

REQUEST FOR A NEW UNIT OF INSTRUCTION

1. **Name of Institution:** Southern Illinois University Carbondale
2. **Title of Proposed Program:** Master of Science in Physician Assistant Studies (MSPA)
3. **Contact Person:**
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4. **Level of Proposed Unit:** Masters
5. **CIP Code:** 51.0912
6. **Proposed Date of Enrollment of First Class:** May 2007
7. **Location Offered:** On-Campus

8.0 MISSION, OBJECTIVES AND PRIORITIES

Mission

The mission of the Southern Illinois University Physician Assistant Program is to prepare healthcare professionals to provide primary health care to underserved populations in rural and health professional shortage areas. We will enhance this healthcare by preparing graduates who are interdependent medical providers, dedicated to both community and profession. The academic setting will foster creative thinking and communication skills in our pursuit of excellence.

Goals of the program include the following:

1. Educate physician assistants (PAs) to be lifelong learners, proficient in acquiring and applying knowledge to patient problems.
2. Provide patients in underserved populations with respectful, ethical, professional, and competent health care clinicians, thus addressing the needs of the rural and health professional shortage areas.
3. Prepare physician assistants who can effectively interact with physicians, other allied health personnel, and with patients and their families while adhering to the concepts of privilege and confidentiality.

Priorities of the program will include:

1. Provide the highest quality academic programs and clinical teaching that include attention to evidence-based medical education, procedural skills, holistic medicine, health policy, patient education, and prevention.
2. Graduate medical professionals interested in obtaining employment and practicing in rural areas in central and southern Illinois.
3. Provide service to the citizens of the region, the university, and the medical profession.
4. Collaborate with other departments in the university and forming school-community linkages to advance the mission of the program and the university.
5. Advance the physician assistant profession and the university through scholarly activity.
6. Encourage physician assistant graduates to augment their education, expand their knowledge, and enhance their skills after leaving the SIUC Physician Assistant Program.

8.1 Explain how the program will meet regional and state needs and priorities, making specific reference to *The Illinois Commitment*.

- **Southern Illinois University at Carbondale strives to meet the health care needs of central and southern Illinois through appropriate health-related programs, services and public health policy.**

- **SIUC Focus Statement**

The southern Illinois region has a well-documented shortage regarding access to primary health care. In September 1993, the Illinois Board of Higher Education (IBHE) adopted a report entitled, *Policy Recommendations for Health Professions Education*. One specific recommendation in this policy statement challenged the Southern Illinois University system to develop a comprehensive plan for serving health professions educational priorities in southern Illinois. In discussions at the SIUC Board of Trustees meeting, IBHE staff indicated “Of particular importance is a proposal for the School of Medicine (SOM) and the College of Applied Sciences and Arts (ASA) to collaborate in the development of a physician assistant (PA) program.” In 1997, in response to the aforementioned IBHE report, the SIUC Physician Assistant Program (SIUC PA) was created, awarding a Bachelor of Science degree. To date, the PA Program has educated 176 PAs, and graduate surveys have indicated that the majority of graduates (70%) practice medicine in rural areas. The program currently provides didactic courses in Carbondale, and then sends students to clinical sites in central and southern Illinois. This year, to meet increasing health care needs of the most southern counties, the PA Program recently added the Illinois Delta Hubsite to its list of training centers. The SIUC PA Program plans to continue its collaboration between the College of Applied Sciences and Arts and the School of Medicine, utilizing resources and experts from both units for instructional expertise, facilities, and programming to help meet the health care needs of Illinois citizens.

Because of current educational trends and market demands, the Association of Physician Assistant Programs (APAP) Degree Task Force has recommended that all physician assistant programs transition to conferring a Master’s degree within the next two years. It is imperative that Southern Illinois University Carbondale align itself for this trend in physician assistant education. Of the 138 PA Programs in the United States, at least 80 programs have already made this transition. Carnegie Doctoral/Research Extensive Universities that have converted to PA graduate degrees include: University of Utah, Yale University, University of Colorado, University of Florida, University of Iowa, University of Kentucky, Wayne State University, Western Michigan University, University of Nebraska, University of Oklahoma, Northeastern University, George Washington University, Emory University, Saint Louis University, Marquette University, and Duke University.

The Southern Illinois University Carbondale Physician Assistant Program proposes to convert from the current Bachelor’s degree program to a Master of Science degree in Physician Assistant Studies (MSPA) to meet the profession’s new educational standards and to stay competitive in the academic market. Additionally, in recognizing the depth and quality of physician assistant education, the SIUC PA Program proposes offering a Master of Science Degree Completion Program for practicing physician assistants already holding a Bachelor’s degree from an accredited PA Program.

In *Southern at 150: Building Excellence Through Commitment*, the goals of offering “progressive graduate education” and “careful attention to advancing its (SIUC) graduate and professional

commitment” were cited as making this university distinctive. We believe that this new graduate program will enhance SIUC’s leadership role from a local, regional, national, and global perspective.

Physician assistants are in demand regionally and nationally, as well as worldwide. PA education is of international interest as a vehicle for decreasing the shortage of health care professionals globally. England, Canada, Egypt, South Africa, Russia, and other countries have demonstrated interest in physician assistant (PA) education, according to the August 30, 2003 edition of AAPA News. In May 2004, the Canadian Medical Association (CMA) formally recognized physician assistants and is moving toward formal certification of PAs by the CMA Committee on Conjoint Accreditation. PA educators from the United States are already serving as consultants to many countries as the Physician Assistant profession becomes an emerging field worldwide.

8.2 Explain how the program will meet regional and state needs and priorities, making specific reference to *The Illinois Commitment*.

Targets:

- Provide additional resources to enhance and/or develop an array of graduate programs at the Master’s level, focusing on programs in high demand.
- Focus on the unique contributions that graduate and professional education make to the economy and quality of life of the region, state, nation and world.

○ ***Southern at 150: Building Excellence Through Commitment***

The United States Bureau of Labor Statistics 2002 projects that the total number of PA jobs in the country will grow by 15 percent over the next ten years. Recent medical malpractice insurance rate increases have caused an exodus of Illinois physicians, especially from southern Illinois, thus decreasing access to care for patients. PAs offer a means to improve access to care for the people in our state. The PA profession is in high demand, thus entrance to programs is highly competitive. The current Bachelor’s program at SIUC has only one seat available for every four to five applicants per year. Applicants must complete a rigorous application and interview process before acceptance. Additionally, students have often applied for admission two to three times before they are accepted.

The demand for Master’s trained PAs is increasing. Many factors including personality, experience, and references influence the hiring of a PA. According to *Perspective on Physician Assistant Education*, Vol. 13, a survey of physicians (who are most often the employers of PAs) indicates they are more likely to hire a PA with a Master’s degree than one with an undergraduate degree. This survey revealed that 65.2% of respondents felt degree level was an important consideration when hiring a PA. The article also noted that “the United States Department of Labor reported that employment opportunities for PAs are particularly good in regions having difficulty attracting primary care physicians.” Together, these data support the development of a Master’s level Physician Assistant Program at SIUC focusing on primary care. The SIUC program is the only one in the state that is a geographically located in rural Illinois.

It is also important to note that the Illinois Academy of Physician Assistants (IAPA) is planning to support the introduction of legislation this year requiring a PA to hold a Master’s degree to be licensed in Illinois. This rule would take effect within five years. SIUC must move quickly to meet this demand so that its graduates can continue to be eligible for licensure in the state.

It is generally agreed that the Master's degree is more representative of the graduate-level curriculum of PA education. The graduate degree also allows PAs to be more competitive in today's health care marketplace. Since its inception in 1965, the PA profession has experienced tremendous growth in both the number of practicing PAs and the number of accredited PA Programs to meet today's health care needs. A recent trend in the profession has been the growing number of programs conferring Master's degrees. According to the *Blue Ribbon Panel Report on Physician Assistant Program Expansion*, the number of PA Master's programs has tripled from 1992 to 1997 (*Perspective on Physician Assistant Education*, Vol. 9, No. 1). Even with this growth, there are still not enough PAs to fill the health care needs and number of job openings.

The proposed MSPA Program will help to meet regional and state needs and priorities through a number of innovative strategies and a rigorous curriculum. Many of the tenets of *The Illinois Commitment* are realized in the SIUC MSPA Program. *Goal 1 of The Illinois Commitment* addresses the need for "education and training programs (that) will provide competencies in communication, problem solving, and teamwork as well as field-specific knowledge and skills." The innovative problem-based learning curriculum of the SIUC PA Program meets all of these in its andragogical approach to the education of future medical professionals. By shifting to a Master's degree program, the University will be "proactive and provide leadership, innovation, and creativity...and develop new programs more quickly and update existing programs on a regular basis," *The Illinois Commitment, Goal 1*.

The MSPA Program is also designed to support Southern Illinois University Carbondale's commitment to promote graduate and professional education in Illinois. *Southern at 150: Building Excellence Through Commitment* calls for an increase in the number of graduate programs, to "offer progressive graduate education...and achieve excellence in graduate and professional programs." A goal of the SIUC PA Program is to attract exceptional regional, state, and national applicants who are interested in comprehensive professional preparation as a physician assistant. Clinical experience and specific academic course work are required as course prerequisites.

Access to the Master's Completion Program provides practicing PAs currently holding a baccalaureate degree with an opportunity to develop research expertise in their chosen area of interest and complete advanced clinical training. *The Illinois Commitment, Goal 4*, notes competency based programs, non-traditional student-centered learning, life-long learning, as well as the ability to complete a degree in a timely manner, as ways to increase the number and diversity of citizens completing training and educational programs. In providing the MSPA program, health care and economic welfare of graduates and Illinois citizens are also improved.

Currently, 8,900 students are enrolled in PA Programs nationwide. According to the American Academy of Physician Assistants (AAPA) census information, over 52,000 PAs are eligible to practice clinically. This number is expected to rise to 87,000 by year the 2010. Even with this projected increase, the demand for PAs far exceeds the supply and this imbalance is expected to continue well into this century.

Since 1997, the SIUC PA Program has received thousands of inquiries, received over 1000 completed applications, interviewed over 300 prospective students, and has accepted 190 students. The highly competitive application process will continue at the Master's level and has assisted in meeting the demands of graduation, national certification, and successful practice.

- **Illinois colleges and universities will hold students to even higher expectations for learning and will be accountable for the quality of academic programs and the assessment of learning.**

The Illinois Commitment, Goal 5

The current SIUC PA Program has been awarded national accreditation by the Accreditation Review Committee (ARC-PA) for seven years, the maximum period awarded. It received four commendations and no citations at its most recent accreditation site visit. SIUC PA Program graduates maintain an overall mean pass rate of 99% on national certification examinations. Additionally, graduates' average scores continually are above the ninetieth percentile for all test takers. The SIUC PA Program is one of the few programs in the United States utilizing a Problem-based Learning Curriculum in physician assistant education. In addition, PA faculty members at SIUC have presented their current curriculum and problem-based learning teaching techniques at national conferences and at universities throughout the United States. These achievements along with the program quality and rigor, make the transition to a graduate degree in Physician Assistant Studies a logical one for Southern Illinois University Carbondale.

