MASTER OF PHYSICIAN ASSISTANT STUDIES

Educational Philosophy and Curriculum

An outline of the philosophic and pedagogical approach to the delivery, assessment and educational structure of the University of Manitoba MPAS curriculum.
The University of Manitoba Master of Physician Assistant Studies’ mission is to educate outstanding Physician Assistant clinicians as generalist medical providers in service to our communities in Manitoba and Canada. We nurture the future leaders of the profession and lead the field in academic preparation of Physician Assistants in Canada.

Our Vision is that the Master of Physician Assistant Studies will provide an exceptional quality education meeting the needs of the students, patients, public, employers, University, and Government of Manitoba in producing a highly qualified generalist medical professional. We seek to produce a professional with critical thinking skills and clinical acumen who provides and improves the access to quality medical care in all regions of Manitoba and Canada by placing the patient first.

It is our vision:

- To be identified as the leading source for accurate and comprehensive information on subjects related to Physician Assistants in Canada.
- To excel in the education and development of our students in the pursuit of their academic goals;
- To provide leading-edge research and material in support of our students and stakeholders;
- to deliver excellence and outstanding academic support to the community on Physician Assistant workforce and practice issues;
- To be viewed as the subject matter experts in the area of the Physician Assistant–Physician model of care;
- To foster the expansion and translation of knowledge related to Physician Assistants into the medical community.

Our values identify the Master of Physician Assistant Studies unit as a team effort where faculty, staff, and students value integrity, compassion, and excellence in the performance and approach to our studies and duties. We acknowledge that the words Change, Adapt, and Achieve are a reality of our community and society. We believe our actions must demonstrate respect, civility, and model professionalism to all and at all times.

We will accomplish our mission and maintain our value and vision through recognition that we live and function as part of a global community represented in our student body, patient and client base, resource network, and workplace environments. We conceptualize and recognize that as Physician Assistants and educators it is essential that the importance of learning outcomes and personal growth is defined in our evolving and changing curriculum context; that there is a need to reflect the role we serve in our global community through our teachings, lessons and learning activities. We recognized that the changing context in which didactic education and clinical experiences occur is reflective of the need to adapt to technology and human growth. We recognized that
professionalism and scholarship are life-long efforts requiring a commitment beyond the workplace. Showing care, respect and compassion is accompanied with integrity, responsibility and accountability; traits not to be assumed but practiced and structured into our daily actions.

Our curriculum emphasises engagement by both teacher and student to develop an appreciation for the patient-centered integration and eventual mastery of presented subject matter. Our pedagogy embraces a spiral curriculum where topics and subject matter is revisited at different levels of difficulty and complexity. Using a revised curriculum approach, we layer a foundation of clinical studies on the basic medical sciences. New learning and clinical experiences relate to previous lessons to reinforce and expand the knowledge base. All aspects of the educational experience contribute to the growth and development of our graduates.

**PHYSICIAN ASSISTANTS**

Physician Assistants or PAs are medically educated clinicians who practice within a formalized relationship with physicians. PAs are academically prepared and highly skilled health care professionals who provide a broad range of medical services. The PA practice of medicine includes diagnoses, obtaining medical histories, performing physical exams, ordering and interpreting diagnostic studies, providing therapeutic procedures, prescribing medications, and educating and counselling patients. Although educated and qualified as medical generalists, PAs receive additional education and experience on the job and may work in a wide variety of practice settings.

PAs are Associate Regulated Members of the College of Physicians and Surgeons of Manitoba requiring an approved Practice Description and Contract of Supervision before being allowed to practice medicine. The Contract of Supervision identifies the Primary and any alternative physician who are allowed to supervise the PA. The PA’s scope-of-practice mirrors that of their physician(s) with permission to perform restricted acts, provide prescriptions or write medical orders established by regulations and provincial law.

Physician Assistants in Canada have a National Competency Profile (CANMEDS-PA) developed by members of the profession in collaboration with the Canadian Medical Association, the Royal College of Physicians and Surgeons of Canada, the Canadian Armed Forces, and Medical Educators. The Canadian

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1 [https://capa-acam.ca/](https://capa-acam.ca/)
Medical Association in 2003 recognizing the Physician Assistant profession as unique and distinct from the 21 other Healthcare professions it provided accreditation services for at that time.\(^4\)

Canada’s Physician Assistants share the same practice philosophy, approach to education and training, and certification pathway. Despite the recognition of different pedagogical approaches and granted degrees, the role of a Physician Assistant in Canada is as a generalist medical practitioner. A PA is a graduate of an accredited PA educational program eligible for nationally certification and qualified to practice medicine as part of a collaborative physician directed team.

The principal utilization of PAs focuses on clinical situations where duties traditionally performed by the physician are completed by a qualified medical profession. Under the various provincial *Medical Acts*, physicians may delegate controlled acts to a health professional. PAs function as semi-autonomous professionals in a formalized relationship with a licensed physician. This relationship is a cornerstone of the PA-MD model essential to the ability to practice. The delegation concept improves access and enhances care, allowing physicians to address issues that require the extensive and unique knowledge of a physician. The intra-professional team model improves the overall quality of care provided.

