



BOARD OF REGENTS

SUMMARY OF ITEM FOR ACTION, INFORMATION OR DISCUSSION

TOPIC: University of Maryland Eastern Shore: Masters of Medical Science (MMS) in Physician Assistant Studies

COMMITTEE: Education Policy

DATE OF COMMITTEE MEETING: June 1, 2011

SUMMARY: The proposed Masters of Medical Science in Physician Assistant Studies was developed in response to a mandate issued by the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) that requires Physician Assistant (PA) programs to transition to a graduate degree by 2020. Curricula for PA programs have expanded in response to increasing demands and expectations of Physician Assistants in the workplace. These individuals now assume roles in research, leadership and education. Clinical opportunities have expanded to medical and surgical specialties, as well as primary care, including key roles in the projected changes due to health care reform.

Among Maryland institutions, only Towson University offers the master's program in Physician Assistant Studies. Differing from the TU program, the proposed program will include a mentorship internship for all first-year students. Through the fall, spring, and summer sessions of the 15-month didactic year, each student will undertake a one-day per week mentorship internship in which s/he will shadow a local internist/family practice physician or Physician Assistant and perform hands-on patient care work as assigned.

If approved, the implementation of the MMS program in 2013 will not affect the current BS PA program through the graduating cohort in December 2013. The PA department is currently accepting only juniors and seniors for fall 2011 with the expectation that this cohort will graduate with bachelor's degrees in 2013.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funding is necessary. The program will be supported through tuition.

CHANCELLOR'S RECOMMENDATION: That the Committee on Education Policy recommend that the Board of Regents approve the proposal from the University of Maryland Eastern Shore to offer the Masters of Medical Science (MMS) in Physician Assistant Studies.

COMMITTEE RECOMMENDATION: Approval.

DATE: June 1, 2011

BOARD ACTION:

DATE:

SUBMITTED BY: Irwin Goldstein (301) 445-1992 irv@usmd.edu

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- Cooperative Degree Program

University of Maryland Eastern Shore

Institution Submitting Proposal

Master of Medical Science in Physician Assistant Studies Program (MMS Program)

Title of Proposed Program

Master of Medical Science

Degree to be Awarded

September 2013

Projected Implementation Date

1299

Proposed HEGIS Code

51.0807

Proposed CIP Code

Physician Assistant Department

Department in which program will be located

Mrs. Darlene Jackson-Bowen

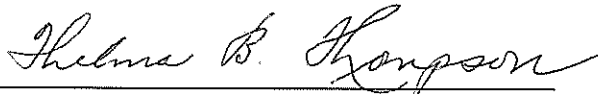
Department Contact

410-651-7584/8932

Contact Phone Number

dliacksonbowen@umes.edu

Contact E-Mail Address



Signature of President or Designee

Date

MASTER OF MEDICAL SCIENCE IN PHYSICIAN ASSISTANT STUDIES

A. Mission

The University of Maryland Eastern Shore (UMES), the State's Historically Black Land-Grant Institution, is a teaching, research, and doctoral institution that nurtures and launches leaders in a student-centered environment, particularly among ethnic minorities. Committed to providing high quality programs in an ethnically diverse environment, the University prepares students who will serve and shape the global economy. UMES is a growing, primarily residential university with learning, discovery, and engagement missions. This is consistent with valuing the scholarship of faculty in discovering knowledge, disseminating new knowledge, and applying that knowledge to the extended community. The University recognizes its responsibility for developing human potential, enriching cultural expressions, and sharing its expertise with individuals, businesses, educational, governmental, and non-governmental organizations. The learning, discovery, and engagement foci are in accordance with UMES' unique legacy and mission as one of Maryland's 1890 Land-Grant Institutions.

While the Carnegie Foundation classifies UMES as a Masters Comprehensive University, MA 1, the University aspires to achieve Doctoral/Research University-Intensive classification. Consequently, UMES has developed and implemented freestanding doctoral degree programs in (a) Food Science & Technology, (b) Physical Therapy, (c) Organizational Leadership, and (d) Educational Leadership. To respond to extensive regional and national health care needs, especially those in rural areas, UMES has established the School of Pharmacy and Health Professions (consisting of the Departments of Pharmacy, Physical Therapy, Physician Assistant, Exercise Science, and Rehabilitation). The University will continue to seek the necessary support to address the shortage of Allied Health Professionals (including Physician Assistants) locally, regionally, and nationally.

UMES Mission: The "University of Maryland Eastern Shore (UMES), the State's Historically Black 1890 Land-Grant institution, emphasizes baccalaureate and graduate programs in the liberal arts..."
http://www.umes.edu/about_umes/mission.html.

According to the 2004 State Plan for Postsecondary Education, the five goals "seen as critical by the Maryland Higher Education Commission are: Quality and Effectiveness, Access and Affordability, Diversity, A Student Centered Learning System, and Economic Growth and Vitality". MHEC is continuing to work to insure that Historically Black Institutions are "competitive, both in terms of program and infrastructure, with Maryland's traditionally white institutions".

The UMES Physician Assistant (PA) Program currently offers an undergraduate degree. In recognition of the changing needs in the community, the proposed Master of Medical Science in Physician Assistant Studies Program will enhance the UMES mission by preparing Physician Assistants for the local, regional and national workforce requisites. The Program will also address the five goals articulated by MHEC listed above.

B. Characteristics of the Proposed Program

1. *Need – Educational Rationale*

In support of the Maryland Higher Education Commission's 2000 Maryland State Plan for Postsecondary Education and its complement, The USM 2010: In Responding to the Challenges that Lie Ahead – the 10 Year Plan, UMES has committed itself to “equipping students with the skills, knowledge, and experience necessary for appropriate professional employment and professional development through strong academic programs whose strength is assured through regular review and accreditation where appropriate . . .”

The University of Maryland Eastern Shore has a solid track record in delivering highly successful programs in Allied Health fields. For example, the Doctor of Physical Therapy (DPT) Program started as a Bachelor's Program, grew into a Master's Program, and because of industry trends, it evolved into the campus's first professional doctoral level program.