We are pleased to report the following data indicating success of the first six Bachelor's degree SIUC PA graduating classes on the Physician Assistant National Certification Exam (PANCE). We believe these test scores are a reflection of the high-quality Problem-Based Learning Curriculum (PBLC), the faculty, its students, and the SIUC PA Program, in general.

National Exam Comparison Table – SIUC Graduates Compared to All Test Takers

SIUC PA Class Year (PANCE)	SIUC PA Program Pass Rate	National Pass Rate for <i>all</i> test takers
1999 <i>n</i> =18	100%	82%
2000 <i>n</i> =24	100%	84%
2001 <i>n</i> =24	95%	85%
2002 <i>n</i> =23	95%	82%
2003 <i>n</i> =24	100%	84%
2004 <i>n</i> =24	100%	84%
2005 <i>n</i> =22	100%	n/a

Another indicator of successfully meeting the goals of *The Illinois Commitment*, thus improving health care, is the response received by a recent PA Program graduate survey. Of the 57 graduates from the classes of 1999, 2000, and 2001, 70% responded to the survey. The following statistics are based on the responses of these 40 graduates. All were employed in clinical practice. Sixty-eight percent were employed as PAs in central or southern Illinois; 7% were employed as PAs in northern Illinois, and 25% worked as PAs in other states. The majority, 70%, worked in rural areas. Twenty-eight percent were employed in federally-designated rural health areas; 5% of graduates worked in both federally-designated rural health and state-designated shortage areas; 2.5% worked in a state-designated shortage area; 2.5% worked in primary care Health Provider Shortage Area (HPSA).

Another graduate worked in a site designated as all of the following: National Health Service Corp site; Primary Care HPSA; federally-designated rural health; and, state-designated shortage area.

The Illinois Commitment recommends work-based learning and clinical experiences, along with business-community partnerships. In the past two years of clinical rotations, students in the current Bachelor's degree program made 74,980 documented patient visits, these primarily in central and southern Illinois. The SIUC PA Program has almost 300 established school-community partnerships with physicians, hospitals, and professional corporations in central and southern Illinois to provide educational services and clinical training to PA students.

The physician assistant is a highly-trained professional who practices medicine under the supervision of a physician. The SIUC PA Program was designed to train medical professionals to ultimately improve access to and the quality of health care in rural areas, especially in Illinois. It is the desire of the SIUC PA Program to continue to provide graduates who are competent clinicians caring for the underserved, especially in primary care medicine. Additionally, the program plans to increase the research emphasis in its curriculum to improve clinical problem-solving and life-long learning. The SIUC PA Bachelor's degree Program has delivered written course materials for the upper level undergraduate courses via the Internet to students completing clinical rotations at distance sites. Because of this, the program is already in a position to provide distance-education opportunities for the medical professional/PA student at the graduate level. (*The Illinois Commitment, Goal 2*)

8.3 Identify similar programs and sponsoring institutions in the state. Compare these programs with the proposed program. Discuss the possible impact of the proposed program on these programs.

The SIUC PA Program is the only Physician Assistant Program located at an Illinois public university. All other programs in Illinois are located in the Chicago area. These include Midwestern University, Rosalind Franklin University of Medicine and Science, and Cook County Hospital/Malcolm X College. Because all of these programs, including the current SIUC PA Program, have existed in the state for some time, it is expected that there will be no noticeable impact on the other programs. All other programs in the state already offer a Master's degree or a Master's degree in partnership with another institution.

8.4 Discuss estimated future employment opportunities for graduates of this program. Compare the estimated need for graduates with the estimated number of graduates from this program and existing programs identified in 8.3 above. Where appropriate, provide documentation by citing data from such sources as employer surveys, current labor market analyses, and future workforce projections. Describe any special need for this program expressed by state agencies, industry, research centers, or other educational institutions.

Graduates of the current SIUC PA program enjoy a 100% employment rate by 4 months after graduation. According to the findings published in the *American Academy of Physician Assistants Information Update, Projected Number of People in Clinical Practice as PAs as of January 1, 2005*, 98% of all 2004 PA program graduates in the United States were estimated to be in clinical practice as PAs in 2005.

The SIUC MSPA Program will have 24 graduates per year for the first two years, with the plan to expand to 30 graduates per year thereafter. This compares with 84 graduates at Midwestern University, 50 at Rosalind Franklin University of Medicine and Science, and 26 at the Cook County Hospital/Malcolm X College PA Program.

Employment of PAs is expected to grow much faster than the average for all occupations through the year 2012, due to anticipated expansion of the health services industry and an emphasis on cost containment, resulting in increasing utilization of PAs by physicians and healthcare institutions. Telemedicine—using technology to facilitate interactive consultations between physicians and physician assistants—also will expand the use of physician assistants. The United States Bureau of Labor Statistics projects that the number of PA jobs will increase by 49% between 2002 and 2012.

The average annual salary for full time physician assistants (>32 hours/week) in 2004 was \$78,257 according to the *American Academy of Physician Assistants 2004 Census Report*, thus offering good earning potential for graduates.

9. PROGRAM DESCRIPTION

9.1 Provide a brief narrative description of the program, including a list of its central academic objectives. Explain how the curriculum is structured to meet the program's stated objectives. Provide a complete catalog description for the proposed program, including:

- **program admission and graduation requirements; and**
- **curriculum design, including course descriptions.**

A goal of the Southern Illinois University Carbondale's Master's of Science in Physician Assistant Studies will be to prepare graduate level physician assistants who demonstrate the requisite knowledge, skills, and expertise to perform their professional role under the supervision of a physician in a competent and reliable manner. Additionally, the mission of the program is to provide patients in underserved populations with respectful, ethical, professional, and competent primary health care clinicians, thus addressing the needs of the rural and health professional shortage areas in all the United States, especially those of southern and central Illinois. The aforementioned will be accomplished by the following measures:

1. Graduate level instruction will be provided, emphasizing higher-level classes, research, and professional medical training.

The professional role of the physician assistant involves a broad spectrum of clinical responsibilities and patient care services including health data collection, diagnostic, therapeutic, preventive, and health maintenance services. This profession emphasizes direct patient care and demands intelligence, sound judgment, intellectual honesty, the ability to relate to people, and the capacity to respond to emergencies quickly, in a calm and efficient manner. The graduate will exhibit adherence to the concepts of privilege and confidentiality in communication with patients, ethics, and a commitment to patients' rights, the will of patients and their families, and the community's welfare. (*The Illinois Commitment, Goal 5*) The PA Program will seek to produce graduates who, as stated in *Southern at 150: Building*

Excellence Through Commitment are “the best of any graduate of any university in the nation.”

2. Teaching will engage students in the pursuit of excellence. Critical thinking, integration and application of knowledge, and problem-solving skills will be developed in students. Faculty will serve as mentors to students in continuity-based clinical settings and will serve as their advisors throughout both the didactic and applied portions of their course of study. Students will acquire the skills to become “life-long learners,” another tenet of ***Southern at 150: Building Excellence Through Commitment*** and *The Illinois Commitment*.
3. Faculty scholarly and creative activities will be recognized nationally and will be focused to best serve our students. Graduate faculty will engage in the scholarship of discovery, integration, application, and teaching in the areas of basic sciences, behavioral and social sciences, clinical medicine, and education. Faculty will seek grant funding through external sources for research and educational endeavors.
4. Students will be assisted in their scholarly pursuit of knowledge through coursework, clinical experiences, and research. As cited in ***Southern at 150: Building Excellence Through Commitment***, “Our future is about raising our standards: The College of Applied Sciences and Arts (ASA) will...implement additional graduate programming...for training the workforce of the 21st century.” Of particular importance in the ASA proposal is to develop a Master of Science in Physician Assistant Studies program, which will increase the emphasis on research in a student-responsive approach as it applies to their career. Additionally, a highly selective admissions process will continue to be utilized to include a program specific application, letters of recommendation, essays, medical experience, service, and individual interviews.
5. Physician assistants will be promoted as leaders in the communities they serve, improving medical care of all people. Students will have the opportunity to participate in Physician Assistant Registered Student Organization activities that promote leadership, service, and practical applications of knowledge in improving the quality of life for those in the region.
6. Students will be inspired by faculty example in teaching, scholarship, and the value of service to others as they prepare for leadership roles in the physician assistant profession. Through small group-based study, utilizing the PBL model, students learn to value the importance of teamwork in the workplace for the “betterment of society – regionally, nationally, and internationally.” ***Southern at 150: Building Excellence Through Commitment***
7. Students will be involved in innovative technology in web-based education and distance learning. The program will meet one of the goals of ***Southern at 150: Building Excellence Through Commitment*** by utilizing cooperative educational hubsites for clinical rotations to “provide both traditional and continuing education opportunities for professionals...and students using flexible approaches and alternative locations” in central and southern Illinois. These sites include Olney, the Illinois Delta, Springfield, Decatur, Carbondale/West Frankfort, and Mattoon, Illinois. Future educational/clinical hubsites will be developed as regional needs are identified.

Overview

Graduate courses of study leading to the MSPA will be offered by Southern Illinois University College of Applied Sciences and Arts, School of Allied Health, Physician Assistant (PA) Program. To receive an advanced degree in Physician Assistant studies, students must be admitted and fulfill the requirements of both the Graduate School and the Physician Assistant Graduate Program. Students seeking the MSPA degree will be governed by the policies of the Graduate School with respect to admission, minimum credit hours, scholastic attainment, residence, and maximum time limits for completion of the program. Course offerings in the graduate program are designed so that the graduate student may acquire a deep and broad body of knowledge, as well as the ability to synthesize and apply that knowledge to clinical medicine.

At the SIUC PA Program, there will be two options for the MSPA, the Master of Science in Physician Assistant Studies Program and the Master's Completion Program. The Master's Program will be a 26-month, 90 credit hour program. The Master's Completion Program, will be a 12 month, 30 credit hour program, designed only for those who are certified PAs who already possess a Bachelor's degree from an accredited college or university PA Program. Both tracks will award the MSPA degree.

Admission Criteria

In addition to meeting requirements of the Graduate School, the applicant for admission to the graduate Physician Assistant program should hold a Bachelor's degree from an accredited college or university by the time of matriculation to the graduate PA Program. Master's Completion applicants must have a Bachelor's degree from an accredited college or university PA Program and national certification (NCCPA) as a PA. Other requirements are listed as follows:

1. The applicant must have successfully completed the following prerequisite courses or their equivalents. All prerequisite coursework must be completed by the spring term prior to matriculation. No more than two prerequisite courses can be taken in the spring semester prior to matriculation. Only grades of "C" or better will be accepted for transfer. Grades of "C-" or below will not transfer for credit. Physiology must be completed within the last five years. Pharmacology is highly recommended before matriculation.

In addition to a Bachelor's degree, the following prerequisite courses are required:

Medical Terminology
Psychology/Developmental Psychology
Physiology 310 or higher
Anatomy 301
Microbiology
Chemistry (two semesters)
General Biology (for science majors)
Basic Statistics
Basic Cardiac Life Support

2. The *overall cumulative* grade point average (GPA) must be at least 2.8 (A = 4.0).
Prerequisite course cumulative GPA (listed above) must be at least a 3.0 (A = 4.0).

