public health, and biomedical research. Students will be introduced to concepts on health information technology, automation, clinical decision making, and clinical surveillance systems. The use of remote technologies to evaluate patients and to fulfill prescription orders will also be discussed.

PHRM 650 Top 200 Drugs (1 credit)
This course focuses on familiarizing students with the 200 most frequently prescribed drugs. For each drug, students will describe the mechanism of action, identify drug interactions, contraindications, pregnancy category, black box warnings associated with the use of the drug, and provide patient counseling when applicable.

PHRM 661 Professional Development III (1 credit)
Third in a series of professional development courses, students will learn skills and use tools to advance their professional growth. Students update their professional mission statements and goals, and electronic portfolios. Students will learn to create effective Curriculum Vitae and use their strengths to prepare for Advanced Pharmacy Practice Experiences. They will continue to explore various aspects of pharmacy through a professional forum series, and to participate in community service and continuing professional development, including leadership and mentorship.

PHRM 662 Professional Development IV (1 credit)
Fourth in a series of professional development courses, students will learn skills and use tools to advance their professional growth. Students continue to update their electronic portfolios and will prepare a self-reflection summarizing their development in the second professional year. Students will evaluate career choices, learn job interview techniques, discuss the pros and cons of residencies and board certification, and discuss balancing both professional and personal demands. They will continue to explore various aspects of pharmacy through a biweekly professional forum series, and to participate in community service and continuing professional development including leadership and mentorship.

PHRM 671 Introductory Pharmacy Practice Experience: Direct Patient Care Rotation I (2 credits)
The SP-2 Fall Introductory Pharmacy Practice Experience course is designed to continue student progression from the classroom to the practice environment via practical application of materials learned. The integration of classroom knowledge and experiential training serves as the cornerstone of the student's education, instilling professionalism, and ensuring competency in the provision of pharmaceutical care. This IPPE applies the functions of the pharmacist patient care process in either the community, patient care or institutional environment with a focus on building professional entrustable activities. Students will be provided the opportunity to expand their knowledge base, practice pharmacy-based skills, and develop professional attitudes in an actual pharmacy setting.

PHRM 672 Introductory Pharmacy Practice Experience: Direct Patient Care Rotation II (2 credits)
This IPPE rotation links key concepts in the SP-2 spring curriculum with contemporary pharmacy practice. Students will spend two hours with an assigned patient in a minimum of 4, 30-minute site visits to experience patient care activities. Students will participate in guided discussions about the previous week's assignment to strengthen the learning experience. By completing this course, students will earn academic didactic credit.

PHRM 690 Skills Lab III (3 credits)
The third course in a four-part series that focuses on the development of pharmacy practice Entrustable Professional Activities (EPAs) through the Pharmacists' Patient Care Process (PPCP). The course will integrate therapeutic disease state management topics by allowing students to develop and foster their problem-solving, critical thinking, and self-directed learning abilities. Additional emphasis is placed on literature evaluation and the practice of evidence-based medicine.

PHRM 691 Skills Lab IV (3 credits)
The final course in a four-part series that focuses on the development of pharmacy practice Entrustable Professional Activities (EPAs) through the Pharmacists' Patient Care Process (PPCP). The course will continue to integrate therapeutic disease state management topics in a progressively advanced manner to allow students to refine their problem-solving, critical thinking, and self-directed learning abilities. Students will justify solutions to medication-related problems through literature evaluation and the rigorous application of evidence-based medicine principles. Successful completion of this course will prepare students to participate in Advanced Pharmacy Practice Experiences (APPEs).

PHRM 700 Advanced Pharmacy Practice Experience: Advanced Community Practice (5 credits)
In the Advanced Community Practice required experience, students will effectively participate in the patient care decision-making process in the community setting. Students will apply knowledge, skills, and abilities developed throughout the curriculum to demonstrate their understanding of common disease states and treatment modalities and to provide patient-centered care and medication management in the context of pharmacy operations.

PHRM 701 Advanced Pharmacy Practice Experience: Advanced Institutional Practice (5 credits)
During the Advanced Institutional Practice required rotation, students will effectively participate in the patient care decision-making process in the institutional setting. Students will apply knowledge, skills, and abilities developed throughout the curriculum to demonstrate their understanding of common disease states and treatment modalities and to provide patient-centered care, medication management and working knowledge of institutional pharmacy operations.

PHRM 702 Advanced Pharmacy Practice Experience: Acute Care (5 credits)
The Acute Care required rotation provides advanced experience in internal/general medicine in the acute care setting. Students will apply knowledge, skills, and abilities developed throughout the curriculum to effectively participate in the patient care decision-making process. Students will participate in a variety of clinical activities, functioning as an integral member of the health care team, and will demonstrate their understanding of common disease states and treatment modalities.

PHRM 703 Advanced Pharmacy Practice Experience: Ambulatory Care (5 credits)
The Ambulatory Care required rotation provides advanced experience in the ambulatory care practice environment. Students will apply knowledge, skills, and abilities developed throughout the curriculum to

effectively participate in the patient care decision-making process. Students will participate in a variety of clinical activities in order to demonstrate understanding of common disease states and treatment modalities and to provide patient-centered care and medication management.