The proposed Master of Medical Science in Physician Assistant Studies (MMS) Program follows the precedent of the Physical Therapy Program by transitioning from the baccalaureate to the graduate level, which has become the industry standard for Physician Assistant education.

Curricula for Physician Assistant (PA) programs have expanded in response to the increasing demands and expectations of graduate PAs in the workplace. PAs now assume roles in research, leadership and education. Clinical practice opportunities for PAs have expanded to medical and surgical specialties, as well as primary care, including key roles in the projected changes due to health care reform.

In recognition of the expanded role of PAs, institutions sponsoring PA programs have developed Masters level curricula. The accrediting body for PA programs, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), recently distributed the 4th edition of *Accreditation Standards for Physician Assistant Education*. The new *Standards*, which became effective September 1, 2010, state the following:

The PA profession has evolved over time to one requiring a high level of academic rigor. Institutions that sponsor PA programs are expected to incorporate this higher level of academic rigor into their programs and award an appropriate Master's Degree.

The ARC-PA acknowledges ongoing changes in the delivery of health care and in education of health professionals. The needs of patients and society *must* be considered by the ARC-PA, the sponsoring institutions and the programs. Education *should* be provided in a manner that promotes interprofessional education and practice.

An environment that fosters and promotes *diversity* is considered essential to preparing PAs to provide service to others that is not exclusionary of any group, race or culture. The various insights and resources offered by a diverse faculty, staff and student body increase the overall impact the PA profession can have on the future of the global community. Reference: *ARC-PA Standards*, 4th ed, pg 2. Note: terms in italics are defined in the Glossary which accompanies the *Standards*.

www.arc-pa.org

The ARC-PA has mandated that programs currently accredited at the undergraduate or certificate level must transition to offering a graduate degree by the year 2020. The membership organization of PAs (American Academic of Physician Assistants) and the organization for PA education (Physician Assistant Education Association) have endorsed the Master's Degree as the degree for entry into the PA profession.

The proposed MMS degree at UMES is planned in preparation for the entry Master's Degree requirement. Graduate level education of PAs is designed to:

- provide consistency and standardization of entry into the profession
- establish equity with other professions with similar health care responsibilities
- reflect the rigors of the PA curriculum
- engender a greater understanding of PA education by community members and policy makers.

In the context of these developments in the PA profession and expectations for accreditation, it is imperative that the UMES PA Program transition to a graduate level program and offer a Master's Degree. The ARC-PA mandates above provide both the rationale as well as the underpinning for this proposal. UMES' strength is in providing this specified PA education. The diversity of UMES and the opportunities for interprofessional education will contribute to the excellence of the proposed program.

Need – Workforce Projections

The United States Bureau of Labor Statistics (BLS) has projected that the number of PA jobs will increase by 27% between 2006 and 2016, with an overall 10% growth in the number of PA jobs during that 10-year period. A recent posting in CareerBuilder.com stated that the PA profession ranked #12 among the top 25 jobs in female wages as compared to their male peers, based on analysis of BLS data.

The American Academy of Physician Assistants estimates the number of PAs working clinically as 75,000 nationally. The Maryland Academy of Physician Assistants estimates that 1,800 PAs work in Maryland; however, 90% of those PAs are located in the Baltimore/DC area and suburbs. Only 50 PAs work in the Delmarva Peninsula.

Maryland's health care system includes some of the nation's most prestigious institutions. However, according to the Maryland Department of Health and Mental Health Hygiene, Maryland residents have the 19th highest cancer rate in the U.S., and almost 60% of Maryland residents are overweight or obese. Black residents of Maryland are disproportionately affected by high blood pressure, diabetes, smoking and obesity, compared to white residents.

With implementation of health care reform, the importance of PAs in both primary care and specialties will continue to expand, and the ability of UMES to educate a diverse PA student population will help meet the health care needs of Maryland's citizens.

2. Educational Objectives

The educational objectives of this program are consistent with the suggested guidelines established by the accrediting body, the ARC-PA, and include a focus on the knowledge, skills, abilities, and values that students should acquire while pursuing a graduate degree in Physician Assistant. The specific goals for the Program, as listed below, are excerpted from a policy paper developed by the four stakeholder organizations in the PA profession American Academy of Physician Assistants (AAPA), Physician Assistant Education Association (PAEA), ARC-PA, and National Commission on Certification of Physician Assistants (NCCPA), which was adopted in May 2005. The paper is titled: **Competencies for the Physician Assistant Profession**. The Competencies serve as the foundation for the proposed Program's curriculum and assessment of student and graduate outcomes.

Medical Knowledge

Medical knowledge includes an understanding of pathophysiology, patient presentation, differential diagnosis, patient management, surgical principles, health promotion and disease prevention. Physician Assistants must demonstrate core knowledge about established and evolving biomedical and clinical sciences and the application of this knowledge to patient care in their area of practice.

Interpersonal and Communication Skills

Interpersonal and communication skills encompass verbal, nonverbal and written exchange of information. Physician Assistants must demonstrate interpersonal and communication skills that result in effective information exchange with patients, their patients' families, physicians, professional associates, and the health care system.

Patient Care

Patient care includes age-appropriate assessment, evaluation and management. Physician Assistants must demonstrate care that is effective, patient-centered, timely, efficient and equitable for the treatment of health problems and the promotion of wellness.

Professionalism

Professionalism is the expression of positive values and ideals as care is delivered. Foremost, it involves prioritizing the interests of those being served above one's own. Physician Assistants must know their professional and personal limitations. Professionalism also requires that PAs practice without impairment from substance abuse, cognitive deficiency or mental illness. Physician Assistants must demonstrate a high level of responsibility, ethical practice, sensitivity to a diverse patient population and adherence to legal and regulatory requirements.

Practice-based Learning and Improvement

Practice-based learning and improvement includes the processes through which clinicians engage in critical analysis of their own practice experience, medical literature and other information resources for the purpose of self-improvement. Physician Assistants must be able to assess, evaluate and improve their patient care practices.