3. Applicants should have at least 1000 hours, preferably 2000 hours, of health care experience. This may vary and can be full-time or part-time, as an employee or volunteer. Preference will be given to those applicants with credentialed experience in providing direct patient care.
4. Using a federal rurality scale, preference will be given to applicants from rural or medically underserved areas. Applicants will be evaluated on academic potential, motivation, familiarity with the PA role, level of maturity, oral and written communication skills, interpersonal skills, and potential for success in the SIUC PA Program and the PA profession.
5. Students are expected to be proficient in the use of personal computers before matriculation to the program, especially with software such as Microsoft Word. Online instruction will be employed.

Curriculum Design

The Master's Program requires students to have had statistics before matriculation. The program of study includes health care systems, research methods, evidence-based medicine, ethics, research/project proposal design, presentation, and publication that previously were not required for the undergraduate degree. The Master's Program also adds separate courses in clinical anatomy, behavioral and alternative medicine, patient evaluation, pharmacology and clinical therapeutics, procedural and surgical skills, psychosocial issues in pregnancy, diversity, and professional issues that were not delineated in the Bachelor's degree. In addition, the graduate PA Program will include Advanced Cardiac Life Support and the Master's Seminar courses.

The program will utilize problem-based learning for the delivery of the curriculum and clinical rotations to prepare primary care physician assistants to practice medicine with physician supervision. To learn required competencies in PBL, students will be introduced to real patient problems in the form of Problem-Based Learning Modules (PBLM), computer cases, and simulated patients. Students will then work through the problem to learn required concepts. In the problem-based curriculum, groups of six to eight students meet with a faculty member approximately 12-16 hours per week, focusing on core learning issues (objectives). The tutor will probe students regarding these issues as the case unfolds. Each tutor group will document its learning issues and will share them with other tutor groups. Weekly faculty tutor meetings will serve as a vehicle to discuss objectives, discuss problems, and prepare for upcoming cases. Other coursework in specialized study will occur during each week of the unit. Formalized, multi-modality summative evaluations will be scheduled at the close of each unit. During clinical rotations, course objectives and requirements, as well as computer-based pre- and post-tests, will be delivered via the web-based program WebCT. Faculty will maintain regular communication with students via the internet and telecommunications.

The SIUC Master's Degree PA Program will deliver 19-20 weeks of academic activities per regular semester and 10 weeks per summer semester. This extends the standard 15-week regular semester and 8-week summer semester of the SIUC academic calendar. Maximum hours awarded in standard SIUC programs are 18 credit hours during the regular 15-week semester and 9 credit hours during

the 8-week summer semester (This does not include intersession). The number of credit hours per semester during the first year reflects the high level of rigor and intensity of instruction for both students and faculty. With this intensive curriculum, faculty will be employed on 12 month contracts.

The SIUC Master's Degree PA Program has been designed to deliver the maximum number of semester credit hours. In order to calculate a maximum number of hours appropriate for the lengthier semesters, a mathematical ratio was used to compare SIUC credit hours to PA Program hours.

The results are as follows:

- 10 credit hours to be delivered during the 10-week Summer semester in Phase I.
- 22 credit hours to be delivered during each of the 19-20 week semesters in Phase I. (Fall 19 weeks, Spring 20 weeks)
- 6 credit hours to be delivered during the 10-week Summer semester in Phase II.
- 12 credit hours to be delivered during each of the 19-20 weeks of Fall and Spring semesters in Phase II.
- 6 credit hours to be delivered during the 10-week Summer semester in Phase III.

The two tracks for the MSPA are outlined as follows:

- 1. Master of Science in Physician Assistant Studies Program (90 credit hours, 26 months).** Because the Physician Assistant Program must satisfy the requirements for PA certification, as set forth by the ARC-PA for professional programs, students in the Master's Program must follow the prescribed course of study (outlined below) to complete the medical training required of a physician assistant. Additionally, students are required to complete a Master's Project. The Master's Seminar courses prepare the student for completion of the Master's Project. Residency at SIUC and its affiliated hubsites is required for completion of this program. Students in the Master of Physician Assistant Studies program will attend classes during extended semesters and will be involved in educational activities approximately 50 weeks per year. The proposed course of study follows:

(See chart on next page)

Summer Semester

Yr. 1 (Unit 1)

Patient Evaluation I (2 credit hours)

Early Adult Medicine (3 credit hours)

Clinical Anatomy I (2 credit hours)

Research Methods and Evidence-Based Medicine (1 credit hours)

Pharmacology/Clinical Therapeutics for Young Adults (1 credit hour)

Introduction to the Profession (1 credit hour)

Total 10 credit hours

Summer Semester – Yr 2

Clinical Rotations (3 credit hours) -- 2 of possible 9

Master's Seminar III (1 credit hour)

Clinical Mentoring (1 credit hour)

Tutor Group (1 credit hours)

Total 6 credit hours

Summer Semester – Yr 3

Preceptorship (3 credit hours)

Health Care Systems (3 credit hours)

Total 6 credit hours

Fall Semester

Yr. 1 (Unit 2)

Patient Evaluation IIa (2 credit hours)

Mid-Adulthood Medicine (3 credit hours)

Clinical Anatomy II (2 credit hours)

Preventive Medicine/BM (0.5 credit hour)

Pharmacology/Clinical Therapeutics for Mid-Adulthood (1 credit hour)

Master's Seminar Ia (1 credit hour)

Clinical Mentoring (1 credit hour)

(Unit 3)-----
Patient Evaluation IIb (2 credit hours)

Late Adulthood Medicine (3 credit hours)

Master's Seminar Ib (1 credit hour)

Clinical Anatomy III (2 credit hours)

Clinical Mentoring (1 credit hour)

Ethics/BM (0.5 credit hour)

Pharmacology/Clinical Therapeutics for Later Adulthood (2 credit hours)

Total 22 credit hours

Fall Semester – Yr 2

Clinical Rotations (6 credit hours)--3-4 of possible 9

Master's Seminar IV (2 credit hours)

Clinical Mentoring (2 credit hours)

Tutor Group (2 credit hours)

Total 12 credit hours

Spring Semester

Yr. 1 (Unit 4)

Clinical/Procedural Skills (2 credit hours)

ACLS (2 credit hours)

Clinical Anatomy IV (2 credit hours)

Pregnancy and Infant Medicine (3 credit hours)

Pharmacology/Clinical Therapeutics for Pregnancy and Early Childhood (1 credit hour)

Psychosocial Issues of Pregnancy and Early Childhood (0.5 credit hour)

Master's Seminar IIa (1 credit hour)

Clinical Mentoring (1 credit hour)

(Unit 5)-----
Intro to Surgical Settings (1 credit hour)

Childhood and Adolescent Medicine (3 credit hours)

Diversity in PA Practice (0.5 credit hour)

Pharmacology/Clinical Therapeutics for Childhood and Adolescence (1 credit hour)

Clinical Mentoring (1 credit hour)

Clinical Anatomy V (2 credit hours)

Master's Seminar IIb (1 credit hour)

Total 22 credit hours

Spring Semester -Yr 2

Clinical Rotations (6 credit hours) --3-4 of possible 9

Master's Seminar V (2 credit hours)

Clinical Mentoring (2 credit hours)

Tutor Group (2 credit hours)

Total 12 credit hours

2. Master's Completion Program (30 credit hours, 12 months): This option is developed for those students who are PA-Cs and hold a Bachelor's degree from an accredited PA Program and NCCPA certification. Students enrolled in the Master's Completion Program may complete the program via distance education with periodically scheduled seminars on campus, as required by the course syllabi. Descriptions of individual courses below may be found in the Course Descriptions section.

Semester 1 – Fall -- 10 credit hours

PA 501-4 Research Methods and Evidence-Based Medicine

PA 575 I-4 Medicine in Practice

PA 599 I-2 Master's Seminar: Proposal Design

Semester 2 – Spring -- 12 credit hours

PA 544-4 Ethical Issues in PA Practice

PA 575 II-4 Medicine in Practice

PA 599 II-2 Masters Seminar: Development and Construction (8 week course)

PA 599 III-2 Masters Seminar: Medical Research and Writing (8 week course)

Semester 3 – Summer -- 8 credit hours

PA 545-3 Health Care Systems

PA 599 IV-3 Master's Seminar: Project/Pilot (8 week course)

PA 599 V-4 Master's Seminar: Presentation and Defense (8 week course)

Master's Seminar:

Students enrolled in both tracks of the MSPA program are required to complete the Master's Seminar. The Master's Seminar is a longitudinal course required each semester of enrollment that is designed to equip the student with the knowledge, skills, and attitudes to design and complete a clinically-based Master's Research Project. Students apply strategies previously learned in the Research Methods/Evidence Based Medicine Course. The Master's Seminar culminates with presentation and defense of the completed Master's Research Project.

Peer institutions offer a variety of research/thesis options for Master's level Physician Assistant education. Of the sixteen Carnegie Doctoral/Research Extensive universities surveyed, 37.5% required a Master's Project, 6.25% required a Master's Thesis, 12.5% required a final examination, and the remaining programs did not report the requirement of a final examination, Master's Thesis, or Master's Project.

The following options for the Master's Thesis Project will be offered:

A. Problem-Based Learning Module (PBLM) Development

Students will select a suitable patient encounter during their clinical mentoring experience. From this patient case, they will author a standardized Barrowsian PBLM, formatted for use in medical schools and physician assistant education. Students will research the underlying basic science and clinical concepts regarding the medical problem, and finally, develop an instructional guide to augment the PBLM.

B. Evidence-Based Medicine (EBM) Research Paper

Students will select a focused, hypothesis-driven research project of a clinically relevant medical topic. Students will conduct a literature review, synthesize information, draw conclusions, and develop recommendations justified by medical evidence. Students will submit a detailed scientific research review paper in AMA style that is of publishable quality.

C. Health Promotion/Disease Prevention

Students will conduct a needs assessment of a chosen community, medical practice, or public health agency involving the region that hosts their clinical rotations (hubsite). They will subsequently submit a Needs Assessment or Evaluation Report, to include items such as staffing, timeline, budget recommendations, and resource needs. Subsequent students located at this hubsite may choose to develop and deliver the Health Promotion/Disease Prevention Program identified in a Needs Survey as their Master's Project.

Course Descriptions:

PA 500-1 Introduction to the PA Profession. This course is designed to provide students with an understanding of professional issues of the Physician Assistant field, including the history and role of the Physician Assistant. Students are introduced to standards of quality assurance, credentialing/licensure, policies and regulations governing clinical practice, billing and coding, and contract negotiation. Students explore opportunities to participate in professional organizations and ways in which they can strengthen their professional development. Prerequisite: Admission to PA Program.

PA 501-1 to 4 Research Methods and Evidence-Based Medicine. This course focuses on scientific inquiry within the physician assistant practice, covering the application of basic research methodology including problem formation, research designs (retrospective, prospective, clinical trials, experimental and quasi-experimental), sampling, measurement, data analysis, technical writing and dissemination of research results, and research ethics. Examples of current research practice are reviewed. Students will also focus on developing evidence-based medicine skills, including identifying clinical questions for specific patients, determining how to find the best evidence for the type of question asked, and how to critically evaluate the evidence to determine its applicability to the original clinical question that prompted the question. Prerequisite: Admission to PA Program.

