Weill Cornell Medicine - Master of Science in Health Sciences for Physician Assistants Course Requirements

The MS in Health Sciences for Physician Assistants requires students to accrue 102.5 credits over seven semesters. Specific course requirements are listed below:

Pre-Clinical Phase
Semester I - 17 .5 credits total

PAS 6000 Physician Assistant Seminar (2.0 credits)
This course prepares the student to understand the role of the physician assistant in 21st century healthcare in the United States. Topics are addressed such as professionalism, legal aspects of health care, use of medical literature, familial and cultural components of health care, medical ethics, health promotion/disease prevention and patient education.

PAS 6010 Medical Interviewing (2.0 credits)
This course will introduce the student to the skills necessary for successful medical interviewing. Course materials and readings will explore the relationship between normal conversation and medical interviewing. The student will learn and practice various techniques for eliciting an accurate medical history from a variety of patient types. Each section of the medical interview will be studied and practiced in detail in preparation for the patient encounters scheduled for the subsequent semester.

PAS 6040 Anatomy (8.0 credits)
The course in anatomy is a central focus of basic science education in the Physician Assistant Program. During this course the student is introduced to gross anatomy presented by the regional approach. The student becomes familiar with the chest, upper extremity, abdomen, pelvis, lower extremity, neck, head and the central nervous system. Whenever appropriate, clinical correlations are made both from a diagnostic and operative point of view. Instruction is primarily in lecture and lab format, however atlases and other visual aides are available.

PAS 6060 Biochemistry (1.5 credits)
The course provides an introduction to medical and clinical biochemistry. Medical biochemistry emphasizes the biomedical principles of carbohydrate, protein and lipid chemistry fundamental to clinical medicine. Basic biochemical information is presented and integrated with selected nutritional and health problems by means of lectures and clinical discussions. Specific topics include vitamins, minerals, the chemistry of respiration, pH balance, blood coagulation, and hormonal effects on the metabolism of proteins, carbohydrates and lipids. Clinical biochemistry correlates concepts of medical biochemistry with clinical problems, such as maintenance of good health, aging, wound healing and growth. Specific topics include hormonal dysfunction, pancreatic/ gastric function, iron/hemoglobin metabolism and mineral/ water balance.

PAS 6110 Surgical Aspects in Primary Care (2.0 credits)
The student is introduced to clinical problems common to the discipline of surgical practice, including clinical presentation and the correlation between anatomy, pathology, stage of disease and treatment.

PAS 6210 *Fundamentals of Primary Care & Clinical Medicine I (2.0 credits)
The student begins an exploration of the epidemiology, pathogenesis, diagnosis and treatment of common medical problems encountered in inpatient and outpatient medical care. Emphasis is placed on the interrelatedness of bodily systems and medical disciplines. Using lectures and problem-based learning sessions, the student will synthesize information from various medical disciplines to formulate an accurate differential diagnosis and a treatment plan for complex clinical presentations of illness. Although sequencing of modules may vary, the three-course medicine sequence provides an overview of all major disciplines in medicine.

Pre-Clinical Phase
Semester II - 18 credits total

PAS 6020 Physical Diagnosis I (2.0 credits)
Prerequisite: PASP 6010. This course introduces the student to the fundamental techniques of patient examination. The student will use this basic knowledge throughout his or her career in medicine. Emphasis is on performance of mastered techniques, medical chart recording and oral presentation format in preparation for the clinical phase of education.

PAS 6050 Physiology (4.0 credits)
The principal objective of the physiology course is to provide physician assistant students with a basic understanding of both cellular physiology and integrative physiology. The course introduces students to the normal vital processes of the human body. Students will be taught the characteristics of cellular structure and the cellular mechanisms that promote the maintenance of homeostasis. In addition, the specific characteristics of the nervous system, the respiratory system, the endocrine system, the cardiovascular system and the kidney will be discussed in detail to provide a basis with which to compare and characterize clinical disorders.