3. Program Overview**a) General requirements of the degree**

The proposed curriculum consists of 27 months, divided into 15 months of didactic education, followed by 12 months of clinical rotations. The curriculum will provide the academic and theoretical foundation in the classroom and opportunities for application and synthesis in the clinical setting. Learning objectives and competencies will be specified in order to guide student learning in each course and rotation. Assessment of students' knowledge, skills and professionalism will be based on the objectives and competencies. Testing methods will be tailored to the appropriate learning domains with written/computer based tests, practical exams, faculty/preceptor evaluations, and observation of students' skills and behavior. Students will be expected to earn 80% or higher to pass.

The program's didactic content conforms to the ARC-PA Standards and will include the following areas:

- Applied medical sciences: anatomy, physiology, pathophysiology, pharmacology and pharmacotherapeutics, and genetics
- Clinical medicine covering all body systems
- Interpersonal and communication skills
- Provision of clinical medical care across the life span to include patient evaluation, diagnosis, management, basic counseling, and patient education
- Technical skills and procedures based on current medical practice
- Social and behavioral sciences
- Searching, interpreting and utilizing the medical literature
- Health care delivery systems and concepts of public health
- Professional issues including medical ethics and PA practice

Unlike any other Physician Assistant Program in the state of Maryland, UMES' PA Program will offer the benefit of a mentorship internship for all first-year students. Through the fall, spring, and summer sessions of the 15-month didactic year, each student undertakes a one-day-per-week mentorship in which he or she shadows a local internist/family practice physician or Physician Assistant and performs hands-on patient care work as assigned.

Our unique mentorship program will allow students to:

- Improve patient evaluation skills
- Practice effective communication skills in establishing a productive provider-patient relationship
- Establish a professional student-mentor relationship and provides the opportunity to interact with future colleagues
- Present selected cases to mentor for critique
- Develop an appreciation of the complexities of the medical profession
- Observe administrative activities and aspects of office practices
- Build confidence and become comfortable in a clinical setting

The clinical year curriculum will include rotations under the supervision of physician and PA preceptors including:

- Outpatient, emergency department, inpatient and operating room experience
- Medical care across the life span including:
 1. Family medicine
 2. Internal medicine
 3. General surgery
 4. Pediatrics
 5. Women's health (prenatal care and gynecology)
 6. Behavioral and mental health

Clinical education sites will be located in Maryland and the surrounding region. This proposal intends to strengthen linkages with service providers for experiential clinical clerkships. Furthermore, the program is committed to extending, forging and building collaborative ventures with surrounding health care entities.

b) Total number of credits and their distribution

The curriculum will comprise a total of 120 graduate credits over 28 months (four semesters and one winter session of didactic work and three semesters of clinical rotations).

c) List of courses by title and level: Curriculum by Semester

(Click to view content)

Didactic Year

| SEMESTER | PROPOSAL | SYLLABI | COURSE TITLE | CR. HRS | OUTLINES |
|--|---------------------------|---------------------------|---|-----------|---------------------------|
| 1ST FALL SEMESTER # 01 | | | | | |
| ✓ | PHAS 607A | PHAS 607A | Regional Anatomy | 5 (3-4) | PHAS 607A |
| ✓ | PHAS 624 | PHAS 624 | Issues in Practice | 2 (2-0) | PHAS 624 |
| ✓ | PHAS 633 | PHAS 633 | Scientific Basis of Medicine I | 3 (3-0) | PHAS 633 |
| ✓ | PHAS 660 | PHAS 660 | History/Physical Exam I | 3 (2-2) | PHAS 660 |
| ✓ | PHAS 671 | PHAS 671 | Preventive Medicine & Epidemiology | 3 (3-0) | PHAS 671 |
| ✓ | PHAS 672 | PHAS 672 | Healthcare Ethics and Law | 3 (3-0) | PHAS 672 |
| ✓ | PHAS 645A | PHAS 645A | Interpreting Research & Lit -A | 1 (1-0) | PHAS 645A |
| 7 | | | Total 1st Fall Sem. Cr. Hrs | 20 | |

| 1ST WINTER SESSION # 02 | | | | | |
|---|---------------------------|---------------------------|----------------------------------|----------|---------------------------|
| ✓ | PHAS 607B | PHAS 607B | Regional Anatomy | 1 (1-1) | PHAS 607B |
| 1 | | | Total Winter Sem. Cr. Hrs | 1 | |

| 1ST SPRING SEMESTER # 03 | | | | | |
|--|---------------------------|---------------------------|---|-----------|---------------------------|
| ✓ | PHAS 608 | PHAS 608 | Clinical Medicine I | 4 (4-0) | PHAS 608 |
| ✓ | PHAS 625 | PHAS 625 | Clinical Pharmacology I | 3 (3-0) | PHAS 625 |
| ✓ | PHAS 634 | PHAS 634 | Scientific Basis of Medicine II | 2 (2-0) | PHAS 634 |
| ✓ | PHAS 640 | PHAS 640 | Clinical Problem Solving I | 3 (0-11) | PHAS 640 |
| ✓ | PHAS 645B | PHAS 645B | Interpreting Research & Lit -B | 1 (1-0) | PHAS 645B |
| ✓ | PHAS 650 | PHAS 650 | Diagnostic Tests I | 2 (1-2) | PHAS 650 |
| ✓ | PHAS 661 | PHAS 661 | History/Physical Exam II | 3 (2-2) | PHAS 661 |
| ✓ | PHAS 620 | PHAS 620 | Infectious Disease | 3 (3-0) | PHAS 620 |
| 8 | | | Total 1st Spring Sem. Cr. Hrs | 21 | |

| 1ST SUMMER SEMESTER # 04 | | | | | |
|--|--------------------------|--------------------------|---|-----------|--------------------------|
| ✓ | PHAS 609 | PHAS 609 | Clinical Medicine II | 4 (4-0) | PHAS 609 |
| ✓ | PHAS 612 | PHAS 612 | OB/GYN | 3 (3-0) | PHAS 612 |
| ✓ | PHAS 626 | PHAS 626 | Clinical Pharmacology II | 3 (3-0) | PHAS 626 |
| ✓ | PHAS 630 | PHAS 630 | Clinical Procedures I | 3 (0-6) | PHAS 630 |
| ✓ | PHAS 641 | PHAS 641 | Clinical Problem Solving II | 3 (0-11) | PHAS 641 |
| ✓ | PHAS 651 | PHAS 651 | Diagnostic Tests II | 2 (2-0) | PHAS 651 |
| ✓ | PHAS 662 | PHAS 662 | History/Physical Exam III | 4 (2-4) | PHAS 662 |
| ✓ | PHAS 673 | PHAS 673 | Psychiatry | 3 (3-0) | PHAS 673 |
| 8 | | | Total 1st Summer Sem. Cr. Hrs | 25 | |