PA 511-3 PBL Early Adult Medicine. This course is designed to focus on health concerns, physiological and psychosocial development of young adults, ages 19-44, with emphasis on expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Sections: a,b,c,d,e,f ; limited to 6-9 students per section. Prerequisite: Admission to PA Program.

PA 512-3 PBL Mid-Adult Medicine. This course is designed to focus on health concerns, physiological and psychosocial development of middle aged adults, ages 45-64, with emphasis on expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Sections: a,b,c,d,e,f ; limited to 6-9 students per section. Prerequisite: PA 511.

PA 513-3 PBL Late Adult Medicine. This course is designed to focus on health concerns, physiological and psychosocial development of geriatric adults, ages 65 and beyond, with emphasis on expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Sections: a,b,c,d,e,f ; limited to 6-9 students per section. Prerequisite: PA 512.

PA 514-3 PBL Pregnancy and Infant Medicine. This course is designed to focus on health concerns, physiological and psychosocial development of pregnant women and newborns through age 2, with emphasis on expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Sections: a,b,c,d,e,f ; limited to 6-9 students per section. Prerequisite: PA 513.

PA 515-3 PBL Childhood and Adolescent Medicine. This course is designed to focus on health concerns, physiological and psychosocial development of children and adolescents, ages 3-18, with emphasis on expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Sections: a,b,c,d,e,f ; limited to 6-9 students per section. Prerequisite: PA 514.

PA 520 I-2 Clinical Anatomy and Integrated Sciences. This course involves the study of the human body, in terms of anatomical structures, with relevance to clinical medicine applications. Students will be expected to study cadaveric materials, models, skeletal samples, and radiographic imaging, in order to learn clinically applied anatomy. Students will also be expected to demonstrate proficiency in writing clinical applications, using supporting anatomical principles. Students will also demonstrate proficiency in applied clinical anatomy through performance of physical examination skills on living participants. In addition, whenever appropriate, microscopic and developmental anatomy issues will be included. Topics of Clinical Anatomy I will focus on issues involving the young adult phase of the life cycle, ages 19 – 44. Prerequisite: Admission to PA Program.

PA 520 II-2 Clinical Anatomy and Integrated Sciences. This course involves the study of the human body, in terms of anatomical structures, with relevance to clinical medicine applications.

Students will be expected to study cadaveric materials, models, illustrations, skeletal samples, and radiographic imaging, in order to learn clinically applied anatomy. Students will also be expected to demonstrate proficiency in writing clinical applications, using supporting anatomical principles. Students will also demonstrate proficiency in applied clinical anatomy through performance of physical examination skills on living participants. In addition, whenever appropriate, microscopic and developmental anatomy issues will be included. Topics of Clinical Anatomy II will focus on issues involving the mid-adult phase of the life cycle, ages 45 - 64. Prerequisite: PA 520 I.

PA 520 III-2 Clinical Anatomy and Integrated Sciences. This course involves the study of the human body, in terms of anatomical structures, with relevance to clinical medicine applications. Students will be expected to study cadaveric materials, models, illustrations, skeletal samples, and radiographic imaging, in order to learn clinically applied anatomy. Students will also be expected to demonstrate proficiency in writing clinical applications, using supporting anatomical principles. Students will also demonstrate proficiency in applied clinical anatomy through performance of physical examination skills on living participants. In addition, whenever appropriate, microscopic and developmental anatomy issues will be included. Topics of Clinical Anatomy III will focus on issues involving the geriatric adult phase of the life cycle, ages 65 and beyond. Prerequisite: PA 520 II.

PA 520 IV-2 Clinical Anatomy and Integrated Sciences. This course involves the study of the human body, in terms of anatomical structures, with relevance to clinical medicine applications. Students will be expected to study cadaveric materials, models, illustrations, skeletal samples, and radiographic imaging, in order to learn clinically applied anatomy. Students will also be expected to demonstrate proficiency in writing clinical applications, using supporting anatomical principles. Students will also demonstrate proficiency in applied clinical anatomy through performance of physical examination skills on living participants. In addition, whenever appropriate, microscopic anatomy issues will be included. Because of the phase of the life cycle covered in this course, objectives will include a great deal of developmental anatomy with clinical applications in regard to normal development and also congenital anomalies. Topics of Clinical Anatomy IV will focus on issues involving pregnancy, fetal development, neonates, and infants through age 2 years. Prerequisite: PA 520 III.

PA 520 V-2 Clinical Anatomy and Integrated Sciences. This course involves the study of the human body, in terms of anatomical structures, with relevance to clinical medicine applications. Students will be expected to study cadaveric materials, models, illustrations, skeletal samples, and radiographic imaging, in order to learn clinically applied anatomy. Students will also be expected to demonstrate proficiency in writing clinical applications, using supporting anatomical principles. Students will also demonstrate proficiency in applied clinical anatomy through performance of physical examination skills on living participants. In addition, whenever appropriate, microscopic anatomy issues will be included. Because of the phase of the life cycle covered in this course, objectives will include a great deal of developmental anatomy with clinical applications in regard to normal development and also congenital anomalies. Topics of Clinical Anatomy V will focus on issues involving pediatric ages 3 - 18. Prerequisite: PA 520 IV.

PA 521-1 Pharmacology/Clinical Therapeutics for Young Adults. This course introduces students to the therapeutic agents most commonly used in clinical practice involving the young adult phase of the life cycle, ages 19-44. Drug metabolism, action, and excretion are investigated. The

practical aspects of dosage schedules, therapeutic effect, and adverse reactions are examined.
Prerequisite: Admission to PA Program.

PA 522-1 Pharmacology/Clinical Therapeutics for Mid-Adulthood. This course introduces students to the therapeutic agents most commonly used in clinical practice involving the mid-adult phase of the life cycle, ages 45-64. Drug metabolism, action, and excretion are investigated. The practical aspects of dosage schedules, therapeutic effect, and adverse reactions are examined.
Prerequisite: PA 521.

PA 523-1 Clinical Therapeutics for Late Adulthood. This course introduces students to the therapeutic agents most commonly used in clinical practice involving the geriatric adult phase of the life cycle, ages 65 and beyond. Drug metabolism, action, and excretion are investigated. The practical aspects of dosage schedules, therapeutic effect, and adverse reactions are examined.
Prerequisite: PA 522.

PA 524-1 Clinical Therapeutics for Pregnancy and Early Childhood. This course introduces students to the therapeutic agents most commonly used in clinical practice involving pregnancy, neonates, and infants through age 2 years. Drug metabolism, action, and excretion are investigated. The practical aspects of dosage schedules, therapeutic effect, and adverse reactions are examined.
Prerequisite: PA 523.

PA 525-1 Clinical Therapeutics for Childhood and Adolescence. This course introduces students to the therapeutic agents most commonly used in clinical practice involving the childhood and adolescent phase of the life cycle, ages 3-18. Drug metabolism, action, and excretion are investigated. The practical aspects of dosage schedules, therapeutic effect, and adverse reactions are examined. Prerequisite: PA 524.

PA 530 I-2 Patient Evaluation. This course is designed to prepare the Physician Assistant student in patient history and interview skills. Also includes PA exposure and understanding of the role and skills of the Physician Assistant in the clinical setting. Prerequisite: Admission to PA Program.

PA 530 II-2 Patient Evaluation. This course is designed to introduce the Physician Assistant student to pertinent physical exam component skills as delineated by the instructor. Students are expected to gain knowledge regarding the medical history, physical examination, and clinical procedures. Additionally they are expected to develop necessary communication skills in areas of the patient interview, medical terminology, and recording patient information.
Prerequisite: PA 530 I.

PA 530 III-2 Patient Evaluation. This course is designed to further develop the Physician Assistant student's ability to perform pertinent physical exam component skills as delineated by the instructor. Increased proficiency in recording the medical history and examination is expected, as is assessment and plan formulation. Prerequisite: PA 530 II.

PA 535-2 Clinical/Procedural Skills. Students develop and expand their skills in performance of clinical/procedural skills needed for competency in office and hospital based practice. Topics will include central line placement, IV therapy, lumbar puncture, venipuncture, suturing, casting, etc.
Prerequisite: PA 530 III.

PA 536-2 Advanced Cardiac Life Support (ACLS). The ACLS is designed to provide the knowledge and skills needed to evaluate and manage the first ten minutes of an adult ventricular fibrillation/ventricular tachycardia (VF/VT) arrest. Students are expected to learn to manage ten core ACLS cases: a respiratory emergency, four types of cardiac arrest (simple VF/VT, complex VF/VT, PEA, and asystole), four types of pre-arrest emergencies (bradycardia, stable tachycardia, unstable tachycardia, and acute coronary syndromes), and stroke. This course may substitute for 2 credit hours of PA 575, by consent of instructor. Prerequisite: Admission to PA Program or by consent of the instructor.

PA 537-1 Introduction to the Surgical Setting. During this course, the student will be exposed to the various aspects of the general surgical setting. Fundamentals to be introduced include pre and post operative care, sterile technique, suturing, gowning and gloving, and identification of surgical instruments. Prerequisite: Limited to PA majors.

PA 540-.5 Preventive Medicine/Behavioral Sciences. This course presents the dynamics of health and disease in human populations and introduces services and facilities for the maintenance of health and prevention of illness. Explores concepts of demography, epidemiology, environmental health, provision of medical services, preventive medicine and infectious disease; addresses basic principles of health policy making. Prerequisite: Limited to PA majors.

PA 541-.5 Ethics/Behavioral Sciences. This course focuses on ethical principles and application of these to ethical dilemmas encountered in medical service provision. Prerequisite: Limited to PA majors.

PA 542-.5 Psychosocial Issues of Pregnancy and Early Childhood. This course focuses on psychological processes underlying human behavior during pregnancy and early childhood. Emphasizes the dynamics of the patient-health provider relationship; the social, emotional, and psychological factors affecting pregnancy; parent-newborn relationships; and early childhood. Other topics include communication skills, approaches to patients, working with special populations, cross-cultural communication, and human sexuality issues. Prerequisite: Limited to PA majors.

PA 543-.5 Diversity in Medical Practice. Students examine of issues that arise when delivering medical services to persons of diverse cultures, ethnicity, race, sexual gender issues, and socioeconomic status. Sensitizes students to the relationships between prevailing societal attitudes and medical service provision. Implications for providing medical services to persons who have experienced discrimination and disadvantage will be discussed. Prerequisite: Limited to PA majors or by consent of instructor.

PA 544-4 Ethical Issues in PA Practice. This extended course for Master's Completion students focuses on ethical principles (beneficence, autonomy, nonmaleficence, justice, and autonomy) and application of these to ethical dilemmas encountered in medical service provision and medical research. The student will examine federal and state legislation, policies, and practice guidelines as related to the practicing physician assistant. Prerequisite: Limited to PA majors.