PHRM 715 Advanced Pharmacy Practice Experience: Patient Care Elective (5 credits)
The Patient Care advanced elective experience is offered in practice settings where there is a significant emphasis on patient care. Students will apply knowledge, skills, and abilities developed throughout the curriculum to provide patient-centered care. The rotations may include focus areas such as infectious disease, pediatrics, cardiology, psychiatry, geriatrics, long term care, transplant, internal medicine, women's health, and medication therapy management (MTM).

PHRM 720 Advanced Pharmacy Practice Experience: General Systems Elective (5 credits)
The General Systems advanced elective experience provides distinctive options for students to participate in areas such as compounding, nuclear pharmacy, academia, research, consulting, industry and other environments; patient care is not the primary focus. Specialty areas will vary according to preceptor and site availability. Students will apply knowledge, skills, and abilities developed throughout the curriculum to course and site-specific objectives and will demonstrate effective verbal and written communication skills in fulfillment of their responsibilities.

PHRM 795 Transition to the Pharmacy Profession I (2 credits)
This course is the first part of a two-course series intended to enable students in reinforcing the skills necessary to become independent pharmacy practitioners. Pharmacy students will take this course and PHRM 796 concurrently with their Advanced Pharmacy Practice Experiences (APPEs) during the final year of the Doctor of Pharmacy program. The primary focus will be on the reinforcement of continuing professional development and lifelong learning, while also providing a standardized learning experience and maintaining a sense of community for all students throughout the third year experiential curriculum. A combination of faculty-led instruction and student self-study activities will be utilized to accomplish the learning objectives and assess student readiness for licensure examinations and professional pharmacy practice.

PHRM 796 Transition to the Pharmacy Profession II (2 credits)
This course is the second part of a two-course series intended to enable students in reinforcing the skills necessary to become independent pharmacy practitioners. Pharmacy students will take this course and PHRM 795 concurrently with their Advanced Pharmacy Practice Experiences (APPEs) during the final year of the Doctor of Pharmacy program. The primary focus will be on the reinforcement of continuing professional development and lifelong learning, while also providing a standardized learning experience and maintaining a sense of community for all students throughout the third year experiential curriculum. A combination of faculty-led instruction and student self-study activities will be utilized to accomplish the learning objectives and assess student readiness for licensure examinations and professional pharmacy practice.

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

As a professional doctorate program, there are no general education requirements for this program.

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

This program is accredited by Accreditation Council for Pharmacy Education (ACPE). There is no graduate certification at this time in the program.

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

There will be no contracting with other entities.

8. **Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management systems, availability of academic support services and financial aid resources, and costs and payment policies.**

Upon approval, all information about the modified program curriculum, courses, degree requirements, and UMES academic catalog will be published clearly, completely and in a timely manner on the UMES website and on the Pharmacy Centralized Application Service (PharmCAS) as it has been in the past. The UMES SOP also publishes a specific Student Handbook for the Doctor of Pharmacy program, which contains all of the information about the curriculum, degree requirements, academic and professional policies and procedures, technical standards, and resources for students. Upon approval of the program modification, the Doctor of Pharmacy Student Handbook will be updated with the current information and published on the UMES SOP website, and an electronic copy will be provided to all matriculating students. All new students are required to attend and participate in an orientation program prior to the first day of classes, and all of the necessary information will also be shared with students at that time.

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

The program will be clearly and accurately represented in developed advertising, recruiting, and admissions materials as it has been in the past. Briefly, the UMES SOP Office of Student Affairs (OSA) coordinates recruitment and admissions to attract a diverse, highly qualified student population in line with the school's mission and vision. The OSA utilizes multiple strategies outlined in the School's Strategic Outreach and Recruitment Plan as listed below:

- Admissions Scholarships
  UMES has expanded its support of the School with scholarship funds for incoming students from 2022 to 2027. The scholarships are intended to encourage applicants who have the potential to become exemplary pharmacists to complete their application and to help reduce the cost of tuition in our program. So far, $460,000 in admissions scholarships have been awarded to the Class of 2025 ($200,000) and the Class of 2026 ($260,000).

- Enhanced digital and in-person outreach
  The OSA participates in the university's Office of Admissions and Recruitment events. OSA was granted access to AdmissionPro, the university's admissions management system, to identify and engage students with a "pre-pharmacy" designation. OSA collaborates with the university's Director of Marketing & External Relations and the Social Media Coordinator to update promotional materials and boost the school's social media presence. The School's Communications Committee manages publication, website, and social media initiatives. Since 2018, print publications, *Rx Times* and *The Pulse* have been distributed to prospective students, alumni, and community partners. The Communications Committee has increased its posting on the school's social media platforms. A YouTube channel was created featuring a pharmacy student-led educational video series. Since 2019, the School has collaborated with Echo-Interactive to deliver targeted digital advertisements. The digital ads generated over 800 clicks from the PharmCAS and Pharm4me audience living within a 150-mile radius of campus in the 2022-2023 cycle. In that same cycle, the School partnered with StudyCollege, a full-service media buying and creative agency specializing in higher education, to launch a digital campaign on major social media platforms targeting the Mid-Atlantic, Southeast, and Northeast regions. Overall, the campaign generated over 1 million impressions. In 2022, OSA collaborated with Cool & Associates LLC, a marketing and communications company that specializes in engaging the Hispanic community, to discuss potential initiatives aimed at increasing Hispanic applicants. During Hispanic Heritage Month, a regional Hispanic radio station aired the School's ads in Spanish that culminated in a live interview with a clinical faculty member.