| 2ND FALL SEMESTER # 05 | | | | | |
|--|--------------------------|--------------------------|----------------------------------|----------|--------------------------|
| ✓ | PHAS 610 | PHAS 610 | Clinical Medicine III | 3 (3-0) | PHAS 610 |
| ✓ | PHAS 614 | PHAS 614 | Pediatrics | 3 (3-0) | PHAS 614 |
| ✓ | PHAS 616 | PHAS 616 | Surgery | 2 (2-0) | PHAS 616 |
| ✓ | PHAS 618 | PHAS 618 | Emergency Medicine | 2 (2-0) | PHAS 618 |
| ✓ | PHAS 631 | PHAS 631 | Clinical Procedures II | 3 (2-2) | PHAS 631 |
| ✓ | PHAS 635 | PHAS 635 | Scientific Basis of Medicine III | 2 (2-0) | PHAS 635 |
| ✓ | PHAS 642 | PHAS 642 | Clinical Problem Solving III | 3 (0-11) | PHAS 642 |

| | | | | | |
|---|---|------------------|---|----------------|------------------|
| ✓ | <u>PHAS 652</u> | <u>PHAS 652</u> | Diagnostic Tests III | 2 (1-0) | <u>PHAS 652</u> |
| ✓ | <u>PHAS 645C</u> | <u>PHAS 645C</u> | Interpreting Research & Lit -C | 1 (1-0) | <u>PHAS 645C</u> |
| <u>9</u> | | | Total Fall Semester Cr. Hrs | <u>21</u> | |
| 33 courses | TOTAL DIDACTIC YEAR CREDIT HOURS | | | 88 | |
| CLINICAL YEAR | | | | | |
| SEMESTER | PROPOSAL | SYLLABI | COURSE TITLE | CR. HRS | OUTLINES |
| 1st WINTER SEMESTER | | | | | |
| ✓ | <u>PHAS 697</u> | <u>PHAS 697</u> | Special Topics | 4 | NA |
| 2nd SPRING SEMESTER | | | | | |
| ✓ | <u>PHAS 690</u> | <u>PHAS 690</u> | Clinical Education I | 9 | NA |
| 1st SUMMER SEMESTER | | | | | |
| ✓ | <u>PHAS 691</u> | <u>PHAS 691</u> | Clinical Education II | 9 | NA |
| 3rd FALL SEMESTER | | | | | |
| ✓ | <u>PHAS 692</u> | <u>PHAS 692</u> | Clinical Education I | 9 | NA |
| ✓ | <u>PHAS 645</u> | <u>PHAS 645</u> | Interpreting Research & Lit -D | 1 (1-0) | <u>PHAS 645</u> |
| TOTAL CLINICAL YEAR CREDIT HOURS | | | | 32 | |
| TOTAL DIDACTIC YEAR CREDIT HOURS | | | | 88 | |
| TOTAL CLINICAL YEAR CREDIT HOURS | | | | 32 | |
| GRAND TOTAL CREDIT HRS | | | | 120 | |

d) Proposed admissions requirements

- A Baccalaureate Degree from a regionally accredited U.S. college or university prior to matriculation;
 - Meet the regular admission requirements of UMES graduate school;
 - Completion of the General Graduate Record Examination; with a recommended GRE Verbal and Quantitative combination of 1050. Official scores must be received by the program to make an admission decision. GRE scores beyond 6 years old will not be accepted.
 - Have an undergraduate upper division grade point average of 3.5 on a four-point scale;
 - Applicants may not substitute other classes for any of the required medical core prerequisites. All course work listed must be completed.
- CHEM 111 Principles of Chemistry I 3
 - CHEM 113 Principles of Chemistry I Lab 1
 - CHEM 112 Principles of Chemistry II 3
 - CHEM 114 Principles of Chemistry II Lab 1

- CHEM 211 Fundamentals of Organic Chemistry I 3
 - CHEM 213 Fundamentals of Organic Chemistry Lab I
 - CHEM 212 Fundamentals of Organic Chemistry II 3
 - CHEM 213 Fundamentals of Organic Chemistry II Lab I
 - BIOL 111 Principles of Zoology I or BIOL 188A 3
 - BIOL 113 Principles of Zoology I Lab or BIOL 188 I
 - BIOL 231 Anatomy & Physiology I 3
 - BIOL 233 Anatomy & Physiology I Lab 1
 - BIOL 232 Anatomy & Physiology II 3
 - BIOL 234 Anatomy & Physiology II Lab 1
 - BIOL 301 Microbiology 3
 - BIOL 303 Microbiology Lab 1
 - SOCI 101 Introduction to Sociology 3
 - PSYC 200 Introduction to Psychology 3
 - PHASS 201 Medical Terminology I
 - MATH 110 Trig & Analytical Geometry or higher 3
 - MATH 210 Elementary Statistics 3
 - BUED 212 Computer Concepts 3
 - ENGL 101 Basic Composition I 3
 - ENGL 102 Basic Composition II (and ENGL 002 – EPE) 3
 - ENGL 203 Fund of Contemporary Speech 3
 - ENGL 305/H Technical Writing or ENGL 310W Adv Comp 3
 - EXSC 111 Personalized Health and Wellness 3
 - NUDT Nutrition 3
- Completion of a minimum of 500 hours of clinical experience with direct patient contact. Hours must be completed by July 15 of the year of entry into the program;
 - No history of drug abuse or conviction of a felony. Due to the regulations of the PA program's clinical affiliates:
 1. National Security and Criminal Background checks will be employed for each student;
 2. No history of dismissal from another Physician Assistant school, medical, pharmacy, physical therapy, or nursing school for either academic or disciplinary reasons will be allowed;
 - All non US citizens and applicants whose first language is not English must complete the TOEFL examination, (Test of English as a Foreign Language, www.toefl.org), and submit their college transcripts to the World Education Services for translation, and complete all science medical core (biology and chemistry), prerequisites courses in the United States. No exceptions will be made;
 - All applicants to the PA Program must apply through Central Application Service for Physician Assistants (CASPA); www.caspaonline.org.