PAS 6080 Pharmacology (4.0 credits)
The course in pharmacology introduces the student to therapeutic drugs, their chemistries, actions and uses. Instruction is presented in lecture format. Emphasis is placed on the practical application and evaluation of drug actions on the functions of various organ systems of the human body, including, but not limited to, the autonomic nervous system and cardiovascular systems. Studies of antibiotics as well as other important topics are also covered.

PAS 6120 General Surgery (3.0 credits)
Prerequisite: PASP 6110. The student develops a broader knowledge of clinical problems common to general surgery practice. Indications and contraindication for surgery are presented along with a pertinent discussion of surgical techniques. The student is introduced to operating room protocol, asepsis and scrubbing, gowning and gloving, instrumentation, suturing and knot tying.

PAS 6220 *Fundamentals of Primary Care & Clinical Medicine II (3.0 credits)
Prerequisite: PASP 6210. The student continues the exploration of the epidemiology, pathogeness, diagnosis and treatment of common medical problems encountered in inpatient and outpatient

medical care. Emphasis is placed on the interrelatedness of bodily systems and medical disciplines. Using lectures and problem-based learning sessions, the student will synthesize information from various medical disciplines to formulate an accurate differential diagnosis and a treatment plan for complex clinical presentations of illness.

PAS 6300 Obstetrics and Gynecology (2.0 credits)
This course introduces the student to the fundamentals of prenatal care and childbirth, as well as common obstetrical and gynecologic problems encountered in clinical practice. Particular emphasis will be placed on this field as a primary care specialty.

Pre-Clinical Phase
Semester III - 18 credits total

PAS 6030 Physical Diagnosis II (2.0 credits)
Prerequisite: PASP 6020. This course continues instruction in the fundamental techniques of interview and examination. The student will integrate this basic knowledge in history taking and examination skills in the comprehensive assessment of patients. Students will also learn to apply appropriate portions of the comprehensive physical examination to specific practice settings and focused patient complaints. Emphasis is on performance of mastered techniques, medical chart recording and oral presentation format in preparation for the clinical phase of education.

PAS 6070 Pathology (3.0 credits)
This course in pathology introduces the student to the natural history, etiology, pathogenesis (gross and microscopic) and clinical findings associated with disease states. Instruction is presented mainly in lecture format with the use of visual aids. Emphasis is placed on disorders commonly encountered in surgical patients.

PAS 6400 Pediatrics (2.0 credits)
This course introduces the student to the fundamentals of growth and development, well-baby and childcare, principles of immunization and commonly encountered childhood diseases and their treatments as seen in clinical practice. Adolescent medicine and its inherent issues will be covered as well. Particular emphases will be placed on this field as a primary care specialty.

PAS 6600 Psychiatry (1.5 credits)
This course introduces the student to the fundamentals of common behavioral abnormalities and their treatment as encountered in clinical practice. Topics include the professional-patient relationship, reactions to history taking and physical examination, stress and coping mechanisms, detection and treatment of psychiatric complications, and management of death and dying.

PAS 6130 Surgical Specialties (2.0 credits)
Prerequisite: PASP 6120. The sequence of surgery courses concludes with an introduction to specialized surgical practice. The disciplines of orthopedics, radiology and anesthesiology are also introduced. Students will be expected to synthesize information from the entire surgery course sequence in the comprehensive pre-, intra- and post-operative management of the surgical patient.

PAS 6230 *Fundamentals of Primary Care & Clinical Medicine III (2.0 credits)

Prerequisite: PASP 6220. The student continues the exploration of the epidemiology, pathogenesis, diagnosis and treatment of common medical problems encountered in inpatient and outpatient medical care. Emphasis is placed on the interrelatedness of bodily systems and medical disciplines. Using lectures and problem-based learning sessions, the student will synthesize information from various medical disciplines to formulate an accurate differential diagnosis and a treatment plan for complex clinical presentations of illness. At the conclusion of the three-course sequence, students will recognize common disease states in the context of clinical case scenarios and integrate medical knowledge into comprehensive patient care in both inpatient and outpatient settings.

PAS 6500 Emergency Medicine (1.5 credits)
Prerequisites: PASP 6110, PASP 6210. This course further explores concepts introduced in medicine and surgery lectures, with an emphasis on emergent care and life-threatening illness and injury. Common presenting complaints seen in emergency medicine settings, and their diagnosis and treatment are addressed. It explores emergency medicine both as a field of study and as a medical specialty.