PAs possess a defined body of knowledge building on the medical sciences and clinical medicine that includes clinical and procedural skills, and a professional philosophy to support effective patient care. PAs apply these competencies to collect data and interpret information, develop and further investigate differential diagnoses, make appropriate clinical decisions, and carry out required diagnostic, procedural, and therapeutic interventions.\(^5\) Manitoba PAs’ formalized Practice Description of their medical practice is a requirement within the regulations of the Manitoba Medical Act. The Practice Description and Contract of Supervision are formalized contracts between the Physician and PA outlining responsibilities and authority approved by the Manitoba Medical Council; a form of negotiated dependence within a structure practice framework. PAs supplement, not supplant, the work of physicians as both a philosophy of the profession and reality of clinical practice with tasks varying based on the PAs level of experience and expertise. PAs practice in many clinical settings including, internal


medicine, family practice, general and specialty areas within surgery, emergency, rehabilitation, occupational health, orthopaedics, obstetrics and oncology.

Generalism and Generalist Practice

Physician Assistants provide nine general clusters of activity that serve the assigned patient population. The Physician Assistants' scope of practice includes:

- Gathering data
- Recognizing and managing common problems, conditions, and diseases
- Conducting laboratory and diagnostic studies
- Performing medical management activities
- Performing surgical procedures
- Managing emergency situations
- Conducting health promotion and disease prevention activities
- Prescribing medications
- Using interpersonal skills

The MPAS accepts the Royal College of Physicians and Surgeons of Canada definitions of Generalism and Generalists. Generalism is a philosophy of care distinguished by a commitment to the breadth of practice within each discipline and collaboration with the larger health care team in order to respond to patient and community needs. Generalists are a specific set of medical practitioners (physician assistants) with core abilities characterized by a broad-based practice. Generalists diagnose and manage clinical problems that are diverse, undifferentiated, and often complex. Generalists also have an essential role in coordinating patient care and advocating for patients. Our graduates will be responsive to the needs of the patient and their community having a core knowledge allowing adaptation to the needs of society. Educated and qualified as generalists, PAs after graduation receive additional education, training, and experience on the job developing knowledge of a specialty. PAs fill needs in primary care, or surgical or medical specialties in a wide variety of practice settings.

Physician Assistant Professional Competencies

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Physician Assistants can contribute to the care of all patients wherever they present. Research demonstrates that PAs in primary care settings provide 70-82 percent of all visit care without referral to physician.\(^8\)\(^9\) This referral rate will vary based on experience, complexity of care, practice relationship, and practice environment. The Australasian College of Emergency Medicine and Australasian Society for Emergency Medicine suggests that PAs can manage up to 62 percent of all patients in emergency care environments. This study also found that in the emergency department settings PAs appeared equally capable of performing procedures if adequately trained and supervised, and that the quality of care provided by PAs was comparable with that of emergency specialists (attending) physicians and senior residents.\(^10\) Generalist medical education of the MPAS program allows a greater

### The Physician Assistant's key roles:

1. **As Medical Experts** physician assistants function effectively as a physician extender, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care. Physician Assistant education incorporates clinical medicine with relevance across the human life cycle, including inpatient care, outpatient care, surgical care, emergency care, psychiatric/behavioral care and primary care.

2. **As Communicators**, physician assistants effectively facilitate patient centered care and the dynamic exchanges that occur before, during, and after the medical encounter.

3. **As Collaborators**, physician assistants work with the supervising physician to effectively work within a healthcare team to achieve optimal patient care.

4. **As Managers**, physician assistants are integral participants in healthcare organizations working with their supervising physician to organize sustainable practices, make decisions about allocating resources, and contribute to the effectiveness of the healthcare system.

5. **As Health Advocates**, physician assistants responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

6. **As Scholars**, physician assistants demonstrate a lifelong commitment to reflective learning and the application and translation of medical knowledge.

7. **As Professionals**, physician assistants are committed to the health and well-being of individuals and society through ethical practice, profession-led association, and high personal standards of behavior.

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4. Performing medical management activities
5. Performing surgical procedures

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6. Managing emergency situations
7. Conducting health promotion and disease prevention activities
8. Prescribing medications
9. Using interpersonal skills

**General Objectives**

_The Physician Assistant - Learner will have demonstrated the appropriate ability to:_

1. Accurately obtain a **clinical history**
2. Perform the appropriate **physical examination skills** required
3. Develop **differential diagnosis**.
4. Building from the differential diagnosis **order** and **interpret** the appropriate **diagnostic studies**.
5. **Correlating the information obtained** from the patient encounter the PA-S should **formulate a treatment plan** for the diseases and conditions commonly encountered in the selective patients population
6. **Present that information and plan** for approval to the physician supervisor according to the protocols of that jurisdiction.
7. Function effectively as a **dependant and supervised Medical Clinician** who **integrates all of the CanMEDS Roles** to provide optimal, ethical and patient-centred medical care;
8. With **appropriate consultation with the Attending** and Supervising Physician implement and provide the effective management plans that include preventive, patient education and **therapeutic interventions**;
9. Demonstrate designated **procedural skills, both diagnostic and therapeutic**;
10. **Seek appropriate consultation** and **follow-up care** for the patient with licensed and qualified professionals, including the appropriate community **referrals** that will **address issues related to the social determinants of health**.