All applicants meeting the minimum requirements and those determined to be the most qualified candidates will be granted an on-site interview at UMES, using criteria developed by the MMS Program's Admissions Committee. Criteria used by the interviewers in their evaluations will include: academic performance, GRE scores, extracurricular activities, work experience, amount and quality of healthcare experiences, interest in serving in medically underserved areas, applicant's concept of the role of the Physician Assistant, emotional and intellectual maturity, ability to communicate verbally, specific motivation toward pursuit of a health career, humanistic qualities, and evidence of strong study skills.

e) Process and methods used in assuring graduates achieve program outcomes:

The processes used to assure that graduates achieve the program outcomes will be:

- Formative and summative assessment of students' knowledge, clinical skills and professionalism through a variety of assessment measures delivered on a regular basis during each didactic course and clinical rotation
- Summative evaluation before graduation consisting of capstone project, comprehensive written assessment of knowledge base, review of professional behavior evaluations and practical testing of clinical skills and professionalism with standardized patients
- Monitoring of curricular content and student performance with reference to program goals and expected competencies
- National standardized knowledge exam delivered at mid-point and before graduation to benchmark student performance with national norms and prepare students for national board examination.

4. Demonstrate Quality of Program Faculty

The PA Program currently has 6.5 core faculty members, listed below. The faculty is qualified by academic credential and experience to teach PA students at the graduate level. The core faculty group conforms to the new accreditation *Standards* in number and preparation. In addition, the Program utilizes a large and excellent cadre of adjunct teachers, including physicians and other clinicians from the local and regional community.

| Name & Credentials | Position | FTE | Faculty Rank/Status |
|--|----------------------|-----|--------------------------|
| Darlene L. Jackson-Bowen, MPAS, BS, PA | Program Director | 1.0 | Clinical Asst. Professor |
| Christjon Huddleston, M.D. | Medical Director | 0.5 | Clinical Asst. Professor |
| Peter M. Stanford, MPH, BA, PA-C | Academic Coordinator | 1.0 | Clinical Asst. Professor |
| Linda A. Trotman, M.D., F.A.A.F.P | Clinical Coordinator | 1.0 | Lecturer |
| Andy Elsedoudi, M.D., PhD | Faculty | 1.0 | Asst. Professor |
| Carla Kotsifakis, MPAS, BS, PA-C | Faculty | 1.0 | Lecturer |
| Donna F. Parker, M.D. | Faculty | 1.0 | Asst. Professor |

5. Student Audience to be served by the Program

The spring 2010 student and faculty profiles indicated that UMES was still the most diverse campus in the USM. The ethnic distribution of students was: Black 75%; White 14 %; Native Americans 0.3%; Asian 1%; Hispanic 2%; foreign 5% and others 3%. The University stands as one of the System's fastest growing institutions with entering students representing 24 Maryland counties, more than 35 states, and originating from over 65 foreign countries. The diversity of UMES makes it a value-added location for Physician Assistant education, since the profession lags behind the national population in diversity.

Offering a graduate degree will make the Program more competitive with other PA programs in the state and region. The two other PA programs in Maryland each offer a master's degree: 1. Baltimore County Community College at Essex has a cooperative agreement with Towson State, which confers the master's degree; and 2. Anne Arundel Community College has a cooperative agreement with St. Francis College in Pennsylvania for students to earn a Master's Degree concurrently with their PA education.

Implementation of the MMS Program in 2013 will not affect the current BS PA program through the graduating cohort in December 2013. The PA Department is currently accepting juniors and senior students for fall 2011, and this cohort will graduate with Bachelor's degrees in 2013.

Applicants for the MMS Program must have a Bachelor's Degree at the time of their enrollment. The proposed MMS in Physician Assistant Studies will be open to UMES students with the baccalaureate, as well as to external candidates in fall 2013. As a result, UMES undergraduate majors in the sciences and social sciences could expect to enroll students with an interest in preparing for the graduate program in Physician Assistant Studies.

The Program plans to participate in CASPA, which is the centralized application process for PA programs nationally. Programs of similar size utilizing CASPA average 86 applicants/admission cycles, which would be a significant increase to the current program's applicant pool.

Cumulative enrollment estimates are as follows:

| | Year 1 | Year 2 | Year 3 | Year 4 |
|-------------------|--------|--------|--------|--------|
| Entering students | 35 | 35 | 35 | 35 |
| Total students | 35 | 70 | 70* | 70** |
| Graduates | | | 35 | 35 |

*plus 35 for one semester with 28 month curriculum – total 105 students during the summer semester

** plus 35 for one semester – total 140 students during the summer semester

6. Enhancing Student's Technology Fluency

Technology fluency is required for clinical practice as a Physician Assistant. Accreditation *Standards* require inclusion of technological fluency and information literacy throughout the curriculum. Students entering the proposed MMS Program will be required to utilize computers for preparation of oral and written presentations, clinical research, testing and evaluation. Technology will be integrated throughout the curriculum and technology competencies will be included in course syllabi to assure technology fluency.

A technology immersive environment has been created in which students use and understand appropriate technologies. All courses within the curriculum include technology for lecture delivery, testing, and student assignments. A computerized test-item bank and on-line testing will occur. Smart classrooms are in the process of being updated for lecture and laboratory use. A computer generated human simulator has been purchased for laboratory learning in the medical sciences for learning and assessment of students' knowledge and skills. Curriculum courses will be mounted on Blackboard 9/ Web CT. All strategies are in place to assure students will be technologically competent in the utilization of appropriate computer skills in the academic and clinical arena.