- Enacting and supporting pipeline programs
  See the information in section H1 below.

- Improving follow-up with prospective applicants
  The OSA continues to actively recruit through telephone, email, and virtual sessions. Prospective students can meet current students and learn about UMES-SOP through student ambassador virtual sessions. Additionally, OSA holds virtual information sessions to answer admission questions and evaluate prerequisites. We use Kira virtual interview technology for the initial interview stage and offer live synchronous video conference interviews for the second stage to remote applicants.

- Attending college fairs and other recruitment events
  Faculty, students, and alumni participate in recruitment events such as transfer fairs, high school visits, career fairs, and on-campus open house sessions.

- Providing educational experiences
  The OSA has been recruiting high school students through open houses, workshops, career day presentations, and summer camps. The Pharmacy Experience is a series of workshops designed to educate and engage future pharmacists. The program was launched in June 2019 and has since hosted single-day or week-long workshops for 30 Baltimore high school students, 64 undergraduates from the Academy of Health

Sciences, and 20 undergraduates from Delaware State University. Additionally, the program has conducted pharmacy career panels for 60 students from the Governor's Health Sciences Academy. Recently, OSA hosted single-day workshops with 47 Baltimore Alliance for Careers in Healthcare (BACH) high school students (Spring 2023 and Fall 2023), 250 Academy of Health Sciences undergraduates (Summer 2023), and 37 Upward Bound high school students (Summer 2023). The SEPA program at the School has been hosting local high school students for a week-long summer camp since 2019. The program aims to promote education and careers in applied healthcare fields and biomedical research, with 45 students in 2021, 85 in 2022, and 40 in 2023. Additionally, OSA has hosted high school students from Baltimore's UMB CURE program for a week-long summer camp since 2021. The summer camp provides interactive research and healthcare-related activities and experiences. The summer camp had 26 participants in 2021, 26 participants in 2022, and 20 participants in 2023. Starting in 2020, the Office of Professional Affairs launched a virtual program called "Exploring Healthcare Careers and Health Awareness Program." The program included monthly health awareness presentations to high school students in Talbot, Worcester, Caroline, and Dorchester counties on the Eastern Shore. In the 2022-2023 academic year, our School participated in the university's engagement days, First Look event, and Tri-county College Fair. These events were attended by over 1000 high school students from the region. New dual enrollment initiatives are being negotiated with local high schools in Wicomico and Somerset counties to admit high-performing high school seniors into our 3+3 UMES Biochemistry-Pharmacy pipeline program.

- Staff Support
  To support our pipeline programs, the UMES SOP Admissions Coordinator role was reclassified as the Admissions and Pathway Program Specialist in 2023. To improve the overall student experience, there is a current search for a Student Retention and Experience Coordinator (SERC). The SERC will provide management and general coordination of student experience activities (e.g., events, ceremonies, student organizations, housing) and student retention services (e.g., tutoring program, mentoring program, ambassadors program, scholarships, conduct, and progression documentation). There is a current search to fill the UMES SOP Recruitment Coordinator position.

H. **Adequacy of Articulation:**
   1. **If applicable, discuss how the program supports articulation with programs institutions. Provide all relevant articulation agreements.**

   From 2018 to 2021, the UMES SOP established affiliations with eight undergraduate institutions. However, the COVID-19 pandemic caused a delay in implementing these agreements. The school has since established additional agreements with Frostburg State University in July 2021, Sunyani Technical University in Ghana in October 2022, and the UMES Biochemistry Program in Fall 2023, bringing the total to eleven formal institutional partners (see the full list in the table below). The school is also pursuing new initiatives with Delaware State University and Bahir Dar University in Ethiopia. The school will continue to develop and support pipeline programs with educational institutions both in the region and beyond. To strengthen our pipeline programs, the UMES SOP Admissions Coordinator role was reclassified as the Admissions and Pathway Program Specialist in 2023. This specialist will develop and implement pathway programs, as well as advise or co-advise students at affiliated institutions. Moreover, the Dean is currently a

member of the Prince George's County Public Schools Health Professions and Bioscience Advisory Board, and Prince George's Community College Natural Sciences Advisory Board.