**Entry to Practice Competencies for the Physician Assistant Graduate**

1. **History Taking and Performing Physical Examinations**

<table>
<thead>
<tr>
<th>Knowledge of:</th>
<th>Skills in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Etiologies associated with presenting symptoms or physical findings</td>
<td>• Identification of pertinent <strong>historical information</strong></td>
</tr>
<tr>
<td>b) Signs and symptoms of selected medical conditions</td>
<td>• Association of current complaint with presented history</td>
</tr>
<tr>
<td>c) Risk factors for development of selected medical conditions</td>
<td>• Identification of pertinent physical examination information</td>
</tr>
<tr>
<td>d) Pertinent historical information associated with selected medical conditions</td>
<td></td>
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<tr>
<td>e) Physical examination techniques</td>
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<tr>
<td>f) Physical examination of findings associated with selected medical conditions</td>
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<tr>
<td>g) Appropriate physical examination directed to selected medical conditions</td>
<td></td>
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</tbody>
</table>

2. **Using Laboratory and Diagnostic Studies**

<table>
<thead>
<tr>
<th>Knowledge of:</th>
<th>Skills in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) <strong>Indications</strong> for initial and subsequent diagnostic or laboratory studies</td>
<td>• <strong>Selection</strong> of appropriate diagnostic or laboratory studies</td>
</tr>
<tr>
<td>b) <strong>Cost effectiveness</strong> of diagnostic studies or procedures</td>
<td>• <strong>Collection</strong> of diagnostic or laboratory specimens</td>
</tr>
<tr>
<td>c) Relevance of common <strong>screening tests</strong> for selected medical conditions</td>
<td>• <strong>Interpretation</strong> of diagnostic or laboratory studies results</td>
</tr>
<tr>
<td>d) Normal and abnormal <strong>diagnostic data</strong></td>
<td></td>
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</tbody>
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### 3. Formulating Most Likely Diagnosis

**Knowledge of:**
- Interpretation of history in order to differentiate disorders
- Interpretation of particular physical findings in order to differentiate disorders

**Skills in:**
- Correlation of normal and abnormal diagnostic data
- Formulation of differential diagnosis
- Selection of most likely diagnosis in light of available data

### 4. Non-Pharmacologic Clinical Interventions

**Knowledge of and/or ability to implement:**
- Indications, contraindications, complications, and techniques for selected procedures
- Non-pharmacologic management of selected medical conditions
- Indication for admission to hospital or other facilities
- Conditions that constitute medical emergencies
- Discharge planning
- Available medical or surgical options
- Universal precautions
- Informed consent
- Surgical principles
  - Wound healing
  - Appropriate patient education regarding current condition and related risk factors

### 5. Pharmacologic Clinical Interventions

**Knowledge of:**
- Pharmacokinetic properties of pharmacologic agents used in the treatment of selected conditions
- Indications, contraindications, side effects, and adverse reactions of pharmacologic agents
- Follow-up and monitoring of pharmacologic regimens
- Risks for, clinical presentation of, and treatment of drug interactions
- Risks for, clinical presentation of, and treatment of acute drug toxicity

**Skills in:**
- Selection of appropriate pharmacologic therapy for selected medical conditions

### 6. Health Maintenance and Patient Education

**Knowledge of:**
- Epidemiology of selected medical conditions
- Risk factors for conditions amenable to prevention or detection in an asymptomatic individual
- Relative value of common screening tests for conditions amenable to prevention or detection in an asymptomatic individual
- Appropriate patient education regarding preventable conditions or needed lifestyle modifications
- Immunization schedules for infants, children, adults and foreign travellers
- Behavioural change models.
- Stress adaptation and coping

**Skills in:**
- Counselling and patient education techniques

### 7. Basic Medical Sciences

**Knowledge of:**
- Underlying pathologic processes or pathways associated with a given condition
- Normal and abnormal anatomy and physiology including human growth, development and sexuality
- Normal and abnormal microbiology
- Critically appraise the medical literature and participate in clinical research including the retrieval of evidence to
The enabling competencies found in the Canadian Association of Physician Assistants Scope of Practice, National Competency Profile provides an appreciation of what the key goals, and objectives and entry to practice competencies are.
Common Clinical Conditions for the Physician Assistant to Manage

Physician Assistants share a common approach to the practice of medicine as Physicians. Using the recommendations of the College of Family Physicians of Canada (CFPC) the University of Manitoba Master of Physician Assistant Studies provides a foundation to the assessment and diagnosis of common medical complaints as identified in the CFPC’s Priority Topics and Key Features with Corresponding Skill Dimensions and Phases of the Encounter.

http://www.cfpc.ca/uploadedFiles/Education/Priority%20Topics%20and%20Key%20Features.pdf

- Abdominal Pain
- Advanced Cardiac Life Support
- Allergy
- Anemia
- Antibiotics
- Anxiety
- Asthma
- Atrial Fibrillation
- Bad News
- Behavioural Problems
- Breast Lump
- Cancer
- Chest Pain
- Chronic Disease
- Chronic Obstructive Pulmonary Disease
- Contraception
- Cough
- Counselling
- Crisis
- Croup
- Deep Venous Thrombosis
- Dehydration
- Dementia
- Depression
- Diabetes
- Diarrhea
- Difficult Patient
- Disability
- Dizziness
- Domestic Violence
- Dyspepsia
- Dysuria
- Earache
- Eating Disorders
- Elderly
- Epistaxis
- Family Issues
- Fatigue
- Fever
- Fractures
- Gastro-intestinal Bleed
- Gender Specific Issues
- Grief
- Headache
- Hepatitis
- Hyperlipidemia
- Hypertension
- Immigrants
- Immunization
- In Children
- Infections
- Infertility
- Insomnia
- Ischemic Heart Disease
- Joint Disorder
- Lacerations
- Learning:
  - Patients:
  - Self-Learning:
    - Lifestyle
  - Loss of Consciousness
  - Loss of Weight
  - Low-back Pain
  - Meningitis
  - Menopause
  - Mental Competency
  - Multiple Medical Problems
  - Neck Pain
  - Newborn
  - Obesity
- Osteoporosis
- Palliative Care
- Parkinsonism
- Periodic Health Assessment/Screening
- Personality Disorder
- Pneumonia
- Poisoning
- Pregnancy
- Prostate
- Rape/Sexual Assault
- Red Eye
- Schizophrenia
- Seizures
- Sex
- Sexually Transmitted Infections
- Skin Disorder
- Smoking Cessation
- Somatization
- Stress
- Stroke
- Substance Abuse
- Suicide
- Thyroid
- Trauma
- Travel Medicine
- Upper Respiratory Tract Infection
- Urinary Tract Infection
- Vaginal Bleeding
- Vaginitis
- Violent/Aggressive Patient
- Well-baby Care
**Fall Term Courses:**