7. Library Resources

The Frederick Douglas Library (FDL) presently houses over 178,500 volumes of books and 755 periodicals. Students and faculty may also take advantage of the library holdings housed at the twelve other universities in the University of Maryland System, through inter-library loans. The Frederick Douglas Library collaboration with the University of Maryland System allows for the use of electronic medical databases.

However, since the UMES campus does not house a medical library, addition of the MMS graduate curriculum will require an additional expenditure of \$30,000 for *Access Medicine* software database, texts and journals pertinent to PA medical education.

8. Facilities

The campus is located on over 600 acres in the historic town of Princess Anne, Maryland. The main campus includes 80 buildings that house over 22,000 square feet of classroom space in fifty classrooms. Seating capacity ranges from 16 to 175 in the classrooms and is supplemented by four auditoriums, which seat up to 500. There are also three multipurpose rooms which can seat up to 500 when configured auditorium style necessitates, or smaller numbers when in other configurations. There are over seven smart conference rooms that are set up for videoconferences, interactive teaching, teleconference, etc. The campus also houses over 45,000 square feet of office space.

There is ample access to audio-video equipment including camcorders, DVDs, VCRs, television monitors, tape recorders, overhead projectors, computer supported overhead projectors, tape duplicating facilities, a photographic laboratory, a dark room, and an audio visual/cable television studio. The campus houses an advanced computer center, a computer-based testing center housed in the counseling center, a modern Art and Technology Center, the Student Development Center which houses various student support services such as the Center for Basic and Communication Skills, the Office of Disabled Student Services, the Counseling Center, and the Cooperative Education Center. All of these facilities are accessible to persons with disabilities.

The PA Program has a dedicated digital classroom which comfortably seats 35 students and is equipped with appropriate instructional technology. We also have Hazel Hall room 1032 with a seating capacity of 70, located across from the Departmental suite on the first floor. The current classes include 16 didactic year students and 16 clinical year students. If there is a malfunction in the dedicated classrooms there are other classrooms that we can move students to for lecture. Richard A. Henson Center Rooms 2126-2128 with a seating capacity of 40 and located on the second floor of the adjacent building from Hazel Hall. When the program has events involving both classes (didactic and clinical), the following classrooms are available within Richard A. Henson Center, Rooms 1116-1118 with a seating capacity of 120 and located in adjacent building on first floor.

C. Finance

The proposed program will be a part of the Department of Physician Assistant and will utilize the existing resources of the department. Courses will be taught by existing departmental faculty. The revenue for financing this program is based on an estimate of tuition revenue, funds to be allocated to UMES, and the U.S. Department of Education Strengthening Developing Institutions (Title III) funds. The proposed Master of Medical Science in Physician Assistant Studies will be eligible to use Title III funds as of spring

2013 for the admission of the first class. UMES is, therefore, not requesting additional state resources; consequently, grants, gifts, or contract funds would be used in the first three years and excess revenue will be generated thereafter.

The tuition will be similar to that of Towson University/CCBC PA program which is based on 2-semester tuition. For example, Towson University/CCBC tuition for the 2010-2011 academic years as shown below was extrapolated to 4 semesters and 1 session for the calendar year system proposed for UMES. Since the UMES program is year round, the summer is an academic semester. For 2013, Towson figures will be used. Although tuition is likely to increase over the next five years, a conservative increase of 4% /year is projected.

| Towson University /CCBC (2010-2011) | | UMES |
|---|----------------------------|---|
| Resident | \$ 19,582.00 (2 semesters) | \$22,080 (4 semesters) |
| Non-resident | \$27,492.00 (2 semesters) | \$46,368 (4 semesters) |
| Auxiliary Fees | \$800.00 per year | Physician Assistant expenses, Medical equip and fees \$5,625. |
| | | UMES fees \$2,064 |
| <i>The above is subject to change without prior notice.</i> | | |

Tables 1 and 2 below show estimated resources and expenses respectively for the proposed program. In order to calculate net program income, a difference was taken between Program Resources and Expenditure for each year. The tuition revenue will likely be higher since the 2009/2010 figures were used in projecting revenue. It is estimated that the University will generate approximately \$ 2,318,357 in tuition revenues from 2010-2014 with \$1,137,120 graduate tuition first cohort only. The results are presented below. Net gains are recorded for years 1-5. Tuition revenue generated for about 75 pre-physician assistant students is not included in the resource base.

| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---------|---------|---------|--------|---------|
| 2010 | 2011 | 2012 | 2013 | 2014 |
| 287,720 | 370,971 | 352,706 | 34,799 | 910,107 |

TABLE 1: RESOURCES

| Resource | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-------------------------------|---|---------|---------|---------|---------|-----------|
| Categories | | 2010 | 2011 | 2012 | 2013 | 2014 |
| 1. Reallocated | | 0 | 0 | 0 | 0 | 0 |
| 2. Tuition/Fee Revenue | | 224,290 | 304,798 | 286,533 | 182,808 | 1,319,928 |
| | I | 15 | 20 | 20 | 10 | 20 |
| a. # F/T | O | 10 | 13 | 11 | 5 | 15 |