2+3 Programs
Chesapeake College (A.S. Biological Sciences or A.A. in General Studies)
College of Southern Maryland (A.S. Pre-professional Health Sciences (Pharmacy track))
Harford Community College (A.S. Chemistry, Calculus-based Physics)
Rowan College Gloucester County (NJ) (A.S. Chemistry (Pre-PharmD))
WOR-WIC Community College (A.S. Chemistry: Pre-pharmacy concentration)
UMES (Contingent Admit Program (CAP) Biology program)
3+3 Programs
Elizabeth City-State University (NC)
Frostburg State University
Salisbury University
UMES (Biochemistry program)
International
University in Ghana

I. **Adequacy of Faculty Resources** (as outlined in COMAR 13B.02.03.11)**:**
   1. **Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty will teach in the proposed program.**

The SOP is committed to hiring highly qualified faculty and staff who are student-centered, motivated, and passionate about the profession of pharmacy and the mission of HBCUs. As part of the hiring process, faculty are required to submit a CV and certified copy of transcripts. In addition, Pharmacy Practice and Administration faculty are required to be eligible for licensure in Maryland and show proof of licensure once hired. The School has an approved policy on credentialing of teaching personnel to ensure the quality of the individuals who provide instruction to our students. The policy also applies to adjunct instructors, preceptors, graduate teaching assistants, residents, and guest lecturers. As described in our Educational Philosophy, faculty incorporate a variety of evidence-based teaching methods to engage students and encourage self-directed lifelong learning. To ensure quality assurance of teaching methodologies, all students must complete standardized evaluations of courses and faculty. Students also complete evaluations of preceptors and sites for each experiential rotation.

Currently, the UMES SOP currently employs twenty-seven (27) full-time faculty and two (2) part-time faculty who teach in the Doctor of Pharmacy program. In addition, the program has over 1000 credentialed external preceptors that oversee student rotations at partnering sites. The table below lists the current faculty members with appointment type, terminal degree, academic title/rank, and courses they will teach in the modified curriculum.

Faculty Name	Appointment Type	Terminal Degree	Academic Rank/Title	Courses Taught
Lauren Antal	Full-time/Non-tenure track	PharmD	Assistant Professor	PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases PHRM616 Integrated Biomedical & Clinical Sciences VII – Geriatrics, Pediatrics, Urology, & Special Considerations in Pharmacotherapy
Omar Attarabeen	Full-time/Tenure-track	PhD	Associate Professor	PHRM540 Pharmacy Administration I PHRM550 Pharmaceutical Calculations PHRM601 Principles of Pharmacotherapy, Drug Information, and Medical Literature Evaluation PHRM640 Pharmacy Administration II
Matthew Balish	Full-time/Non-tenure track	PharmD	Assistant Professor	PHRM542 Concepts in Diversity and Communication for the Pharmacist

				PHRM590 Pharmacy Skills Lab I
				PHRM591 Pharmacy Skills Lab II
				PHRM690 Pharmacy Skills Lab III
				PHRM691 Pharmacy Skills Lab IV
				PHRM645 Pharmacy Law & Ethics
Yen Dang	Full-time/Non-tenure track	PharmD	Professor	PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry
				PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology
				PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology
				PHRM614 Integrated Biomedical & Clinical Sciences IV – Immunology/Hematology/ Oncology
Richard DeBenedetto	Full-time/Non-tenure track	PharmD	Associate Professor	PHRM609 Therapeutics of Self Care & Over the Counter Products
				PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology
				PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases
				PHRM795 Transition to the Pharmacy Profession I

				PHRM796 Transition to the Pharmacy Profession II
Jiabing Fan	Full-time/Tenure track	MD, PhD	Assistant Professor	PHRM502 Foundations of Biomedical Sciences II PHRM614 Integrated Biomedical & Clinical Sciences V – Immunology/Hematology/ Oncology PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases
Dana Fasanella	Full-time/Non-tenure track	PharmD	Associate Professor	PHRM542 Concepts in Diversity and Communication for the Pharmacist PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology PHRM616 Integrated Biomedical & Clinical Sciences VII – Geriatrics, Pediatrics, Urology, & Special Considerations in Pharmacotherapy PHRM795 Transition to the Pharmacy Profession I PHRM796 Transition to the Pharmacy Profession II
Timothy Gladwell	Full-time/Non-tenure track	PharmD	Associate Professor and Associate Dean for Academic Affairs and Assessment	PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology

				PHRM612 Integrated Biomedical & Clinical Sciences III – Cardiology
				PHRM616 Integrated Biomedical & Clinical Sciences VII – Geriatrics, Pediatrics, Urology, & Special Considerations in Pharmacotherapy
				PHRM646 Informatics and Telehealth
Victor Hsia	Full-time/Tenured	PhD	Professor and Chair of the Department of Pharmaceutical Sciences	PHRM502 Foundations of Biomedical Sciences II
				PHRM614 Integrated Biomedical & Clinical Sciences V – Immunology/Hematology/Oncology
Muhammad Hussain	Full-time/Tenured	PhD	Professor	PHRM530 Foundations of Pharmaceutical Sciences I
				PHRM531 Foundations of Pharmaceutical Sciences II
Patrice Jackson-Ayotunde	Full-time/Tenured	PhD	Professor	PHRM501 Foundations of Biomedical Sciences I
				PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry
				PHRM612 Integrated Biomedical & Clinical Sciences III – Cardiology
				PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology
				PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases

Decola Johnson	Full-time/Non-tenure track	PharmD	Assistant Professor and Director of Experiential Education	PHRM571 Community IPPE PHRM572 Institutional IPPE PHRM671 IPPE III PHRM672 IPPE IV
John Jordan	Part-time	PharmD	Associate Professor	PHRM612 Integrated Biomedical & Clinical Sciences III – Cardiology PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases
Madan Kharel	Full-time/Tenured	PhD	Associate Professor	PHRM501 Foundations of Biomedical Sciences I PHRM502 Foundations of Biomedical Sciences II PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology PHRM614 Integrated Biomedical & Clinical Sciences V – Immunology/Hematology/ Oncology PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases
Gwendolyn Knowles	Full-time/Non-tenure track	PharmD	Assistant Professor	PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology PHRM613 Integrated Biomedical & Clinical Sciences IV –