**PHAC 7230**  
**Fundamentals in Pharmacology for Health Care I**  
Credit hrs: 6  
This course will build on foundational knowledge of human physiology and examine basic pharmacokinetic (drug metabolism) and pharmacodynamic (drug action) principles of specific drug classes related to the autonomic nervous system, cardiovascular system (edema, hypertension, arrhythmia, angina, blood clotting, heart failure, hyperlipidemia), diabetes, thyroid, inflammation and pain. The remaining major drug classes are covered in PHAC 7240. Course delivery will involve lectures followed by clinical case-based tutorials.

**PAEP 7000**  
**Physiology & Pathophysiology for Physician Assistants I**  
Credit hrs: 3  
The goal of Physiology and Pathophysiology PAEP 7000 and 7002 is to provide the Physician Assistant-Learner a foundation of Basic Medical Science used to develop and base their further clinical knowledge. This study of pathology divides into general pathology and systemic pathology, focusing on specific disease processes by organ system. Starting with general overview lectures on basic pathologic processes and neoplasia, and proceeding with systemic pathology to include causes (or etiology); mechanism of development (pathogenesis); structural alterations produced in cells and organs (morphologic changes); and functional consequences of these changes and their natural history (pathophysiology and clinical significance).

**PAEP 7010**  
**Human Anatomy for Physician Assistants**  
Credit hrs: 3  
Human Anatomy for the PA consists of didactic lectures and laboratory sessions providing a course based on a regional approach to the study of the body. Functional aspects of human anatomy integrated with structure and anatomical relationship. Laboratory sessions provide an opportunity to view body structures and their relationships in three dimensions. These exercises re-enforce the lecture material and open up a different dimension of learning. During the laboratory sessions, students will examine pre-dissected human cadaveric specimens and view models relating to the structures discussed in the lectures.

**PAEP 7030**  
**Professional Studies for Physician Assistants**  
Credit hrs: 3  
Professional Studies for Physician Assistants introduces the role and culture of their profession. This three-credit course divided into four subject areas: **Informatics** aims to provide the modern tools required to locate, evaluate and make use of medical literature in answering clinical questions. **Bioethics** introduces the principles of medical bioethics as well as some of the major bioethical issue observed in the clinical environment. **Social Determinants of Health** addresses the social, economic, and cultural aspects of population healthcare in Canada. **PA Culture** addresses the legal aspects of the Physician Assistant role in Canada, the interactions between various stakeholders in providing patient care, and the unique culture and history of the profession.

**PAEP 7042**  
**Biochemistry for Physician Assistants**  
Credit hrs: 1  
Biochemistry for Physician Assistants provides an introductory and primarily a review into the chemical processes and substances occurring in living things. The study of life in its chemical processes, biochemistry is both a life science and a chemical science as it explores the chemistry of living organisms and the molecular basis for the changes occurring in living cells. This course aims towards establishing a baseline of knowledge to support the PA
curriculum. The course is delivered through a combination of lectures and tutorials. Case studies and reviews will occur to support the material.

**PAEP 7045**  
**Research & Clinical Practice for Physician Assistants**  
**Credit hrs: 1**  
Research is fundamental to the development of knowledge and practice in the health professions. Health professionals must be able to support, participate in, apply and evaluate research findings related to their practice and understanding of medical informatics. This course increases the student’s knowledge of qualitative and quantitative research concepts and methodologies. Emphasis is on understanding and analyzing research reports appropriate for clinical practice improvement.

**PAEP 7052**  
**Patient Assessment for Physician Assistants I**  
**Credit hrs: 2**  
Patient Assessment is essential to every patient encounter and instructs the critically important skill required performed by every Physician Assistant. Patient Assessment for Physician Assistants introduces learners to the structure and sequence of a clinical interview and physical examination based on a patient centered approach. In a combined lecture/demonstration/lab, format over three stand-alone sections over 3 semesters. At the end of the final semester, the learner will be required to demonstrate proficiency in a Standardized Patient encounter.

**Curriculum Integration**  
**nil Credit**  
Clinical Integration is an introduction to critical thinking skills, medical documentation and case based learning that develops themes from the material presented in the concurrent semester of the program. In small groups or as a whole, the class will investigate relevant issues of the factors related to patient care, and approaches to clinical medicine building on program material. Discussion of clinical cases including essential components of required history, review of systems, physical examination and the investigative studies that lead to the appropriate diagnosis, treatment and follow up occur. Lessons emphasize awareness of the patient’s social, economic situation and unique resources required in patient care.