PA 545-3 Health Care Systems. This course is designed to cover the following topics: delivery of health care, standards of care and guidelines as they affect the role of physician assistants,

scope of practice issues, cost and effectiveness, economics of health care, insurance and health care, indigent medical care, the health workforce, access to care, health policy, business of medicine, and technology (electronic medical records, email, telemedicine). Prerequisite: Limited to PA majors.

PA 546-2 Holistic Medicine. This course is designed to explore the current research, practice, and applications of Mind-Body-Spirit medicine. Students will explore the use of various techniques for use in clinical and therapeutic settings. Prerequisite: Limited to PA majors or open to other disciplines by consent of instructor.

PA 550 I- IV-1 Clinical Mentoring – Phase I. Students participate in one-half day per week continuity clinic in family medicine with supervision by a designated mentor. Students gain experience in the ongoing clinical setting with a panel of patients, and are involved in “family practice” over an extended period of time. Master’s Track students register for this course in their first Fall semester of the program. They register again for this course in all succeeding semesters, until Phase II. Prerequisite: Limited to PA majors in Phase I.

PA 560 I- III-1 Clinical Mentoring – Phase II. Students participate in one-half day per week continuity clinic in family medicine with supervision by a designated mentor. Students gain experience in the ongoing clinical setting with a panel of patients, and are involved in “family practice” over an extended period of time. Master’s Track students register for this course in their summer semester of Phase II of the program. They register again for this course in all succeeding semesters, until the Preceptorship. Prerequisite: PA 550 I-IV.

PA 575 I-4 Medicine in Practice. Students in this course study evidence-based medicine principles and apply them to clinical practice. They also expand their knowledge of clinical procedures and therapeutics. Students log clinical hours as well as complete didactic assignments throughout both parts of this course. Prerequisite: Limited to PA majors.

PA 575 II-4 Medicine in Practice. Students in this course continue and build upon the study of evidence-based medicine principles learned in PA 501 and apply them to clinical practice. They will also expand their knowledge of clinical procedures and therapeutics. Students log clinical hours as well as complete didactic assignments throughout both parts of this course. Prerequisite: Limited to PA majors.

PA 580-2,2,2 PBL Tutor Group. Phase II students participate in a one-half day per week tutor group, in which they engage in the Barrowsian method of *authentic problem-based learning*, designed to foster independence in the student’s reasoning his or her way through the patient problem, the ability to recall and apply what he or she has learned in physician assistant classes or as a practicing physician assistant to the care of the patient, the ability to recognize when skills or knowledge are not adequate to the clinical task presented, the ability to acquire new information and skills as needed, and, as medical research moves ahead, to keep contemporary in his or her knowledge and skills. The problem-based learning method is designed with problem simulation formats that present actual patient problems to students in the same manner that occur in practice. The process is intended to challenge the learner with patient problems that will be faced in practice both as a stimulus for learning and as a focus for organizing what has been learned for later recall and application in future clinical work. Prerequisite: Limited to PA majors in Phase II.

PA 585-1 to 6 Independent Study. Directed independent study in selected areas of physician assistant studies. Prerequisite: consent of Program Director.

PA 590-3 Clinical Rotation I. This is the first and introductory course in a three course sequence. During the three course sequence, students will complete nine clinical rotations including family medicine, obstetrics, pediatric, surgery, psychiatric, gerontology, emergency, internal medicine and an elective. In this rotation, students may register for two of the possible nine rotations. Students will observe and work in clinical settings with supervision by a clinical supervisor and physician. Emphasis is given to expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Students integrate and synthesize patient information, including patient history, physical exam findings, and diagnostics to devise treatment plans for patients. Prerequisite: Limited to PA majors in Phase II.

PA 591-3 Clinical Rotation II. This is the second and intermediate course in a three course sequence. During the sequence, students will complete three to four of nine clinical rotations including family medicine, obstetrics, pediatric, surgery, psychiatric, gerontology, emergency, internal medicine and an elective. Rotations vary from five-six weeks per rotation site. Students will observe and work in clinical settings with supervision by a clinical supervisor and physician. Emphasis is given to expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Students integrate and synthesize patient information, including history, physical exam findings, and diagnostics to devise treatment plans for patients. Prerequisite: PA 590.

PA 592-3 Clinical Rotation III. This is the third and advanced course in a three course sequence. During this course sequence, students will complete three to four of nine clinical rotations including family medicine, obstetrics, pediatric, surgery, psychiatric, gerontology, emergency, internal medicine and an elective. Rotations vary from five-six weeks per rotation site. Students will observe and work in clinical settings with supervision by a clinical supervisor and physician. Emphasis is given to expanding the student's knowledge base, enhancing the student's clinical reasoning skills, enforcing the student's self-directed learning, and improving interpersonal communication skills among students and patients. Students integrate and synthesize patient information, including history, physical exam findings, and diagnostics to devise treatment plans for patients. Prerequisite: PA 591.

PA 596-3 Preceptorship. The preceptorship simulates the role of the Master's prepared graduate PA, with supervision by the clinical preceptor. The preceptorship is completed in a primary care area of medicine. Students will be responsible for delivering concise patient history, physical findings, diagnoses, and treatment plans, including ordering and interpreting labs, diagnostics, medications, preventive care, and patient education. Faculty make site visits to evaluate clinical skills. Prerequisite: PA 592.

PA 599 IA and IB-1 to 2 Master's Seminar: Proposal Design. Project options are reviewed and student will select a project/case. Student will be expected to complete and submit a written proposal, describing design, proposed methodology, and justification of the project. Prerequisite: Limited to PA majors.

PA 599 IIA and IIB-1 to 2 Master's Seminar: Development and Construction. The goal of this portion of the course is to gather information relevant to the chosen project. Student will be expected to perform literature review and to either begin thorough literary research or experimentation. Investigative literature review will accompany experimental projects. Prerequisite: Limited to PA majors.

PA 599 III-1 to 3 Master's Seminar: Medical Research and Writing. The goal of this portion of the course is project completion. Student will continue literary research or experimentation. Written portions of the project will be finalized during this semester. Prerequisite: Limited to PA majors.

PA 599 IV-2 to 4 Master's Seminar: Project/Pilot Trial. The student will execute a trial run of the project, or initiate the pilot program. Additional writing, summarizing results of the trial should also be completed at this time. Prerequisite: Limited to PA majors.

PA 599 V-2 to 4 Master's Seminar: Presentation and Defense. Final revisions of the project are to be completed at this time, and student will provide a formal, oral presentation of the project to PA faculty, students, and/or the medical community. Prerequisite: Limited to PA majors.

9.2. Explain what students are expected to know and/or be able to do upon completing the program.

The proposed curriculum of the Master of Science in Physician Assistant Studies is based on the requirements described in *The Standards for Physician Assistant Education*, administered by The Accreditation Review Committee for Physician Assistants (ARC-PA). Additionally, peer institution curricula, including Yale University, Saint Louis University, George Washington University, and the University of Nebraska Medical Center, were reviewed to guide the program of study at SIUC.

Upon completion of the MSPA Program, students will:

1. Understand basic science theories, clinical medicine, pharmacology, patient education, and social sciences, allowing them to build the foundation for professional physician assistant practice.
2. Have a basis for critical review of the literature.
3. Apply knowledge and also exercise autonomy in medical decision-making in providing a broad range of diagnostic and therapeutic services.
4. Demonstrate independent thinking, while reinforcing the concept of team practice, when making diagnoses and clinical decisions.
5. Use knowledge gained through education, research, and administrative activities in the provision of services in primary and specialty care in medical and surgical practice in rural and urban areas.

6. Actively seek to expand their knowledge and skills to keep current with research and advances in medicine appropriate to the role and responsibilities of the physician assistant.
7. Recognize and appropriately resolve ethical issues encountered in PA practice such as diversity, confidentiality, genetic and reproductive decision-making, professionalism, and medical ethics as they relate to the physician assistant in clinical practice.
8. Understand the principles and content of the discipline to articulate and enhance the role and utilization of physician assistants.
9. Demonstrate attitudes that promote collegial and productive relationships with supervising physicians.
10. Apply innovative technology in web-based education and distance learning to meet future career goals, including continuing medical education, practicum, or work experience in medicine.

9.3. Describe the strategies to be incorporated into the proposed program to promote student learning.

Informational materials regarding the program, its purpose, and structure will be made available to prospective students on the program's website, in brochures, and through discussions with the academic advisor and faculty. Applicants to the SIUC PA Program must have a good understanding of the Physician Assistant profession. During the interview process, the program faculty will elucidate the profession's purpose and goals. Applicants also will have opportunities to meet with current students to discuss issues related to the profession, as well as program specifics. Upon admission, more detailed information will be presented to new students.

During orientation activities, several opportunities will be given to clarify specific definitions about the profession. Students will enroll in *Introduction to the Profession* during the first year. During the second semester of study, students will participate in Clinical Mentoring, where they will further explore the scope of physician assistant practice. Faculty, clinical mentors, and preceptors will serve as role models for students, thereby inculcating the norms and practices of the profession. At professional development seminars, guest speakers will further define the PA role and explore such issues as professional ethics, the physician/PA relationship, and professional behavior. Students will participate in interactive sessions in career decision making and how to choose a career path that will maximize job satisfaction. Topics such as contract negotiation and credentialing will be included. In addition, the student web page will serve as an information source to access career information and employment opportunities.

Problem-based learning is probably the most participatory method of curriculum delivery in education today, enhancing curiosity and inquiry among participants. Life-long learning, another goal identified in *Southern at 150: Building Excellence Through Commitment*, is an intended outcome. We are honored to have had the "Father of PBL" in U.S. medical education, Dr. Howard Barrows, serve on our curriculum development committee, as well as serve as a tutor trainer for two of our faculty members.

Evaluation is an essential component of the SIUC PA Program. Frequent, honest, direct feedback and evaluation of both students and tutors (faculty) is central to the philosophy of the PBL format. The problem-based curriculum lends itself to a constant flow of feedback between all parties (students and faculty). Written tests, oral examinations, simulated patients, and other written assignments will be employed to evaluate student progress. Additionally, "Writing Across the Curriculum" will be included in the program to ensure successful writing in professional practice. The hallmark of the program is that students must be self-motivated to complete learning issues of the PBL modules. Feedback from preceptors in clinical settings reflect positively on how well prepared students are for entering PA practice.

All students will have a faculty advisor throughout the program. Students will meet with their faculty advisors during all phases of the program to review progress, professional issues, and any problems that may have arisen. Faculty will provide immediate test results from all computerized tests. Students may then review the tests with the faculty. Any necessary remediation will be completed within the timeframe outlined in the guidelines. During the second year, students will be advised by their clinical hub site coordinator. An atmosphere of cooperation, rather than competition among the students, will be fostered, thereby contributing to positive interactions and supportive relationships among students. This sets a foundation for collegial relationships in medical practice.

Faculty development currently is a priority, and will continue with the Master's program. Monthly faculty meetings and faculty retreats are held. Faculty members attend conferences, workshops, professional meetings, and hold membership in The American Association of Physician Assistants (AAPA) and the Association of Physician Assistant Programs (APAP). Faculty members maintain certification in their respective professions. The program encourages continuing education for faculty, civil service, and administrative/professional personnel.