				Endocrinology & Gastroenterology
Miguel Martin-Caraballo	Full-time/Tenured	PhD	Professor	PHRM502 Foundations of Biomedical Sciences II PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry PHRM612 Integrated Biomedical & Clinical Sciences III – Cardiology
Michael Miller	Part-time	PharmD	Associate Professor	PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases
Anjan Nan	Full-time/Tenured	PhD	Associate Professor	PHRM530 Foundations of Pharmaceutical Sciences I PHRM531 Foundations of Pharmaceutical Sciences II
Marie-Therese Oyalowo	Full-time/Tenured	PharmD	Professor	PHRM609 Therapeutics of Self Care & Over the Counter Products PHRM614 Integrated Biomedical & Clinical Sciences V – Immunology/Hematology/Oncology
Miriam Purnell	Full-time/Tenured	PharmD	Professor and Chair of the Department of Pharmacy Practice and Administration	PHRM601 Principles of Pharmacotherapy, Drug Information, and Medical Literature Evaluation PHRM646 Informatics and Telehealth

Jocelyn Reader	Full-time/Tenure track	PhD	Assistant Professor	PHRM502 Foundations of Biomedical Sciences II PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology PHRM614 Integrated Biomedical & Clinical Sciences V – Immunology/Hematology/ Oncology
Gregory Shaeffer	Full-time/Tenure track	MBA	Assistant Professor	PHRM540 Pharmacy Administration I PHRM640 Pharmacy Administration II
Lana Sherr	Full-time/Non-tenure track	PharmD	Associate Professor and Assistant Dean for Professional Affairs	PHRM561 Professional Development I PHRM562 Professional Development II PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology PHRM661 Professional Development III PHRM662 Professional Development IV
Mark Simmons	Full-time/Tenured	PhD	Professor	PHRM501 Foundations of Biomedical Sciences I PHRM610 Integrated Biomedical & Clinical Sciences I – Neurology/Psychiatry PHRM611 Integrated Biomedical & Clinical Sciences II – Pulmonary/Nephrology

				PHRM612 Integrated Biomedical & Clinical Sciences III – Cardiology
Fred Tejada	Full-time/Tenured	PhD	Associate Professor and Acting Assistant Dean for Student Affairs	PHRM501 Foundations of Biomedical Sciences I PHRM502 Foundations of Biomedical Sciences II
Hoai-An Truong	Full-time/Tenured	PharmD	Professor	PHRM543 Public Health for Pharmacists PHRM601 Principles of Pharmacotherapy, Drug Information, and Medical Literature Evaluation PHRM650 Top 200 Drugs PHRM646 Informatics and Telehealth PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology
Sean Vasaitis	Full-time/Tenured	PhD	Professor and Dean	PHRM502 Foundations of Biomedical Sciences II PHRM613 Integrated Biomedical & Clinical Sciences IV – Endocrinology & Gastroenterology
Bi-dar Wang	Full-time/Tenured	PhD	Associate Professor	PHRM501 Foundations of Biomedical Sciences I PHRM612 Integrated Biomedical & Clinical Sciences III – Cardiology PHRM615 Integrated Biomedical & Clinical Sciences VI – Infectious Diseases

Kawanda Williams	Full-time/Non-tenure track	PharmD	Assistant Professor and Assistant Dean for Experiential Education	PHRM571 Community IPPE PHRM572 Institutional IPPE PHRM671 IPPE III PHRM672 IPPE IV

2. **Demonstrate how the institution will provide the ongoing pedagogy training for faculty in evidenced-based best practices, including training in:**
   a) **Pedagogy that meets the needs of students**

UMES provides training in pedagogy for faculty in several ways. These include:
1) Annual Innovations in Teaching and Learning Conference in June sponsored by the Center for Teaching Excellence (CTE), which is free to UMES faculty and involves faculty from across the region. Topics covered in these conferences include Teaching with Technology, Innovative Pedagogy, Assessment, Online Learning, and Diversity and the Inclusive Classroom;
2) The Center for Instructional Technology and Online Learning (CITOL) offers regular seminars and trainings throughout the year related to the use of a variety of technology tools and platforms to enhance teaching and learning;
3) Faculty Reading Circles: CTE offers faculty reading circles focused on enhancing teaching skills. The Provost's office purchases the book for faculty, and faculty meet weekly to discuss the books during a specific time frame;
4) The SPHP has an annual Faculty and Staff Development Seminar in the spring semester;
5) Faculty are encouraged to apply for a stipend to attend professional development activities.