**Winter Term Courses:**

**PHAC 7240**  
**Fundamentals in Pharmacology for Health Care II**  
**Credit hrs: 6**  
This course will build on foundational knowledge of human physiology and examine basic pharmacokinetic (drug metabolism) and pharmacodynamic (drug action) principles of specific drug classes related to the central nervous system (depression, psychosis, anxiety, epilepsy, movement disorders (e.g., Parkinson's)), infection (bacterial, viral, fungal), cancer, asthma, allergy, osteoporosis, gastrointestinal system, reproduction and special topics (pregnancy, pediatrics, geriatrics, drugs of abuse). Remaining major drug classes are addressed in PHAC 7230. Course delivery will involve lectures followed by clinical case-based tutorials.

**PAEP 7002**  
**Physiology & Pathophysiology for Physician Assistants II**  
**Credit hrs: 3**  
The goal of Physiology and Pathophysiology 7002 is to provide the Physician Assistant-Learner additional insight into the foundations of Basic Medical Science building on material addressed in PAEP 7000.

**PAEP 7054**  
**Patient Assessment for Physician Assistants II**  
**Credit hrs: 2**  
Patient Assessment II for Physician Assistants continues the development of patient assessment skills from PAEP 7052. Physician Assistant will address the structure and sequence of a clinical interview and examination based on a patient centered approach. This course format uses a combined lecture, demonstration and laboratory format.
PAEP 7068  Adult Medicine for Physician Assistants I  Credit hrs: 6
Adult Medicine for Physician Assistants provides a comprehensive overview of adult medicine for the Physician Assistant. It will focus on assessment, diagnosis and treatment of patients with acute and chronic medical illnesses. The course is organized into system blocks of Hematology/Oncology, Gastroenterology, Hepatology, Endocrinology, Neurosciences, Dermatology, Nephrology, Musculoskeletal, Cardiovascular, Respiratory, Otolaryngology, and Ophthalmology. Delivery of course material is in a case-based lecture format.

PAEP 7110  Emergency & Critical Care for Physician Assistants  Credit hrs: 3
The purpose of the Emergency and Critical Care Medicine course is to provide the PA student with the knowledge to assess and respond with the appropriate action to life threatening events. These events may occur in any environment and the knowledge is applicable to all patient care.

PAEP 7090  Principles of Psychiatry for Physician Assistants  Credit hrs: 3
Psychiatry for Physician Assistants provides an introduction into the core course material utilized in the diagnosis and provision of care for patients who require mental health counseling, psychiatric health services, and referral to the appropriate services.

Curriculum Integration  Nil Credit
Clinical Integration is an introduction to critical thinking skills, medical documentation and case based learning that develops themes from the material presented in the concurrent semester of the Physician Assistant Education Program. In small groups or as a whole, the class will investigate relevant issues of the case, factors related to patient care, and approaches to clinical medicine building on program material.

Early Exposure  Nil Credit
These sessions provide physician assistant learners with an early observational opportunity in a variety of clinical settings, including community health, surgery, in-patient, internal medicine, pediatrics, and family medicine. This will allow an improved and strengthened understanding of the role physician assistant have within their working environments.

Spring Term Courses:

PAEP 7050  Obstetrics & Gynecology for Physician Assistants  Credit hrs: 3
Obstetrics and Gynecology for Physician Assistants provides a brief, comprehensive introduction to obstetrics and gynecology. This course imparts an understanding of normal pregnancy and development to allow the Physician Assistant to diagnose and treat medical, surgical, infectious, and developmental conditions within the fields of obstetrics and gynecology. This is a blended course with 2 hours of online learning and 1 hour of face-to-face teaching per week.

PAEP 7046  Genetics for Physician Assistants  Credit hrs: 1
Genetics for Physician Assistants introduces the world and nature of medical genetics, one of the most rapidly advancing fields of medicine. Medical genetics provides a unique perspective on function of the human body in health and disease; it is both a clinical specialty and a basic science. The format will follow a 15 to 20 minute
lecture followed by Illustrative cases and problems. This course will be team taught by several Faculty of Medicine staff members and has a laboratory component.

**PAEP 7048**  
**Pediatrics for Physician Assistants**  
Credit hrs: 3  
Pediatrics for PAs is a comprehensive overview of pediatric medicine for the Physician Assistant. The subject matter focuses on the acquisition of basic knowledge of growth and development its clinical application from birth through adolescence and the development of communication skills that will facilitate the clinical interaction with children, adolescents and their families. The course provides knowledge necessary for the diagnosis and initial management of common acute and chronic illnesses found in childhood or the pediatric population.

**PAEP 7056**  
**Patient Assessment for Physician Assistants III**  
Credit hrs: 2  
This third part of Patient Assessment for Physician Assistants continues to refine the structure and sequence of a physical examinations and clinical interview through a combined lecture, demonstration or lab format.

**PAEP 7078**  
**Adult Medicine for Physician Assistants II**  
Credit hrs: 6  
Adult Medicine for Physician Assistants II is a continuation of designated material from PAEP 7076 focusing on the assessment, diagnosis and treatment of patients with acute and chronic medical illnesses. Adult Medicine organized into the system blocks of Hematology/Oncology, Gastroenterology, Hepatology, Endocrinology, Neurosciences, Dermatology, Nephrology, Musculoskeletal, Cardiovascular, Respiratory, Otolaryngology, and Ophthalmology.

**PAEP 7082**  
**Diagnostic Imaging for Physician Assistants**  
Credit hrs: 1  
Diagnostic Imaging for Physician Assistants provides an overview of the principles of radiation safety and diagnostic imaging for the Physician Assistant. It will focus on the basic skills required for selecting the appropriate imaging study, and in reading and interpreting diagnostic images. The course material is from the University of Virginia's Diagnostic Imaging web-based tutorials supplemented with guided assignments highlighting appropriate material for the entry-to-practice level physician assistant. Follow each assignment date class lectures will focus on diagnostic images. A final examination is a mixture of multiple choice questions and images.