Faculty members are encouraged to conduct and publish research, and to the extent possible, student collaboration will be encouraged. Faculty will present at state, regional, and national conferences. During the period of the current program design and implementation, faculty members have had four articles published in peer-reviewed journals, presented at nine national conferences and three out-of-state PBL workshops for peer institutions, worked with the Centers for Disease Control and Prevention on PBL materials, and have presented papers at ten state or regional meetings. Faculty members have completed advanced degrees and others are in the process of completing courses of study. Two faculty members have acquired advanced certification in specialty areas. All clinical faculty have successfully completed Advanced Cardiac Life Support training. Faculty have conducted or assisted with at least five original research projects, and have made seven grant applications to outside sources, with two of these funded. Continued support for these activities will be given to faculty in the areas of scholarship, research, and grantsmanship.

Program/Student Learning Outcomes Assessment

A variety of assessment tools and indicators will be used to measure student success in achieving the objectives of the SIUC PA Program. These include both qualitative and quantitative measures. The PA Program will utilize multiple modalities for assessing student learning and progress. Capstone experiences include a Comprehensive Examination before graduation, a Grand Rounds presentation by the student, oral defense of the Master's Project, and a Clinical Skills Practicum administered after both Phases I and II of the program. All Phase I students will be required to successfully

complete each Unit of the program, including each evaluation module. Successful completion and/or remediation of a unit/semester will be required before a student will be allowed to progress to successive units/semesters of instruction. All Phase II students will be given pre and post tests for each clinical rotation completed. Additionally, all physician assistants must successfully complete the Physician Assistant National Certification Examination, a national standardized certification exam to practice medicine. The national PA Program accrediting body, the Accreditation and Review Committee on Physician Assistants (ARC-PA), also has very specific requirements for assessing student learning measures which are incorporated into the items below:

Phase I measures will include the following:

1. Computer-based examination of basic science concepts and course concepts will be employed. Although most students achieve at or above 80%, the total scores on unit summative exam must be 75% or higher to pass.
2. Oral testing of basic science concepts (e.g., physiology, pathology, pharmacology) will be employed, utilizing faculty designed check sheets. Scores of 75% or higher will be required for passing.
3. Practical exam testing using slides, prints, films, models, or cadavers, will be employed. Scores of 75% or higher will be required for passing.
4. Key lists of history taking protocols (e.g., chief complaint, past medical history, family history) and pertinent physical exams (e.g., cardiac, neurologic, respiratory) will be maintained as master guides. Students must complete respective protocols (75%) and skill exams with scores of 90% or higher as compared to master guides, to achieve satisfactory progress.
5. Students will be observed and evaluated by faculty/clinical practitioners in conducting interviews, patient history, and physical exams with student partners and/or simulated patients to demonstrate satisfactory progress.
6. Students will be peer evaluated with oral subjective feedback each week and with documented (written) feedback on basic science knowledge, clinical reasoning skills, self-directed learning, and interpersonal skills by all student group members using a standardized group evaluation instrument at the end of each Unit.
7. Students will be evaluated with oral feedback by the faculty tutor each week and with documented written feedback (Satisfactory, Marginal, Unsatisfactory, or Harmful) by the Tutor using an established evaluation instrument at the end of each Unit.
8. Exam questions on clinical science concepts (e.g., labs or appropriate medical tests) will be employed. Scores of 75% or higher on the Unit summative exam will be required for passing.

9. Oral testing or presentation of clinical medicine knowledge will be employed. This may include faculty-designed check sheets requiring scores of 75% or higher or subjective ratings on student's demonstration of clinical medicine for passing.
10. Students will deliver oral explanation and interpretation of scientific concepts relating to normal development vs. disease processes and/or therapeutic regimes. Passing scores will be determined by faculty.
11. Students will develop learning issues (LIs) in printed format for tutor group sessions. These will be evaluated each session by students and the faculty tutor.
12. Students will provide reference citations for all LIs. Critiques will be given by students and faculty on resources used.
13. Faculty will provide evaluations of all written assignments.
14. Students will be tested on social science concepts, patient education, professional practice, health care ethics or health policy. Scores of 75% or higher on the summative exam will be required for passing.
15. Oral presentation (oral testing) of behavioral and policy issues will be employed. This may include faculty designed check sheets, requiring scores of 75% or higher for passing.

Phase II and III measures will include:

1. Each rotation will have specific objectives, an assigned rotation component, and written pre- and post-exams. Students will complete rotation components as assigned by faculty (e.g., telephone triage, H&P, SOAP note, etc.) and must meet objective criteria (set at 80% or higher) as evaluated by each faculty.
2. Students will be required to have end of rotation post tests. Scores of 80% or higher will be required for passing.
3. Students will be required to have satisfactory preceptor evaluations using standardized program evaluation forms.
4. Students will be required to have satisfactory faculty evaluations following Grand Rounds format.
5. Students will be required to have satisfactory mentor evaluations, subjectively rated using standardized program evaluation forms.
6. Students will be required to pass a final summative evaluation, including a 360-item objective Comprehensive Examination. Scores of 65% or higher will be required on the Comprehensive Examination to graduate from the program.

7. Students will be required to have satisfactory performance on the oral Clinical Skills Practicum and the Clinical Reasoning Assessment to graduate from the program.
8. Students will be required to have satisfactory performance in Research Methods and Evidence-Based Medicine, Ethical Issues, and Health Care Systems for the Master's Program and the Master's Completion Program.
9. Students will be required to have satisfactory completion of Medicine In Practice (clinical rotations) for the Master's Completion Program.

Master's Seminar Final Project Measures include:

1. Students must successfully complete the Master's Seminar Series of courses and Master's Project.
2. Students must present and successfully pass an oral defense of the project to faculty and students.

RESOURCES

10. Complete Table I to show student enrollment projections for the program.

Table I *
Student Demand Projections for the New Program

	1 st Budget Year	2 nd Year	3 rd Year	4 th Year	5 th Year	6 th Year
Number of Program Majors (Fall Headcount)	54	54	60	66	66	66
Annual Full-Time-Equivalent Majors	62	62	68	74	76	76
Summer enrollment*	78	78	84	90	96	96
Annual Credit Hours in EXISTING Courses	864	144	0	0	0	0
Annual Credit Hours in NEW Courses**	1476	2196	22664	2844	2880	2880
Annual Number of Degrees Awarded	24	30	30	30	30	36

* Narrative description explaining details of Table I follows on the next two pages; Mathematical details may be found in Table I (Details), located in the appendix.

*This 26 month program includes three summer sessions. The one year completion program includes one summer session. All students graduate in August. Consequently, summer enrollment is actually higher than fall and spring enrollment. Summer enrollment increases FTE majors, significantly increases credit hour generation and provides justification for the staff requirements to deliver the curriculum.

**Enrollment is restricted so all credit hours are generated by majors.

Table I Narrative Description

* See Table I (Details) for Mathematical Details

Annual Full-Time Equivalent (FTE) Majors:

The totals for Annual Full-Time Equivalent (FTE) Majors are derived from the following sum:

$$(\text{\#Phase I students}) + (\text{\#Phase II students}) + (\text{\#Phase III students}/3^*) + (\text{\#Master's Completion students})$$

*Number of Phase III students is divided by 3 since this is a summer class and the FTE for summer necessitates multiplying by $\frac{1}{3}$.

For example, for the first Budget Year there are 24 students in Phase I, 24 students in Phase II, 24 students in the (summer only) Phase III class, and 6 students in the Master's Completion (MC) class:

$$24 + 24 + 24/3 + 6 = 24 + 24 + 8 + 6 = 62 \text{ FTE.}$$

(See Table I (Details) for computation data for all years.)

Beginning with the third Budget Year, 30 students will be accepted in Phase I. Therefore, the FTE will increase to 68 in the third Budget Year ($30 + 24 + 8 + 6$), 74 in year four as the larger class advances to Phase II ($30 + 30 + 8 + 6$), and 76 in year five as all three Phases reach their maximum ($30 + 30 + 10 + 6$). This will then plateau as the maximum projected enrollment is reached in years five and beyond.

Annual Credit Hours in NEW Courses:

The Annual Credit Hours in New Courses is derived by multiplying the number of students in each Phase by the number of credit hours for that Phase. The Phase I Master's Degree (MSPA) curriculum will have 10 credit hours in summer, 22 credit hours in fall, and 22 credit hours in spring. The Phase II MSPA curriculum will have 6 credit hours in summer, 12 in fall, and 12 in spring. The Phase III MSPA will have 6 credit hours in summer only. The MC curriculum will be twelve months long with a total of 30 hours (10 in fall, 12 in spring, and 8 in summer). During the first Budget Year, 24 MSPA students will enter Phase I (in June). That same year, 6 students will be accepted into the MC program in the following August.

For first Budget Year:

$$24 \text{ students} \times (10 \text{ hours} + 22 \text{ hours} + 22 \text{ hours}) = 1296 \text{ MSPA Phase I credit hours}$$

$$6 \text{ students} \times (10 \text{ hours} + 12 \text{ hours} + 8 \text{ hours}) = 180 \text{ MC credit hours}$$

$$1296 + 180 = 1476 \text{ Annual Credit Hours in NEW Courses}$$

During Budget year two, 24 new MSPA students will be accepted into Phase I (in June), the 24 charter class members finishing Phase I will advance to Phase II, and 6 students will be accepted into the MC program. During Budget year three, 24 new students will be accepted into Phase I, previous Phase I students (24) will advance to Phase II, and the charter class will enter Phase III. The MC program will continue to accept 6 students per year.

For computation data and equations for all Budget years, see Table I (Details) in the appendix.

Annual Credit Hours in EXISTING Courses:

Annual Credit Hours in Existing Courses were calculated by multiplying the number of Bachelor's Degree (BS) students in each Phase of that year by the number of credit hours for that Phase. Since Budget year one will be the first year to begin phasing out BS students, there will be zero Phase I students to record. During that year there will be 24 BS students in Phase II, multiplied by total credit hours for Phase II (12 + 12 + 6) and 24 BS students in Phase II multiplied by 6 credit hours. For Budget year one this results in the following equation:

$$[24 (12 + 12 + 6) = 720] + [24 (6) = 144] = 864 \text{ hours}$$

During budget year two there will be zero BS students in Phases I and II, but will have 24 students in Phase III, preparing to graduate. This equates to 144 annual credit hours in EXISTING classes:

$$24 \times 6 = 144$$

In Budget year three there will be zero BS students in the program and the MSPA and MC programs will have students in all three phases.

Additional Details Calculated on Table I (Details):

Included on Table I (Details) are calculations for the **Number of Program Majors** during the fall (**Fall Head Count**), **Summer Enrollment**, and the **Annual Number of Degrees Awarded**. The summer head count is greater than the fall head count. This is because Phase III is a summer only segment, and therefore numbers are higher for the summer head count. Students graduate at the end of Phase III, which occurs in August. Although MC students matriculate in the fall rather than in June (as will the MSPA students), this does not alter the equations since the MC program runs for the full twelve months per year.