Additionally, the UMES SOP Doctor of Pharmacy program has historically utilized a robust peer- and chair-teaching evaluation process to ensure the teaching effectiveness of our faculty and to identify best practices that can be emulated. Per standard university policies, chair evaluations of faculty members are required at least once every academic year as part of the faculty member's annual evaluation. Separately, a formal policy on peer teaching evaluations was adopted by the SOP Faculty Council in 2010, with minor modifications made in 2016. The goals of the peer teaching program are to:

- Establish a process of systematic review of faculty instruction to ensure the quality of education provided to the students.
- Provide timely and relevant feedback to faculty members to aid in growth and development.
- Identify individual strengths and deficiencies in instruction for faculty members and suggest areas for improvement.

- Evaluate various types of pedagogy and teaching strategies to identify and disseminate "best-practices".
- Provide objective data for use in evaluating a faculty member's teaching performance during end-of-year performance evaluations and promotion/tenure consideration.

The peer teaching program requires evaluation of every individual holding a faculty appointment at least annually. At the beginning of each academic year, the ADAA develops a list of assignments for all peer reviews. Teams of two reviewers, balanced by academic rank and discipline, are assigned to complete the review and submit a final peer review summary report. Junior faculty are assigned to be reviewed by two different peer review teams during each academic year, while senior faculty are assigned to be reviewed by a single peer review team during each academic year. Each member of the peer review team is responsible for observing the evaluated faculty member for a minimum of 60 minutes and completing a standardized peer evaluation form. After completion of the individual forms, the team members meet to complete a summary peer review form. All documentation must be submitted to the Office of Academic Affairs within 30 days. Copies of the completed forms are then forwarded to the evaluated faculty member, who can then request a meeting with the peer team to review the findings and recommendations. The peer evaluations are confidential, but the evaluated faculty member can submit the forms to the chair for consideration in annual evaluations and/or promotion/tenure decisions at his/her discretion. Together, the SOP chair and peer evaluation programs facilitate the identification and dissemination of best practices in pedagogy for the program faculty.

b) **The learning management system**
UMES uses the Canvas Learning Management System (LMS) and other instructional software. The CITOL offers seminars on the different features of Canvas, as well as tutorials, professional development workshops, and provides the UMES online teaching certification. CITOL staff are available for consultation and troubleshooting, and are very responsive to requests for assistance.

c) **Evidenced-based best practices for distance education, if distance education is offered**
The modified curriculum for the UMES Doctor of Pharmacy program will be offered face-to-face with in-person classes being held in the new SPHP facility on the UMES campus. Currently, no online classes are included in the program. However, if any classes are developed as online or hybrid courses in the future, the faculty must complete the online course training and certification process that is overseen by the CITOL.

J. **Adequacy of Library Resources: Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.**

The Frederick Douglass Library (FDL) at UMES supports the research, teaching, and patient care programs for the SPHP. The FDL provides a multiplicity of reference and technical resources onsite and via the internet to support the university's programs, including working closely with the SOP to ensure that access is available to electronic textbooks, journals, and other databases. As a member of USMAI (University System of Maryland and Affiliated

Institutions) consortium, the library is affiliated with the University's thirteen campuses and seventeen libraries for the purpose of sharing library resources. The integrated, comprehensive library system, ALEPH makes it possible for our patrons to have 24/7 access to USMAI library collections and electronic resources. These collections and resources include the library catalog and over 120 research databases often including full text journals, books and newspapers. All students of UMES may borrow books from the FDL by presenting a valid UMES Hawk photo I.D. Books circulate for three weeks and may be renewed unless requested by another patron. Additional services are also offered including:

- Access to Databases from Off-Campus via Research Port
- Library instruction
- Inter-library loan
- Course reserves
- Ask-a-Librarian E-Mail Service
- Spiral binding and lamination
- IVN Classroom
- Group Study Rooms
- Laptops for use in the library
- Research lab
- E-mail lab
- Wireless access for laptops
- Maryland AskUsNow! 24/7 Chat Reference

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

Beginning in 2023, the SPHP now occupies a brand new $95 million, 120,000 GSF (65,000 NSF) facility. The new SPHP building meets all programmatic needs at this time. There are 67 office spaces dedicated to faculty, administration, fellows and graduate assistants, and student organizations. The building also contains modern teleconferencing and meeting areas for faculty and administrative functions. For instructional activity, there is a large auditorium that is sufficient to house program-wide forums, five traditional classrooms, ten problem-based learning rooms, a Small Animal Research Center and modern simulation facilities that are shared amongst the health professions programs. There is also a computer/technology center and open study space to accommodate students' needs. Simulation and laboratory spaces include hospital and community based mock pharmacies, objective structured clinical examination rooms, Intensive Care Unit and Physical Assessment rooms, pharmacy consultation and telemedicine areas, pharmaceutical sciences and sterile products teaching laboratories. Faculty research space includes medicinal chemistry, pharmaceutics, physiology/pharmacology, cell culture, and biosafety-level 2 laboratories. There is also a nuclear magnetic resonance instrument, eukaryotic and prokaryotic biosafety hood rooms, and two pharmacy research transfer laboratories.

Separate facilities outside of the new SPHP building are also available for student use on the UMES campus. The Academic Computer Center is an academic work area that provides computing resources for instructional purposes and research for every UMES student. Students are given unique account ID's and passwords to use the facility. The center is open

weekdays for approximately 100 hours per week during the academic year. Students are able to complete all online activities at the center including emails, checking academic progress, and coursework assignments. The center also has specialized software that students may need for a particular course. As mentioned earlier, the FDL also provides resources, technology, and infrastructure to meet the needs of our students.