**PAEP 7084**  
**Microbiology for Physician Assistants**  
Credit hrs: 1  
Microbiology and Infectious Diseases for Physician Assistants provides an introductory course into the clinician’s approach to the effective and efficient diagnosis, treatment, and management of infectious disease.

**PAEP 7100**  
**Principles of Surgery for Physician Assistants**  
Credit hrs: 3  
Principles of Surgery for Physician Assistants incorporates the principles and techniques of safe and effective surgical care of the whole person of any age. This course provides an overview of the requirements involved in the care of the surgical patient in pre-operative, operative, and post-operative care; fluid and management; resuscitation; wound care and healing; and the initial approach to surgical related complications. This course provides a didactic approach to subject matter in preparation for clinical rotations.

**PAEP 7150**  
**Year 1 Comprehensive Exam**  
Pass/Fail  
A pass/fail multiple-choice examination designed to assess students’ knowledge of clinically relevant Year 1 material prior to entry into their clinical year.
Curriculum Integration

Clinical Integration is an introduction to critical thinking skills and problem based learning that develops themes from the material presented in the concurrent semester of the Master of Physician Assistant Studies Program. In small groups or as a whole, the class will investigate a patient complaint from initial presentation through the various steps required to formulate a treatment plan. The diagnosis, treatment and appropriate follow up that is required is also explored in the class.

Early Exposure

These sessions provide physician assistant learners with an opportunity to practice history taking, physical examination, and documentation skills in a formative clinical setting. This allows the opportunity to act as health care providers in a closely supervised setting, preparing them for the clinical year as physician assistant students.

Procedural Lab

Based on requirements of the National Competencies Profile for Physician Assistants, the Laboratory portion of Principles of Surgery and the Emergency and Critical Care courses for Physician Assistants incorporates the principles and techniques of safe and effective procedures that are commonly required of PAs. The sessions include: vascular access, resuscitation; air way management, wound care and healing; and the diagnostic related procedures.

MPAS CLINICAL YEAR ROTATION DESCRIPTIONS & COURSES

PAEP 7202 Family Medicine for Physician Assistants: 8 weeks 6 credits
The family medicine learning experience consists of 8-weeks of clinical experiences with a focus on community family medicine - primary health care. The program may deliver the two courses Family Medicine Courses separately or conjointly. A physician or PA who specializes in family medicine is designated as preceptor. Physicians in all clinical health care settings, may at their discretion, delegate supervisory responsibility to a qualified resident physician, a Certified Physician Assistant, or Registered Nurse Extended Practice.

PAEP 7260 Community Health (Family Medicine 2) for Physician Assistants: 4 weeks 3 credits
This family medicine learning experience consists of 4-weeks of clinical experiences with a focus on community family medicine - primary health care, either the same site or separate from PAEP 7202. The PA-Student (PA-S) is supervised by a responsible licensed physician in all clinical health care settings, who may at their discretion, delegate supervisory responsibility to a qualified resident physician, a Certified Physician Assistant, or Registered Nurse Extended Practice.

PAEP 7210 Clinical Internal Medicine for Physician Assistants: 4 weeks 3 credits
The 4-week Internal Medicine rotation is to provide the Physician Assistant - Student with practical clinical experience and education through supervised patient contact in an in-patient learning environment. The skills and knowledge acquired during this rotation will build upon the material covered during the Academic first year. By completion of this rotation the PA-Student will have demonstrated competencies related to the generalist role the PA has in patient-centered medical care supplementing Internal Medicine physician services, and have further developed the skills require in internal medicine practice.
PAEP 7220 Clinical Surgery for Physician Assistants: 4 weeks 3 credits
The 4-week Surgery service rotation is to provide the PA-S with practical clinical experience and education through supervised patient contact in an in-patient surgery environment. The skills and knowledge acquired during this rotation will build upon the material covered during the Academic first year. By completion of this rotation, the PA-S will have demonstrated competencies related to the generalist role and skills the PA requires on surgical services.

PAEP 7230 Orthopedic & Sports Medicine for Physician Assistants: 4 weeks 3 credits
Orthopedic and Sports Medicine rotations provide the PA-S with practical clinical experiences through supervised patient contact. This rotation may consist of two two-week rotations at different sites and build upon the material covered during the academic year. The PA-S should become comfortable with the differential diagnosis, evaluation, and management of normal and abnormal conditions in Orthopedic and Sports Medicine. Additionally, they should be knowledgeable about the indications and limitations for both inpatient and outpatient diagnostic and therapeutic procedures they will encounter.

PAEP 7240 Clinical Pediatrics for Physician Assistants: 4 weeks 3 credits
The 4 weeks of clinical rotation in pediatrics provides the PA-S with clinical experience through supervised patient contact in a variety of pediatric population inpatient and outpatients environments. PA students should become comfortable with the differential diagnosis, evaluation, and management of normal and abnormal conditions in pediatrics.

PAEP 7250 Clinical Psychiatry for Physician Assistants: 4 weeks 3 credits
The 4-week psychiatry medicine rotation provides the student with clinical experiences and opportunities to evaluate and participate in the care of patients presenting with common psychiatric disorders, including acute, sub-acute, and chronic presentations. Students will be exposed to the various treatment regimens available to the psychiatric patient, and should learn the indications for the contributions of other health care providers in evaluation, management, and treatment of the psychiatric patient. PA-students will become comfortable with the differential diagnosis, evaluation, and management of common conditions encountered clinical psychiatry, and should be able to recognize conditions which require referral to the supervising physician or a specialist.