On that same table, in regard to the number of degrees awarded, the graduates were counted as they fit within the defined budget year from June 1 to May 31. Physician Assistant students (BS, MSPA, and MC) graduate in August and therefore students were counted as graduates for that budget year only if they graduated during the August of that year.

* Table I (Details) is appended.

11. Complete Table II (even if no new state funding is requested in the budget year). Show all sources of funds, both state and non-state, and reallocations. Provide a narrative budget that includes the following:

- Projected increments in total resource requirements (line 1) in terms of projected staff requirements, equipment and instructional materials, library requirements, and contractual services for internships, practical, or clinical placements.
- Explanation of required new state resources (line 6) in the budget year in terms of assumptions and factors used to construct line items 7 through 11. If resource requirements in the budget year include non-recurring costs (e.g., one-time equipment purchases), describe how these resources will be reallocated in subsequent years.

**Table II
Total Resource Requirements for Program Priorities
Budget Request**

		Current Year	Budget Year	2 nd Year	3 rd Year	4 th Year	5 th Year
1	Total Resource Requirements	833,943	1,202,103	1,329,783	1,449,279	1,491,399	1,499,823
2	Resources Available from Federal Sources						
3	Resources Available from Other Non-state Sources*	89,760	457,920	585,600	705,096	747,216	755,640
4	Existing State Resources	744,183	744,183	744,183	744,183	744,183	744,183
5	State Resources Available through Internal Reallocation						
6	New State Resources Required		0	0	0	0	0
Breakdown for New State Resources for Budget Year							
7	Staff						
8	Equipment and Instructional Materials						
9	Library						
10	Contractual Services						
11	Other Support Services						

*These resources will be generated through professional tuition. The steady tuition revenue increase reflects increasing enrollment to a maximum capacity in year five. The increase in tuition revenue is needed to cover additional faculty and support staff and institutional materials for a master's level program and planned increases in program enrollment.

12. Describe the institutional resources available to develop and maintain a quality program. Include the following elements in your discussion:

- **Faculty qualifications, evaluation, and reward structure;**
- **Adequacy of library and related resources;**
- **Adequacy of student support services, support staff, equipment, and other resources; and,**
- **Demonstration of teaching/scholarship effectiveness and course evaluation;**

Regionally located universities and colleges with PA Programs which may be perceived as competing for students with SIUC include Saint Louis University, University of Kentucky, Southwest Missouri State, Midwestern University, Cook County/Malcolm X College, Rosalind Franklin University, the University of St. Francis (Indiana), and Butler University. A web search of tuition at these institutions showed average program tuition costs at \$39,647 for the entire program for the *current* year. This average would increase if an Illinois resident were charged non-resident rates. Tuition charges from 2004-05 range from \$14,000 to \$74,330 for complete programs. These figures *do not* include fees, such as those the SIUC graduate school adds to graduate tuition, and other charges.

Entire program tuition costs for PA Programs in our region (excluding fees) for **2004-05** are as follows:

Cook County/Malcolm X	\$14,000 (in county)
	38,000 (in state)
	56,000 (out of state)
Butler University	74,330
University of Kentucky	25,400 (resident)
Saint Louis University	57,250
Midwestern University	48,375 (resident)
Midwestern University	53,550 (non-resident)
Rosalind Franklin (Finch)	39,440
Missouri State	15,500 (residents)
	27,408 (non residents)
University of St. Francis (IN)	54,430
SIUC (proposed 2007-08)	40,500
<i>State supported university</i>	
University of Utah	\$40,616.80 (resident)
	60,372.48 (non-resident)

According to the 19th *Annual Report on Physician Assistant Educational Programs in the United States, 2003-2004*, mean tuition nationally for PA Programs was \$34,167 (resident) and \$41,723 for non-residents. The range was \$2,175-86,000 for residents and \$5,150-87,800 for non-residents. Trends show that PA Program tuition nationally has increased at a rate of 9.3% per year, so an increase of \$4,000-6,000 can be projected as additional tuition cost for the 2004-2005 academic year to the aforementioned figures. When books, fees, and equipment are added to the costs for students, the range for resident students is from \$4,800 to 93,600, and for non-residents from \$9,000 to

142,500. Costs for books, fees, and equipment nationally ranged from \$1,000 to \$19,755. Missouri State University's tuition is lower due to state support and a shorter program (24 vs. 27 months) however, a proposed program fee will increase PA tuition by \$5,000.

The College of Applied Sciences and Arts and the SIUC Physician Assistant Program are proposing a *professional tuition rate* to be charged to all program enrollees. The rate of tuition for the entire Master's Program is projected to be \$450 per credit hour (\$40,500 for the entire program) plus graduate school fees as per the graduate school fee schedule. The \$450 rate will be increased by the same rate graduate school tuition is increased for FY 07 and FY 08. For example, FY 08 PA tuition will be \$515 if graduate school tuition is increased by 7% for both FY 07 and FY 08. The projected tuition for the 12 month Master's Completion Program will be \$400 per credit hour (\$12,000 for the entire program) plus graduate school fees. The same increase as above applies. The tuition revenue over graduate school tuition is requested by the College to fund the MSPA program. As graduate school tuition and/or program costs increase, the college will submit requests to increase tuition. Out-of-state tuition will be 1.5 times in-state tuition or \$675 per credit hour for the masters program and \$600 per credit hour for the Master's Completion Program. The Masters program will be phased-in over two (2) years and capacity enrollment (60 students), in all these phases, will be achieved in five (5) years. Therefore projected tuition revenue to fund the program will steadily increase over that time period as per Table IV-3. Figures in Table IV-3 are based on in-state tuition amounts.

As has been established with the PA baccalaureate program, the College requests that the professional tuition dollars over and above graduate school tuition be returned to the program. With this plan, *no new state program dollars above currently received state resources* will be needed to fund the new PA Master's program or the Master's Completion Program.

The SIUC Master's Degree PA Program will deliver 19-20 weeks of academic instruction per regular semester and 10 weeks per summer semester. This extends the standard 15-week regular semester and 8-week summer semester of the SIUC academic calendar. The program curriculum requires extended semesters to cover the content and clinical skill experience needed to meet accreditation requirements. In addition, the curriculum delivered during the first year (summer, fall and spring semesters) is very rigorous and labor intensive, thus requiring maximum faculty and staff effort. The content delivered and corresponding instructional workload warrants the credit hour coursework assigned during each of these semesters (10, 22 & 22, respectively). The curriculum delivered during the second year (summer, fall, spring and two subsequent summer months), although less intensive, warrants full time graduate credit hours for each (6, 12, 12 & 6, respectively).

In a problem-based learning curriculum, the faculty-student ratio is generally lower than traditional lecture-learner programs due to the inherent needs of small-group and rigorous learning formats. Additionally, seven full semesters of study are completed in 26 months, thus making all faculty appointments twelve months, as opposed to the nine month contracts for traditional program faculty. Two cohorts of students will run simultaneously during fall and spring and with three cohorts during summer. Educational activities will be in operation approximately 50 weeks per calendar year. This proposal includes transition to a Master's Program and the addition of a Web-based, Master's Completion Program, increasing the number of needed faculty and staff, and equipment, contractual, travel, telecommunication, and commodity resources.

The body of knowledge in medicine and the PA profession is one of constant change. As SIUC seeks to increase its standing among research institutions, the PA Program will participate in this research agenda, as well as provide quality medical providers in health care shortage areas. A professional program, such as the proposal outlined in this document, must hire and retain qualified faculty. According to the 2004 American Academy of Physician Assistant Census, the mean income for physician assistants was \$78,257. Faculty salaries must meet or closely parallel the market demand to remain competitive with clinical positions and other academic institutions. Clinical faculty will need release time (1 day/week) to maintain a medical practice, which is required to maintain PA licensure. Tenure-track faculty will need release time for research endeavors. The additional faculty, primarily at the Doctorate level, will make a unique contribution to the proposed physician assistant program at the graduate level. Doctoral level faculty will add the needed level of expertise for oversight of student research, graduate courses in research methodology and evidence-based medicine, health care systems, pharmacology (clinical therapeutics), medical ethics, and Master's thesis/project supervision.

In addition to the current five faculty and three staff, the following description outlines the personnel and other than salary (OTS) needs projected for the delivery of the Master of Science Degree in Physician Assistant Studies and the Master's Completion Program utilizing the problem-based learning format. **Please note that existing state allocations to the PA Program will fund all current and proposed faculty positions. This will assure that possible tuition dollar fluctuations will not affect faculty line monies.**

I. FACULTY (Five and one quarter FTE)

- A. Three FTE - upper level (Doctoral) – tenure track or clinical track Each of these positions will serve as PBL tutors, faculty in the core master's courses and faculty in the distance master's completion courses.
 - 1. One faculty member will also be a certified physician assistant. This position will serve as Master's Completion Program Coordinator. Efforts will be made to recruit a doctoral level PA for this position.
 - 2. One faculty member will have a specialization in the area of research methodology, statistics, or epidemiology.
 - 3. One faculty member will have a PharmD or a PhD in Pharmacology degree to coordinate the medical therapeutics courses for all phases of the program.

- B. One FTE - lower level (Master's) – clinical track
This position will require a certified physician assistant with clinical experience and competence in emergency medicine and prehospital care, critical care, or surgery. This clinician will tutor and be responsible for the new surgical skills course, as well as serving as Mentoring Coordinator for Phase I.

It is anticipated that all four of the above personnel will be responsible for developing and delivering the research portions, epidemiology, health care systems, health care ethics, medical foundations, and would serve as advisors, chairs, or members of the Master's project/thesis committees for the program.

The above faculty will assist current program faculty in the delivery of all other components of the curriculum.

Other new faculty positions will include:

- C. One quarter FTE (.25 FTE) – (MD/PhD) – clinical track - This faculty member will serve on student research committees and oversee Master's Completion projects and would serve as tutor for Phase II students located at the Carbondale hubsite.
- D. One FTE – Master's or Doctorate level – tenure track - This faculty position will serve as Student Research Coordinator. It is anticipated that the person in this position will also serve as a tutor in Phase I of the problem-based curriculum.

II. STAFF

- A. Curriculum Specialist (A/P-1) and Curriculum Assistant (C/S-1)
 - 1. This will be an A/P position. The Curriculum Specialist will assist faculty in the planning, delivery, and evaluation of the curriculum. Additional duties will include maintenance of community contacts with simulated patients, as well as student academic files, records, and grades.
 - 2. This will be a Civil Service position. The individual will assist the Curriculum Specialist in the planning, delivery, and evaluation of curriculum as well as scheduling rooms and assisting with student records.
- B. Office Systems Specialist I (1) - This will be a Civil Service position. Duties will be to assist the Academic Advisor and Office System Specialist II with program responsibilities, especially the Master's Completion Program.
- C. Computer Specialist (1) - The Computer Specialist will maintain all computer hardware/ software needs, as well as PDAs and report retrieval. This position will support faculty with Web-based courses and testing, with specific responsibilities to the Master's Completion Program.
- D. Graduate Assistant (2)
 - 1. The Graduate Assistant for Anatomy will assist the faculty anatomist with cadaver anatomy, supervision of laboratory, and student evaluation.
 - 2. The Graduate Assistant for Research will assist faculty with research projects, grant-writing, and statistics.
- E. Student Worker (1) - The Student Worker will assist the faculty, advisor, computer specialist, and office support staff.