2. **Provide assurance and any appropriate evidence that the institution will ensure students are enrolled in and faculty teaching in distance education will have adequate access to: a) An institutional electronic mailing system, and b) A learning management system that provides the necessary technological support for distance education**

While fully online instruction is not envisioned for this program, UMES has both an institutional electronic mailing system and a learning management system. Gmail is the campus-wide email provide for all faculty, staff, and students. The CITOL assists faculty and student in all aspects of e-learning including hosting, training, development, and support of the Canvas learning management system.

L. **Adequacy of Financial Resources with Documentation:**
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 these funds.**

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)	$3,595,045	$3,918,990	$4,259,270	$4,616,450	$4,991,220
a. Number of F/T Students	85	90	95	100	105
b. Annual Tuition/Fee Rate	$41,991	$43,250	$44,548	$45,885	$47,262
c. F/T Revenue (a x b)	$3,569,235	$3,892,500	$4,232,060	$4,588,500	$4,962,510
d. Number of P/T Students	5	5	5	5	5
e. Credit Hour Rate	$1,156	$1,190	$1,226	$1,263	$1,301
f. Annual Credit Hours	4	4	4	4	4
g. Total P/T Revenue (d x e x f)	$25,810	$26,490	$27,210	$27,950	$28,710
3.Grants, Contracts & Other External Sources	$2,241,501	$2,353,576	$2,471,255	$2,594,818	$2,724,559
4.Other Sources	0	0	0	0	0
TOTAL (Add 1-4)	$5,836,546	$6,272,566	$6,730,525	$7,211,268	$7,715,779

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: PROGRAM EXPENDITURES					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1.Faculty (b + c below)	$3,842,038	$3,918,879	$3,997,256	$4,077,201	$4,158,745
a. Number of FTE	20	20	20	20	20
b. Total Salary	$2,845,954	$2,902,873	$2,960,931	$3,020,149	$3,080,552
c. Total Benefits	$996,084	$1,016,006	$1,036,326	$1,057,052	$1,078,193
2. Admin. Staff (b + c below)	$1,223,984	$1,248,464	$1,273,433	$1,298,902	$1,324,880
a. Number of FTE	8	8	8	8	8
b. Total Salary	$906,655	$924,788	$943,284	$962,150	$981,393
c. Total Benefits	$317,329	$323,676	$330,149	$336,752	$343,487
3. Support Staff (b + c below)	$58,574	$59,745	$60,940	$62,159	$63,402
a. Number of FTE	2	2	2	2	2
b. Total Salary	$43,388	$44,256	$45,141	$46,044	$46,965
c. Total Benefits	$15,186	$15,490	$15,799	$16,115	$16,438
4.Technical Support and Equipment	$103, 030	$105,091	$107,192	$109,336	$111,523
5.Library	$37,989	$38,749	$39,524	$40,314	$41,121
6.New or Renovated Space	0	0	0	0	0
7.Other Expenses	$557,882	$569,040	$580,420	$592,029	$603,869
TOTAL (Add 1-7)	$5,823,497	$5,939,967	$6,058,766	$6,179,942	$6,303,540

Assumptions: The revenues and expenses listed for year 1 are based on the current fiscal 2024 data. Subsequent years are based on the following assumptions:

- Annual tuition and fees for full-time students for year 1 are a blended amount based on residency status as listed below:
  - In-state tuition/fees ($32,762) – 60% of students
  - Eastern Shore residency tuition/fees ($50,181) – 20% of students
  - Non-Maryland resident tuition/fees ($61,489) – 20% of students
- Tuition and fees for part-time students are a blended amount per credit hour based on the same mix of student residencies as listed for full-time students
  - Note that the UMES Doctor of Pharmacy program only admits students on a full-time basis. Part-time status is only allowed for students who temporarily need to remediate one or more courses due to academic deficiencies.
- Annual tuition and fees will increase by approximately 3%
- The number of matriculated students will increase by approximately 5% annually
- Revenue from grants and contracts in year 1 are based on the total external funding for faculty in the School of Pharmacy for FY 2023. With the new state-of-the-art SPHP building that opened in April 2023, the access to additional research facilities, laboratory equipment, simulation labs, and infrastructure for graduate programs is expected to increase by 5% annually.
- Salaries for faculty and staff are based on current data from FY 2023, and they are projected to increase by approximately 2% annually. Fringe benefits for all employees are estimated at approximately 35% of salary.
- All other expenses for year 1 are based on the actual amounts from FY 2023, and they are projected to increase by approximately 2% annually.