PAS 6700 Biostatistics (2.0 credits)
Introduces concepts of basic statistical methods used in health care research. Topics include population sampling, graphical presentation of data, frequency distributions, measures of central tendency and dispersion, one-sample and two-sample inference (hypothesis testing), interval estimation (confidence intervals), analysis of variance, chi-square test, applications of sample size and statistical power, correlation and linear regression, survival analysis and Cox multivariate regression.

PAS 6800 Epidemiology (2.0 credits)
Introduces basic concepts of epidemiology and applies the scientific method to the study of disease in populations. Topics include description of the frequency and determinants of a disease in a defined population, evaluation of factors that may cause a disease, principles of epidemiologic surveillance, analysis of published clinical trials, cohort studies and case control studies, and the role of epidemiology in public health policy. During the Supervised Clinical Practice (SCP) courses students actively participate in the care of patients and function as an integral member of the health care team while under the direct supervision of attending physicians, staff physicians and physician assistants.

*__LEAP (Longitudinal Educational Experience Advancing Patient Partnerships)__ is an additional required curricular component of the three Fundamentals of Primary Care & Clinical Medicine courses in the pre-clinical phase of the Physician Assistant Program. LEAP is an innovative program that allows students of Weill Cornell Medicine to participate in the healthcare experiences of assigned patients (referred to hereafter as “patient-teachers”) who reside in their community, from the beginning of their PA Program experience and continuing throughout their training. The goals of the LEAP program are: 1. to allow students to partner with patient-teachers early in their PA education 36 2. to provide a clinical experience that will complement and enrich classroom experiences 3. to help students understand the complexity of the healthcare system and appreciate patient’s experiences within the system 4. to foster humanistic and culturally sensitive medical care 5. to explore the meaning of professionalism and collegiality 6. to experience the richness of the provider-patient relationship over time Preclinical phase students are generally assigned two patient-teachers initially. Students are expected to engage with their patient-teachers

at least once a month, ideally in the context of a medical office visit, hospitalization, home visit, virtual encounter (telemedicine), or phone call. Students meet monthly in small groups with two faculty members to discuss these experiences, review the clinical and psychosocial dimensions of patient care, and reflect on the strengths and weaknesses of the healthcare system. PA students will work collaboratively with medical students and WeillCornell/NYP faculty in the LEAP program. Parameters for successfully completing LEAP include logging patient encounters, attendance at monthly meetings and at least one topic presentation.

Clinical Phase Core Rotations
During the Clinical Phase of the PA Program (Semesters IV, V, VI and VII), students must complete the courses below for another total 49 credits of required coursework.

PAS 7010 Internal Medicine I (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to patients in the inpatient setting and become proficient in the diagnosis, treatment and management of medical problems in the adult population. It is also designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This allows students to actively participate in the care of patients with common medical problems and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing complete history and physical examinations, daily rounds and monitoring, diagnostic procedures and the medical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7020 Internal Medicine II (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to patients in the inpatient setting and become proficient in the diagnosis, treatment and management of medical problems in the adult population. It is also designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This allows students to actively participate in the care of patients with common medical problems and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing complete history and physical examinations, daily rounds and monitoring, diagnostic procedures and the medical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7030 Surgery I (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to patients with commonly encountered surgical diseases. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This allows students to actively participate in the preoperative, intraoperative and postoperative phases of the care of a surgical patient, and participate as an integral member of the health care team while under the direct supervision of attending physicians, house staff physicians and physician assistants. The student will be responsible for performing directed history and physical examinations, diagnostic procedures, and medical and surgical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7040 Surgery II (3.0 credits)