| Students | T | 25 | 33 | 31 | 15 | 35 |
|------------------------|----------------|--|-----------|-----------|-----------|-----------|
| | | | | | | |
| * b. Annual | I | 6,082 | 6,305 | 6,482 | 6,482 | 22,080 |
| Tuition/Fee | O | 13,306 | 13,746 | 14,263 | 14,263 | 46,368 |
| Rate | | | | | | |
| | | | | | | |
| * c. Total F/T | I | 91,230 | 126,100 | 129,640 | 97,230 | 538,830 |
| Revenue | O | 133,060 | 178,698 | 156,893 | 85,578 | 781,098 |
| (a x b) | T | 224,290 | 304,798 | 286,533 | 182,808 | 1,319,928 |
| | | | | | | |
| d. # P/T | I | 0 | 0 | 0 | 0 | 0 |
| Revenue | O | 0 | 0 | 0 | 0 | 0 |
| (a x b) | T | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| * e. Credit Hr. | I | 171 | 176 | 181 | 181 | 320 |
| Rate | O | 417 | 430 | 447 | 447 | 672 |
| | | | | | | |
| f. Annual | P | 15 | 15 | 15 | 15 | 9 |
| Credit | | | | | | |
| Hours | F | 30 | 30 | 30 | 30 | 30 |
| | | | | | | |
| g. Total P/T | | - | - | - | - | - |
| Revenue | | | | | | |
| (d x e x f) | | | | | | |
| | | | | | | |
| 3. Grants, | | 269,918 | 269,918 | 269,918 | 269,918 | 269,918 |
| Contracts, | | | | | | |
| & Other external | | 96,360 | | | | |
| PRMC | | | | | | |
| Sources | | | | | | |
| General Funds | | 315,352 | 564,343 | 564,343 | 564,343 | 564,343 |
| 4. Other Sources | | - | - | - | - | - |
| | | | | | | |
| Total | | 905,920 | 1,139,059 | 1,120,794 | 1,017,069 | 2,154,189 |
| (Add 1-4) | | | | | | |
| F=Full Time | I= Instate | *=4% Annual increase Only Graduate Tuition Included | | | | |
| P= Part Time | O=Out of State | | | | | |
| | T=Total | | | | | |
| 2: EXPENDITURES | | | | | | |
| Resource | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Categories | | 2010 | 2011 | 2012 | 2013 | 2014 |
| | | | | | | |
| 1. Faculty * | | 473,795 | 609,758 | 609,758 | 609,758 | 731,258 |

| | | | | | | |
|-------------------------------------|--|---------|---------|---------|---------|-----------|
| (b+c below) | | | | | | |
| a. #FTE | | 6 | 6 | 6 | 6 | 7 |
| b. Total Salary* | | 385,157 | 480,225 | 480,225 | 480,225 | 570,225 |
| c. Total Benefits* | | 88,638 | 129,533 | 129,533 | 129,533 | 161,033 |
| 2. Admin. Staff (b+c below) | | | | | | |
| a. # FTE | | 1 | 1 | 1 | 3 | 3 |
| b. Total Salary | | 29,212 | 29,212 | 29,518 | 131,644 | 131,644 |
| c. Total Benefits | | 12,107 | 12,107 | 12,107 | 36,107 | 36,107 |
| 3. Support Staff (b+c below) | | | | | | |
| a. # FTE | | .50 | .50 | .50 | 1.50 | 2.50 |
| b. Total Salary | | 23,690 | 23,690 | 23,690 | 88,690 | 128,690 |
| c. Total Benefits | | 1,847 | 1,847 | 1,847 | 24,597 | 38,597 |
| 4. Equipment | | 27,000 | 30,000 | 30,000 | 30,000 | 60,000 |
| 5. Library | | 6,700 | 0 | 0 | 0 | 30,000 |
| 6. New or Renovated Space | | | | | | |
| 7. Other Expenses | | 43,850 | 61,474 | 61,474 | 61,474 | 87,786 |
| a. Labor & Assistance | | 10,600 | 22,182 | 22,182 | 22,182 | 22,182 |
| b. Supplies | | 26,756 | 18,634 | 18,634 | 18,634 | 40,604 |
| c. Travel | | 6,494 | 20,658 | 20,658 | 20,658 | 25,000 |
| Total (Add 1-7) | | 618,200 | 768,088 | 768,088 | 982,270 | 1,244,082 |

D. Recommended Course Sequence and Course Descriptions

Course Descriptions: PHAS

PHAS 607A Regional Anatomy 5(3-4)

Comprehensive survey course on regional anatomy taught over two semesters focused on the structure and function of the human body with emphasis on the HEENT, cardiovascular, pulmonary, gastrointestinal, genitourinary systems, gynecological, neurological, and musculoskeletal systems. This course is designed to provide the student with an in-depth examination of the anatomical structure and function of the human body through cadaver dissection and lecture. This course will be enhanced with Blackboard, Tegrity, Echo 360 and Class Capture software.

PHAS 607B Regional Anatomy 1(1-1)

This continuation anatomy course focuses on the structure and function of the human body with emphasis on the musculoskeletal system, including the upper and lower limbs and back. This course is designed to provide the student with an in-depth examination of the anatomical structure and function of the human body through cadaver dissection and lecture. This course will be enhanced with Blackboard and Echo 360, Class Capture software.

PHAS 608 Clinical Medicine I 4(4-0)

Comprehensive survey course that studies prioritized medical topics within organ systems. The systems covered are otolaryngologic, ophthalmologic, cardiovascular and respiratory systems. Prerequisites: admittance to the Physician Assistant program.

PHAS 609 Clinical Medicine II 4(4-0)

A comprehensive survey course that studies prioritized medical topics within organ systems. The systems covered are the gastrointestinal, hepatobiliary, genitourinary, endocrine, hematological systems and oncology. Prerequisites: admittance to the Physician Assistant program and PHAS 608.

PHAS 610 Clinical Medicine III 3(3-0)

Comprehensive survey course that studies prioritized medical topics within organ systems. The topics covered are the immunologic, musculoskeletal and neurologic systems and geriatrics. Prerequisites: admittance to the Physician Assistant program and PHAS 609.

PHAS 612 Obstetrics/Gynecology 3(3-0)

Prioritized instruction in normal function and selected medical conditions in women's health including pregnancy, childbirth, neoplasm and endocrine changes. Prerequisites: admittance to the Physician Assistant program.

PHAS 614 Pediatrics 3(3-0)

A survey course of growth, development and diseases from birth to adolescence. It prepares students for the primary care clinical setting. Prerequisites: admittance to the Physician Assistant program.

PHAS 616 Surgery 2(2-0)

Survey course that focuses on pre-, peri- and postoperative care and medical considerations of the surgical patient and prepares the student for the clinical setting. Prerequisites: admittance to the Physician Assistant program.

PHAS 618 Emergency Medicine 2(2-0)

Survey course that familiarizes the student with common emergency medicine problems and injuries utilizing a priority system. Prerequisites: Admittance to the Physician Assistant Program.

PHAS 620 Infectious Diseases 3(3-0)

A comprehensive survey course on the diagnosis and treatment of infectious diseases seen in primary care medicine and organized by organ system. Prerequisites: admittance to Physician Assistant program.