M. Adequacy of Provisions of Evaluation of Program: (as outlined by COMAR 13B.02.03.15)
   1. **Discuss procedures for evaluating courses, faculty and student learning outcomes.**

   The UMES SOP Curriculum Committee (CC) works in conjunction with the Assessment Committee (AC) to implement the Doctor of Pharmacy program's Curriculum Assessment Plan (CAP) that evaluates the effectiveness of the curriculum to ensure student achievement of learning outcomes. The CC makes recommendations to the SOP faculty who then may endorse, modify, or reject the recommendations. In 2016, a comprehensive assessment matrix was developed to guide the overall assessment process. The assessment matrix is mapped to the SOP's stated mission, vision, goals, and strategic objectives. As part of the overall assessment matrix, the CAP consists of multiple assessment activities that are tied to the program's accreditation standards and programmatic goals, and data from the CAP is used to provide an effective method to evaluate and modify the curriculum as well as identify other programmatic issues. Timelines, responsible parties, and metrics are included to facilitate corrective actions when necessary for achievement of the goals. Examples of assessment artifacts include:

   - Individual student and aggregate course grades
   - Pass rates on post-graduate licensure exams [North American Pharmacist Licensure Exam (NAPLEX) and Multistate Pharmacy Jurisprudence Examination (MPJE)]
   - Course-embedded assessments (CEAs)
   - Objective Structured Clinical Examinations (OSCEs)
   - COEPA-Based APPE evaluations
   - Continuous Professional Development (CPD) program artifacts
   - Student progression data
   - Faculty/course evaluations
   - Peer teaching evaluations
   - Comprehensive course reviews
   - Standardized surveys from the American Association of Colleges of Pharmacy (AACP)
   - Survey results from Town Hall meetings
   - PERFORM-I evaluations
   - Board-licensure preparatory assessments

   The AC oversees the Continuous Quality Improvement (CQI) program for the SOP. The CQI process involves the creation of a query, delegation, follow up, and closing of the loop. All surveys and assessment data are reviewed by the AC members, who then compare the data to the assessment matrix metrics. If the metrics for action necessitate a CQI, then the referral is made to the appropriate person or committee. CQIs are reviewed quarterly and followed up by the Director of Assessment. The action plan and follow through of the plan sections are updated accordingly by the responsible parties, until it has been determined that the CQI can be closed. The closed CQI is then reviewed by the AC to confirm closing the loop. Consistency in review and closing the loop on CQIs is regularly reviewed for process improvement. As assessment data from the CAP are reviewed, CQIs are created for the CC as needed. Joint Curriculum and Assessment Committee meetings are held once a semester so that items with extensive overlap can be discussed. Through the CQI program and other independent processes, the CC systematically reviews the curriculum structure, content, and outcomes to determine the appropriateness of content-emphasis and proper sequencing to provide the optimal progression for learning. This review includes assurances for

coordination of course material, identification of content omission or unnecessary repetition, identification of outdated or unessential content, and recommendation of a reasonable course load for students. The CC collects and disseminates information to the faculty regarding successful methods of innovative teaching as means of continuous improvement. The CC develops policies related to the delivery of the curriculum as assigned. The CC is responsible for assuring that outcome measures of learning are systematically applied as an additional means of continuous quality improvement.

At the university level, the UMES Decision Science & Visualization provides official student data, including enrollment, retention, and graduation rates annually to each department. To track the measures for all academic programs and offerings, the Office of the Registrar assigns a unique code to all specified student population groups. Additionally, each department or program is required to submit an annual Student Learning Outcomes Assessment Plan/Report (SLOAP/SLOAR) to the UMES Assessment Council and the Division of Academic Affairs. The SLOAP/SLOAR documents the program goals, student learning outcomes, key performance indicators, results, and actions taken to address deficiencies.

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.**

   At UMES, the Department Chair and the Dean submit annual end-of-the-year reports to the Division of Academic Affairs. These reports evaluate the effectiveness of the departments' programs in meeting strategic goals, including student retention, results from the annual assessment of student learning outcomes, and cost effectiveness of department and school budgets.

N. **Consistency with the State's Minority Achievement Goals:** (as outlined by COMAR 13B.02.03.05).
   1. **Discuss how the proposed program addresses minority student access and success, and the institution's cultural diversity goals and initiatives.**

      As an HBCU, UMES is committed to providing access to a high-quality values-based educational experience, especially to individuals who are first-generation college students of all races, while emphasizing multicultural diversity and international perspectives. The university appreciates diversity in its student body, faculty, staff, and administration through its commitment to tolerance, freedom of expression, and celebration of other cultures. Consistent with this institutional identity, the UMES SOP is dedicated to developing exemplary pharmacy professionals and scholars who are committed to patient-centered care, lifelong learning, discovery, and service for diverse communities of the Delmarva Peninsula, the State of Maryland, and around the world.

      The UMES Doctor of Pharmacy program typically has one of the most diverse student populations among schools of pharmacy in Maryland and across the US (see the table under section B2 – Student Access). The UMES SOP is also committed to making sure there is appropriate diversity among the faculty. Of the current 26 full-time faculty within the School

of Pharmacy, 12 faculty have international backgrounds and 7 faculty are from minority groups that are typically underrepresented in STEM and/or the pharmacy profession.

O. Relationship to Low Productivity Programs Identified by the Commission:
   1. If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.

   The proposed program modification is not related to a low productivity program at UMES.

P. Adequacy of Distance Education Programs: (as outlined by COMAR 13B.02.03.22)
   1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.

   While fully online instruction is not envisioned for this program, UMES has been full granted approval to teach its courses online.

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

   This is not applicable as the proposed modified program will only be offered in the traditional, face-to-face format at this time.