PAEP 7270 Clinical Emergency Medicine for Physician Assistants: 4 weeks 3 credits
The Physician Assistant may be required to treat emergent conditions in the course of daily practice. Whether the acute incident occurs on the ward, in a family practice office, in a remote community clinic, or as staff in Emergency Departments the PA must have the knowledge and skills to manage basic emergent issues. The knowledge, skills, and attitudes acquired during this emergency medicine clinical rotation will build upon the material covered during academic first year of the program.

PAEP 7280 Clinical Obstetrics & Gynecology for Physician Assistants: 4 weeks 3 credits
The 4-week OB/GYNE rotation provides the Physician Assistant student with practical clinical experience through supervised patient contact in the clinical areas of obstetrics and gynecology. The skills acquired during this rotation will build upon the material covered during the academic year. PA-students should become comfortable with the differential diagnosis, evaluation, and management of conditions in obstetrics and gynecology. Additionally, they should be knowledgeable of the indications and limitations for both inpatient and outpatient diagnostic and therapeutic procedures. Students are required to participate in an advanced skills lab administered by the OB/GYNE Educational Unit.
PAEP 7290 Clinical Anesthesia for Physician Assistants: 2 weeks 1.5 credits
The anesthesiology clinical rotation is intended to provide experience and instruction for the PA learner to develop skills to augment and support their own clinical practice and peri-operative care. Under appropriate supervision and consultation, the PA learner will become familiar with the indications for, process of, and limitations of anesthetic procedures, pain management, and related airway management skills.

PAEP 7204 Clinical Electives for Physician Assistants I: 2 weeks 1.5 credits
PAEP 7206 Clinical Electives for Physician Assistants II: 2 weeks 1.5 credits

Requirements for Successful Completion of the MPAS Curriculum
The successful completion of the course of study leading to the awarding of the Master of Physician Assistant Studies includes having successfully obtained or completed the following:

- A degree grade point average greater than 3.0 with no grade below C+ in all required course work. (Including Clinical Rotations)
- A “Pass” grade on the comprehensive, three hour multiple choice examination (Comprehensive Year One Exam, PAEP 7150) for the didactic portion of the curriculum, administered at the end of Year 1.
- A grade of Pass on the final Comprehensive Assessment of Clinical Skills examination, PAEP 7300. This exam consists of each student performing 12 comprehensive clinical examinations during the clinical training year.
- Demonstrated competence at an Entry-to-Practice Physician Assistant level as determined by MPAS Faculty documented and supported in a summative evaluation of the student’s clinical performance based on reviews of PA-ITERS, mini-CEX evaluations, and observed histories and physical exams.
- A “Pass” grade on the Capstone Project PAEP 7350,

Program Evaluation and Student Assessment

Academic Standards
General information on satisfactory academic performance is defined in the Faculty of Graduate Studies MPAS Supplemental Regulations at: http://umanitoba.ca/faculties/graduate_studies/media/MPAS_2012-07.pdf

Multiple assessment and evaluation measures utilized in the MPAS are formative and summative in nature to determine competency of our learners and graduates. Course work requirements and grading mechanisms are identified in each course syllabi. In accordance with Faculty of Graduate Studies policy as outlined in the Graduate
Calendar, a minimum grade point average of 3.0 with no grade below C+ is required in all courses for continuance in the Master of Physician Assistants Studies. Students who fail to maintain this standing will be required to withdraw unless the Dean of Graduate Studies approves a remedial recommendation from the MPAS Progress Committee. Progress Committee recommendations may include sitting for supplemental exams, repeating clinical rotations, or other forms of remediation as appropriate. In certain cases, remediation as recommended by the Progress Committee may be mandatory. Failure of any recommended or required remediation, supplemental examinations or repeated clinical rotations will result in the student being required to withdraw from the Program.

Clinical Rotations are Pass/Fail. Students receiving unsatisfactory (Fail) Physician Assistant – In Training Evaluation Report (PA-ITER) in more than 6 credit hours of didactic course or clinical rotations are required to withdraw from the MPAS. Unsatisfactory ITERS in any Clinical rotation require remediation including repeating the Clinical Rotation. Should the MPAS Progress Committee determine a student’s unsatisfactory performance in clinical work is not remediable, (in cases of gross violations of professional ethics, for example) the student will be required to withdraw from MPAS. PA learners are also required to demonstrate satisfactory performance in areas related to professionalism while on rotation and enrolled in the program, such as attendance at and participation in lectures, seminars and laboratories, and the capstone project.

Physician Assistant In-Training Evaluation Report (PA-ITER) is the clinical performance evaluation filled out by preceptors at the mid-point and end of each clinical rotation. PA-ITERs assess CanMEDS competencies. At the completion of each clinical rotation, all students are required to attain a satisfactory PA-ITER as determined by the rotation clinical preceptor(s) and submitted to MPAS. Students who obtain an unsatisfactory PA-ITER in 6 credit hours or less of clinical rotation time (a 4-week rotation is 3 credit hours) may be permitted, at the discretion of the MPAS Progress Committee, to complete some form of remediation determined by the MPAS Progress Committee.

Mini Clinical Evaluation Exercises (Mini-CEX) where a clinical preceptor evaluates the student’s performance in a 15 to 20 minute clinical encounter with a patient. This exercise focuses on components of the patient encounter, such as history taking, physical exam skills, or patient education. The patient encounter accompanied by 10 to 15 minutes of feedback from the preceptor. Learners are responsible for ensuring that they successfully complete a minimum of 22 mini-CEXs over the course of their clinical year.