PHAS 624 Issues in Practice 2(2-0)

Topics concerning physician assistant professional practice. Prerequisites: Admission to the Physician Assistant Program.

PHAS 625 Clinical Pharmacology I 3(3-0)

Survey clinical course that emphasizes principles of pharmacology, pharmacokinetics and pharmacotherapy as they relate to drugs in the treatment of common primary care conditions. Prerequisites: admittance to Physician Assistant program.

PHAS 626 Clinical Pharmacology II 3(3-0)

This clinical survey course continues instruction in pharmacology of select drugs, prescription essentials general pharmacology resources for the primary care practitioner. Prerequisites: admittance to Physician Assistant program, PHAS 625.

PHAS 630 Clinical Procedures I 3(0-6)

Integrated didactic and laboratory course which develops medical procedural diagnostic and therapeutic skills. This prepares the student for the clinical setting. Prerequisite: admission to the Physician Assistant program.

PHAS 631 Clinical Procedures II 3(0-11)

A two module course consisting of Advanced Cardiac Life Support and Pediatric Advanced Life Support.. Prerequisite: Admission to the Physician Assistant Program.

PHAS 633 Scientific Basis of Medicine I 3(3-0)

An in depth review of the normal and abnormal physiologic processes associated with diseases of the cardiac and pulmonary organ systems. Prerequisites: Admission to the Physician Assistant Program.

PHAS 634 Scientific Basis of Medicine II 2(2-0)

An in-depth review of the normal and abnormal physiologic processes associated with diseases of the renal, neurological, and endocrine system. Prerequisites: Admission to the Physician Assistant Program.

PHAS 635 Scientific Basis of Medicine III 2(2-0)

An in depth review of the normal and abnormal physiologic processes associated with diseases of the gastrointestinal system, immune system, heritable conditions, and spontaneous genetic abnormalities. Prerequisites: Admission to the Physician Assistant Program

PHAS 640 Clinical Problem Solving I 3(0-11)

Onsite interactive group problem solving sessions and offsite patient/student/preceptor clinical interactions. Both modes develop clinical diagnostic reasoning by focusing on a hypothetic-deductive approach. Prerequisites: admission to the Physician Assistant program; successful completion of the didactic portion of the curriculum.

PHAS 641 Clinical Problem Solving II 3(0-11)

Onsite interactive problem solving sessions and offsite patient/student/preceptor clinical interactions. Both modes develop clinical diagnostic reasoning by focusing on a hypothetic-deductive approach. Prerequisites: admission to the Physician Assistant program; successful completion of PHAS 640.

PHAS 642 Clinical Problem Solving III 3(0-11)

Onsite interactive problem solving sessions and offsite patient/student/preceptor clinical interactions. Both modes develop clinical diagnostic reasoning by focusing on a hypothetic-deductive approach. Prerequisites: admission to the Physician Assistant program; successful completion of PHAS 641.

PHAS 645 Interpreting Research & Literature A-D(1-0)

Students will develop the ability to critically analyze current and past medical research and publications, and apply those concepts to the practice of Evidence-Based Medicine through a series of sequentially designed courses. Emphasize problem formulation, hypothesis testing, argumentation from data, and completion of the master's project at the end of the professional training is expected "Capstone Project". The student's advisor will supervise all research undertaken. Prerequisites: Admission into the Physician Assistant Program.

PHAS 650 Diagnostic Tests I 2(1-2)

An introduction to the indications for and interpretation of the chest radiograph and electrocardiogram. Prerequisites: Admission into the Physician Assistant Program.

PHAS 651 Diagnostic Tests II 2(2-0)

Indications for and interpretation of laboratory, pulmonary function, and neurophysiologic testing. Prerequisites: PHAS 650.

PHAS 652 Diagnostic Tests III 2(1-2)

Indications for and interpretation of imaging of the central nervous system, vascular system, abdomen and extremities. Principles of nuclear medicine, magnetic resonance, and computed tomography. Prerequisites: PHAS 651.

PHAS 660 History and Physical Examination I 3(2-2)

Integrated didactic/laboratory course. This course teaches assessment via the medical history with focus on interviewing skill and technique. It prepares students for the clinical setting. Prerequisites: admission to the Physician Assistant program.

PHAS 661 History and Physical Examination II 3(2-2)

Integrated didactic/laboratory series that teaches patient assessment through the complete medical history and physical examination. It prepares students for the clinical setting. Prerequisites: admission to the Physician Assistant program; successful completion of PHAS 660.

PHAS 662 History and Physical Examination III 4(2-4)

Integrated didactic/laboratory series that teaches patient assessment through the complete medical history and physical examination. It prepares students for the clinical setting. Prerequisites: admission to the Physician Assistant program; successful completion of PHAS 661.

PHAS 671 Preventive Medicine & Epidemiology 3(3-0)

This course introduces the principles of preventive medicine and methods for their incorporation into primary care on an individual, family and community basis. Prerequisites: Admission to the Physician Assistant program.

PHAS 672 Applied Health Care Ethics & Law for Physician Assistants 3(3-0)

This course enables the student to examine the principles of medical ethics, develop an organized process to resolve clinical dilemmas, and to explore future professional roles. Prerequisites: admission to the Physician Assistant program.

PHAS 673 Psychiatry 3(3-0)

The course includes the identification and management of psychiatric disorders, with an emphasis on the pharmacological management of mood disorders. Prerequisites: admission to the Physician Assistant program.

PHAS 690 Clinical Education I 9(0-40)

This course consists of a full-time clinical internship. Prerequisites: admission to the Physician Assistant program; successful completion of didactic course work for Physician Assistant program.

PHAS 691 Clinical Education II 9(0-40)

This course consists of a full-time clinical internship. Prerequisites: admission to the Physician Assistant program; PHAS 690.

PHAS 692 Clinical Education III 9(0-40)

This course consists of a full-time clinical internship. Prerequisites: admission to the Physician Assistant program; PHAS 691.

PHAS 697 Special Topics for Physician Assistants 4(Spec)

This course consists of presentation and examination of special topics in medicine, health, and biosciences. It will also include clinical education medicine sub-specialty elective internships. Prerequisites: Entry into the Physician Assistant Program