The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to patients with commonly encountered surgical diseases. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This allows students to actively participate in the preoperative, intraoperative and postoperative phases of the care of a surgical patient, and participate as an integral member of the health care team while under the direct supervision of attending physicians, house staff physicians and physician assistants. The student will be responsible for performing directed history and physical examinations, diagnostic procedures, and medical and surgical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7060 Family Medicine/Primary Care (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to patients in the primary care setting. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase by enabling them to recognize and manage acute and chronic medical conditions prevalent in primary care. This allows students to actively participate in the care of patients with urgent and common conditions, and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing comprehensive and directed histories and physical examinations, diagnostic procedures, and the medical and surgical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7070 Pediatrics (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to the pediatric population. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase, including being able to recognize normal and abnormal findings in the pediatric patient and to diagnose and manage common childhood diseases. This clinical rotation is designed to allow students to actively participate in the care of patients with urgent and chronic conditions, and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing directed and complete history and physical examinations, diagnostic procedures, and medical and surgical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7080 Women's Health (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to inpatient and outpatient gynecologic and obstetric patients. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase.
This allows students to actively participate in the care of patients with routine and emergent gynecologic and obstetrical conditions, and participate as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing directed history and physical examinations, diagnostic procedures, and medical and surgical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours. This is a four-week clinical rotation with 160 contact hours.

PAS 7090 Emergency Medicine (3.0 credits)

The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to patients in an urban emergency room setting. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This allows students to actively participate in the care of patients with urgent and emergent conditions, and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing directed history and physical examinations, diagnostic procedures, and the medical and surgical management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

PAS 7100 Internal Medicine III (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to the geriatric population. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This allows students to actively participate in the care of patients with urgent and chronic conditions, and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing complete history and physical examinations, daily monitoring of patients, diagnostic procedures, and medical and surgical management (under supervision) of patients. This is a two-week clinical rotation with 80 contact hours. The other two weeks will be spent on a Psychiatric clinical rotation. 50% of the examination will be based on the Geriatrics Objectives. The remaining 50% will be based on the Psychiatry Objectives. (1.5 credits) Beginning with Class of 2015: This is a four-week clinical rotation with 160 contact hours.

PAS 7110 Behavioral and Mental Health (3.0 credits)
The purpose of this clinical rotation is to provide the physician assistant student with practical exposure to psychiatric patients in the inpatient, outpatient and emergency room setting, with an emphasis on the recognition, diagnosis and treatment of psychiatric illness. It is designed to augment, strengthen and refine the student's knowledge and skills learned in the didactic phase. This clinical rotation allows students to actively participate in the care of patients with chronic and acute psychiatric conditions, and function as an integral member of the health care team while under the direct supervision of attending physicians, housestaff physicians and physician assistants. The student will be responsible for performing directed history and physical examinations, diagnostic procedures and medical, and psychiatric management (under supervision) of patients. This is a four-week clinical rotation with 160 contact hours.

Elective Rotations (PAS 8010-PAS 8050) (3.0 credits each)
Five (5) Elective rotations - students may choose from available clinical sites and opportunities or work with the Director and Assistant Director of Clinical Education to facilitate and external or international elective. Such electives are considered a privilege and may not be permitted for students who have demonstrated a lack of professionalism. Only students in good standing will be allowed to participate in these electives.
PAS 8010 - Elective One
PAS 8020 - Elective Two
PAS 8030 - Elective Three
PAS 8040 - Elective Four
PAS 8050 - Elective Five

The purpose of a elective courses is to provide the physician assistant student with opportunities to spend additional time in elective areas of medicine or surgery. They are four-week clinical rotations with 160 contact hours.

Research

PAS 8000 Research Methods (4.0 credits)

This course will explore the basic concepts of research in the health sciences. Problem finding, formulation of a research question, methodology, design, data collection and interpretation will be addressed. Ethical considerations in research will be examined. Published research articles will be analyzed critically. At the midway point of this course, the student will submit a draft version of a scholarly systematic literature review that is a suitable foundation for original empirical research and also appropriate for publication as a clinical review article. Application of the theoretical information will result in the development of an original document reflecting analysis of a medical problem, an intensive literature review or a project approved by the Thesis Committee. Working under the guidance of a faculty mentor, the student will develop the draft document into a completed clinical review article suitable for publication in a peer-reviewed journal, submit a proposal for an original study and present an oral defense of the final project before the Thesis Committee.