III. Contractual

Additional contractual services will be needed for simulated patient actors, medical school agreements, and some specialized computer programming needs. A database

program will need to be developed to aggregate clinical encounter patient data from palm-held devices utilized by students at local and distant sites.

An additional hubsite will be needed to fulfill the needs of the Master's Program. This includes hubsite procurement, development, maintenance, and support for students in Phases II and III. Hubsite personnel may also serve as faculty in the Phase II distance courses and serve on committees at the program level.

IV. Travel

As hubsite locations increase, the need for travel monies to visit these sites also increases. Hubsite faculty will travel to campus three times per year for planning and program evaluation, as well as summative student evaluations and professional development. Additionally, the number of faculty who need to maintain certification, as well as present research/scholarly activities at conferences regionally and nationally will increase.

V. Commodities and Equipment

It is anticipated that the commodities and equipment expenditures will increase with the addition of students, faculty, and staff. These include textbooks, educational computer programs, and equipment for teaching clinical skills, such as IV equipment, lumbar puncture kits, and other items. Additional computers and technology support items will also be required. Because the Master's Completion Program will be primarily Web-based, it is anticipated that a Web-based blackboard will be added to facilitate courses delivered via the Internet.

VI. Telecommunications

As sites increase, as well as the number of students at distant sites, increased funding for telecommunications will be needed. Faculty meetings, student meetings, distance education, and program committees will all utilize telecommunication systems.

QUALITY ASSURANCE

13. Program/Student Learning Outcomes Assessment

13.1. Describe the program's assessment plan, which should include the following elements:

- **Statement of program objectives and intended learning outcomes;**
- **End- or near-end-of-program assessment of student learning, in addition to course-by-course assessment such as: (1) evaluation of capstone experiences (senior projects, recitals, exhibits, portfolios, etc.); (2) pre- and post-testing (value-added assessment);**
- **Multiple performance measures, if necessary, that reflect the uniqueness of the academic program and discipline such as: (1) standardized or other comprehensive examinations; (2) certification examinations;**

- **Feedback from key stakeholders (current students, alumni, employers, graduate schools, etc.); and**
- **Evidence of a formal feedback/improvement mechanism, i.e., that the program/unit has a regular review process in place and that the results of this process are used to improve curriculum, instruction, and learning.**

Outcome measures for the SIUC PA Program will include the following:

1. Graduates' pass rate on the national certification examination.
2. The program attrition rate will be at 6% or less, which equates to 1 in 15 students.
3. All students will successfully complete the degree within 2.5 years.
4. All graduates will be employed by four months post graduation, with at least 50% of these graduates working in rural or underserved areas.
5. Program accreditation will be maintained through the ARC-PA.
6. All students will be involved in research or research intensive projects.
7. Fifty percent of the students will make submissions for publication or paper presentations.
8. The program will develop and sustain school-community linkages with regional clinical sites in central and southern Illinois.
9. The program will develop and sustain partnerships within schools and colleges at Southern Illinois University to enhance learner outcomes.
10. Students will be surveyed each semester, and at the end of each phase of the program, to evaluate student satisfaction.
11. Students will participate in a program evaluation retreat at the end of each curriculum phase (annually).
12. Graduates will be surveyed to evaluate graduate satisfaction at one year and five years post graduation.
13. Employers will be surveyed to evaluate employer satisfaction at one year and five years post graduation.
14. Clinical faculty will maintain certification in their area of expertise, as applicable to their profession.
15. Program faculty will include PA educators and practicing PAs in diverse fields, including underserved areas.

The program will use the outcomes of the above indicators to modify the admissions process, curriculum, delivery methods, and evaluation modalities. Students and faculty will participate in program evaluation on a regular basis, at least annually.

13.2. Identify measures to be used to assess and improve student learning, curriculum, and instruction. Evidence of success should include, but not be limited to, such specific outcomes as the following:

- **Percent pass rate of graduates on end-of-program certification examinations;**
- **Enrollment of graduates in graduate and/or professional programs or other subsequent education;**
- **Percent of graduates employed in the field;**
- **Career advancement achieved by program graduates;**
- **Graduate/employer satisfaction with the program;**
- **Retention and graduation rates and time-to-degree completion;**
- **Percent of students involved in faculty research or other projects; and**
- **Percent of graduate students presenting or publishing papers**

The MSPA Quality Assurance program is in alignment with regional and statewide needs in that it demonstrates the quality of the Program in relation to the health care needs of those living in central and southern Illinois, especially in the southern Illinois region which has a well-documented shortage of access to primary health care. Overall, PANCE scores and pass rates are key measures for quality assurance.

The Quality Assurance Process will be given utmost priority, utilizing a triangulated program evaluation approach. This multifaceted evaluation method will collect data from multiple sources and use varied methods of data collection, which will be designed specifically for this purpose.

Teaching effectiveness and course content will be evaluated at the end of every academic unit throughout all phases of the Program. This will be in the form of faculty and staff evaluations and evaluation of course content and delivery method. Specifically, a faculty evaluation tool has been designed to evaluate the faculty's knowledge of and skill in utilizing the PBL instructional method, the faculty's expertise in the course content, and the faculty's skill in facilitation of the small group educational process. At the end of each academic unit, every faculty member will be evaluated in these areas, with the results of the students' evaluations being supplied not only to the faculty member, but to the Program Director as well. This will occur five times in Phase I, three times in Phase II, and on one occasion in Phase III.

Course evaluation surveys have also been developed that will evaluate the various components of each academic unit, and will be conducted at the end of every academic unit throughout all phases of the program. One of the specific areas evaluated will include the effectiveness of the problem-based learning modules (patient cases) in facilitating the students' learning of basic sciences, patient assessment, clinical medicine, clinical therapeutics, pharmacology, and patient education. Other areas to be evaluated will be the effectiveness in the course's written assignments, resource sessions, guest speakers, and simulated patients in facilitating learning the above, as well as the effectiveness of any other course component that may have been implemented. These end-of-unit course evaluations will be collected, summarized, and this data will be provided to the faculty after every

unit. This process will occur five times in Phase I, three times in Phase II, and on one occasion in Phase III. Faculty evaluations will occur according to the procedures outlined in the School of Allied Health Operating Paper and the agreement between the Board of Trustees of Southern Illinois University and the SIUC Faculty Association. The School Director and University Program Evaluation Office will receive these course evaluations as part of the Annual Assessment Report from the Program to the University.

In order to develop, evaluate, and revise the curriculum and sequence of courses, the entire MSPA curriculum will be reviewed and evaluated in both a formative (on-going) and summative manner. Each year, the curriculum and course sequence will be reviewed by the entire faculty at a faculty retreat. At these retreats, decisions made to revise the curriculum will be documented and implemented the following academic year.

Student progress will be formally monitored by a Physician Assistant Student Progress Committee (PA-SPC). This process of monitoring student progress will be modeled after the SIUC School of Medicine's SPC and will include by-laws and guidelines for committee membership and operation. The SPC membership will be comprised of faculty from both within and outside of the PA Program, and will include a student member from each phase of the Program. The SPC will meet after the end of each academic course or unit to review student progress and make educational diagnoses and recommendations as each student needs.

The qualifications of faculty will be of utmost priority and will follow guidelines set forth by the ARC-PA. All faculty will go through the interview, hiring, and evaluation procedures set forth by the University, which includes an initial probation period of three months after the date of hire, to be followed by, at a minimum, annual performance evaluations. All faculty are expected to maintain their appropriate licensures and certifications, and to provide the Program, School, and University with copies of said licenses or certifications. Faculty and staff will be encouraged to participate regularly in continuing education and continuing medical education. The Program will undergo annual review by the University, via submission of an Annual Assessment Report, and will meet the requirements of the Accrediting body via regular meetings of Self-study Committees.

Occupational demand for the Program is monitored via annual research on the profession, through such sources as the U.S. and Illinois Departments of Labor. Further, the Program will survey employers of graduates to determine the status of the employment outlook for SIUC MSPA graduates.

The Quality Assurance process of the PA Program will include an annual calendar delineating the dissemination of all assessment results, including faculty evaluations, course evaluations, curriculum content and sequence, student progress and occupational and student demand.

OFF-CAMPUS PROGRAMS ONLY

14. In addition to responding to the above questions, if all or part of the proposed program is to be delivered off-campus and/or via the Internet, provide the following:

14.1. Describe the program's mode(s) of delivery.

The above proposed MSPA program is an on-campus program. However, as with the current SIUC PA Program, portions of the MSPA will be delivered face-to-face on campus in Carbondale, with

other components delivered via the Internet. The specifics of delivery may be located in the Program Description section of this document. WebCT (or current university-licensed software) will be used for delivery of syllabi, schedules, course objectives, evaluation expectations, pretests, posttests, and medical cases. It will also be used for student/faculty communication.

The SIUC PA Program has extensive experience with delivering portions of its program via the Internet. It was one of the first units on campus to employ WebCT for curriculum delivery and testing. The PA Program currently delivers all comprehensive examinations and clinical pretests and posttests online, either at campus computer laboratories or at distant Hubsites. The Program delivers the curriculum and testing for nine clinical rotations and the Phase II Pharmacology Modules via WebCT. The program equips each tutor room in Lindegren Hall with two computers and a network printer for Phase I students use. Currently, students are provided with hand-held devices to log patient encounters, procedures, and diagnoses during clinical experiences in Phases I, II, and III. The Program also provides a computer, printer, scanner, and desk at each distant Hubsite to assure that all students, regardless of income, have access to a computer and web-based resources.

14.2 Describe the process for assuring the quality of the off-campus program in the following areas: (a) faculty qualifications and evaluation; (b) student access to necessary library resources; (c) where appropriate, student and faculty access to technical support, including computing.

Quality assurance for faculty includes computer technology support personnel, funds for faculty attendance at training sessions, and yearly curriculum evaluation by the Program Director in conjunction with faculty and staff. Students in the MSPA program will have access to library resources on site, including the Medical Resource Center (MRC) located in Lindegren Hall, the medical library (Springfield) via the Internet and by ordering items through the School of Medicine, as well as on-line free and site-licensed subscription resources such as MD Consult. The program will maintain a student and faculty only site on the PA Program website for access to these online resources. The program will continue to cooperate with other departments/colleges to use computer labs located in Lindegren Hall, the College of Applied Sciences and Arts, and Faner Hall for End-of-Unit testing and computer-based medical case (DxR) testing. The PA Program will also continue to contribute monies and equipment to augment the College of Applied Sciences and Arts, the School of Medicine, and the College of Science resources and equipment lines.

14.3 Has this program been approved for on-campus delivery?

The SIUC PA Program Bachelor's degree has been approved since 1996 and has been accepting students since 1997. The MSPA degree program has not yet been approved for on-campus delivery. This Request for a New Unit of Instruction outlines both the campus-based and online components of the program proposal.

Appendix

Detail for Table 2