Observed Histories and Physicals (H&Ps) where students complete 12 observed H & Ps during the clinical year. The College of Medicine’s Clinical Assessment Program provides the observed structured clinical examination (OSCE).
Comprehensive Assessment of Clinical Skills (CACS) is the combined evaluation completed at the end of the Clinical Year 2 by MPAS Faculty. CACS is a summative evaluation of each student’s clinical performance based on review of Academic performance, PA-ITERs, Mini-CEX evaluations, and the summative H & Ps. The CACS graded on a pass/fail basis by consensus of the Progress Committee with input from the MPAS Program Director, Medical Director, and MPAS faculty after review of performance of all components of the clinical year. If, upon review of all evaluation modes, significant concerns regarding performance in one or more areas (clinical skills, medical knowledge, communication skills, professionalism, etc.) exist, the matter is forwarded to the MPAS Progress Committee for review, retesting or remediation as indicated.

The University of Manitoba Master of Physician Assistant Studies website can be found at: http://umanitoba.ca/physicianassistant Inquiries concerning the curriculum sent to mpas@cc.umanitoba.ca.
BACKGROUND HISTORY AND INFORMATION

The PA profession originated in the 1960’s in response to a shortage and misdistribution of primary care physicians, and the increase technical nature of medical practice. In 1984, the first class of physician assistants in Canada graduated from the Canadian Forces Health Services Training Centre located at Borden Ontario. As of 2013, Canada has 4 PA Education Programs and of August 2015 approximately 500 practicing Physician Assistants. There are now more than 100,000 PAs practicing in the U.S. and 190 plus PA educational programs with 60 more programs in development.11

Manitoba enacted legislation in 1999 allowing persons trained as PAs in either the Canadian Forces or accredited U.S. programs to practice in the province as Certified-Clinical Assistants. Changes occurred to the Regulations of the Manitoba Medical Act in 2009 to re-designate these clinicians as “Physician Assistants” in response to recognition of their formal education. The first civilian university class in Canada started in September of 2008 and graduated with a Master of Physician Assistant Studies from the University of Manitoba in 2010. There are now PA education programs at McMaster University in Hamilton Ontario, and with the Consortium for PA Education with degree delivered in collaboration with the University of Toronto, Northern Ontario School of Medicine (NOSM) and The Michener Institute for Applied Health Sciences (Michener).

PAs work under different practice models in other Canadian jurisdictions such as Ontario, Alberta, and New Brunswick, within their legislative framework. In addition, health care planners and administrators in Europe, Asia, Africa, New Zealand and Australia utilize the Physician Assistant or similar models in their health care fields.12

licensing and regulation

The regulation and licensing in Manitoba of Physician Assistants and PA-Students is pursuant to the Physician Assistant register 11(2.1) of The Medical Act. C.C.S.M. c. M90. All Manitoba PAs are licensed by the College of Physician and Surgeons of Manitoba (CPSM) and must enter into a contract of supervision (Practice Description) with a licensed physician(s). Further information and the registration requirements may be found on the CPSM website at www.cpsm.mb.ca

scope of practice and clinical competencies

PAs are effectively extensions of their supervising physician and therefore, they may only provide services that are in the supervising physician’s own scope of practice. Common to Physician Assistants in Canada is the formal academic education preparing them for entry-to-practice roles as medical generalists. They develop additional knowledge of a specialty dependent on their employment and role. Within these parameters, an individual PA’s

11 www.arc-pa.org
12 http://iapae.com/international-pa-programs/
scope of practice is further dictated by the PA’s level of education and experience, and by the unique supervisory relationship between supervising physician and PA detailed in their Contract of Supervision and Practice Description. The Manitoba Medical Act allows PAs to practice medicine and prescribe medications through a formal Practice Description authorized and approved by the Medical Council of the College of Physicians and Surgeons of Manitoba.

PAs are expected to remain constantly aware of their scope of practice and knowledge limitations, and to consult with the supervising physician whenever necessary. PAs perform physical examinations, diagnose and treat illnesses, order and interpret lab tests, perform procedures, assist in surgery, provide patient education and counseling, and rounding in hospitals and nursing homes.

The Canadian Association of Physician Assistants (CAPA) www.capa-acam.ca National Competency Profile (NCP), now CANMEDS-PA, document details the key and enabling competencies expected of an entry-level PA in Canada. These competencies are adapted from and accepted by the Royal College of Physicians and Surgeons of Canada’s CanMEDS framework and the Canadian Medical Association. Canadian PA education programs are accredited by the Canadian Medical Association (CMA) Conjoint Accreditation Service based in part on their assessment of the education program’s ability to instill the competencies outlined in the NCP.

CERTIFICATION AND CONTINUING EDUCATION

The National Physician Assistant Certification Examination administered and maintained by the Physician Assistant Certification Council of Canada (PACCC), is written upon successful completion of a Canadian Medical Association (CMA) accredited PA program. The certification entrance to practice exam, administered independently of any training program, ensures that the graduate PAs meet the standard set out in the National Competency Profile (NCP) for the Physician Assistant profession. Graduates of the University of Manitoba MPAS complete the examination approximately 6-8 week’s post-program completion. Practicing PAs participate in lifelong learning. In order to maintain national certification, a PA must complete 250 hours of continuing medical education every five years, and in Manitoba are required to complete 25 hours per year to stay licensed, 50 for certification of which 97% of all Manitoba PAs are certified.