

PATHWAYS CURRICULUM COURSE SUMMARIES



Pathways Curriculum Map HARVARD MEDICAL SCHOOL

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Year I		Foundations Practice of Medicine (POM)			IDD		Essentials	Homeostasis 1 POM		Homeostasis 2 POM		
Year II	MBBD POM		Transition to the PCE	Principal Clinical Experience: Core Clerkships (PCE)				PCE			PCE	
Year III	PCE			USMLE Study/Step 1			Advanced Experiences & Scholarly Project					
Year IV	Advanced Experiences & Scholarly Project USMLE Steps 2CS & 2CK									Capstone Course		

- Introduction to the Profession (ITP)**
- POM** **Practice of Medicine:** Foundational communication, physical exam, clinical reasoning and presentation skills.
Goal: 4-year longitudinal clinical skills curriculum.
- Foundations** Biochemistry, Cell Biology, Genetics, Developmental Biology, and introduction to Anatomy, Histology, Pharmacology, Pathology, Immunology, Microbiology
- Essentials** **Essentials of the Profession: Evidence, Ethics, Policy, and Social Medicine** Health Policy, Medical Ethics & Professionalism, Social Medicine, Clinical Epidemiology/Population Health
- Transition to the PCE** **Transition to the Principal Clinical Experience:** Intensive ramp-up clinical skills; clinical anatomy; introduction to imaging; clinical epidemiology and medical ethics; BLS, mask fitting, occupational health screening, HIPAA, and standard precautions; life on wards, digital professionalism, and PCE orientation.
- Professional Development Weeks:** Three one-week periods of assessment, feedback, self-reflection, advising to consolidate learning and generate individualized learning plans.
- Recess**

Organ Systems Courses: Including relevant anatomy, pathology, pharmacology, etc.

- Immunity in Defense and Disease (IDD):** Derm, Rheum, Allergy/Immunology
- Homeostasis 1:** CV, Resp, Heme
- Homeostasis 2:** Renal, GI, Endo, Repro
- Mind, Brain, Behavior and Development (MBBD)**

Advanced Experiences & Scholarly Project Advanced integrated science courses, Scholarly Project, clinical electives, sub-internship and student-as-teacher opportunities

USMLE Step 1, Steps 2CS & 2CK **Step 1:** Study Oct/Nov Year III; take by 12/31 Year III
Steps 2CS & 2CK: Take CS by 11/1 and CK by 12/31 Year IV

More info: <http://hms.harvard.edu/departments/medical-education/md-programs/pathways> Last updated 11/13/2015

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Practice of Medicine (POM) – Weekly, August Year I – July Year II

Overview

The Practice of Medicine (POM) is a weekly longitudinal course that integrates the teaching of the foundational communication, physical exam, and clinical reasoning skills during the first year of medical school. This year-long clinical course, which takes place one day per week throughout the first year of medical school, is designed to be fully integrated with a concurrent sequence of foundational basic and social sciences courses that together prepare students for entering the clinical clerkships and the Principal Clinical Experience (PCE) in October of Year II. Students entering HMS are assigned to one of our affiliated hospitals (MGH, BWH, BIDMC or Cambridge Health Alliance) and receive their foundational clinical education in the POM at that site. In order to foster continuity in education and establish meaningful relationships and mentorship, students stay at the same hospital for their second year to complete the PCE.

The POM offers students the opportunity to learn clinical medicine with a multifaceted approach focused on 1) interview & communication skills; 2) physical exam, clinical reasoning and diagnostic skills; 3) ambulatory care and inter-professional education; and 4) professional development and reflection. Guided by expert faculty of core educators at each clinical site, students participate weekly in morning and afternoon sessions that alternate between inpatient and outpatient settings. During their time in the hospital sites, students work with a set of preceptors who help them navigate the curriculum and learn foundational communication and physical diagnosis skills. Students are also assigned to a primary care clinic where a preceptor guides them and helps them understand the fundamentals of clinical practice in the ambulatory setting and the roles and responsibilities of allied health professionals by active participation in inter-professional teams. There are specialized sessions on geriatrics, pediatrics, and delivering care in a cultural context and to patients with limited English proficiency, among other topics.

This multifaceted approach delivers well-integrated clinical education while allowing students to establish meaningful, lasting relationships and mentorship with clinical teaching faculty at their assigned clinical sites. The structure allows students and faculty to establish continuity in education with opportunities for accountable assessment and for mentorship/advising/coaching. Our ultimate goal is to provide students with a core clinical education that is fully integrated across the basic, social, population and clinical sciences and that serves as the broad foundation for all their future learning.

Relationship to other preclerkship courses

This course is integrated in a bidirectional fashion with all basic, social, population and clinical science courses during the first year of medical school. It serves as the laboratory in which knowledge and skills acquired in other courses are applied and practiced. Throughout the preclerkship period, POM meets weekly in addition to the basic, social and population science courses, and a 5-week period of consolidation of knowledge and preparation for the wards prior to the PCE (Transition to the PCE).

Clinical Education Entrustable Professional Activities (EPAs) at HMS

1. Demonstrate professional behavior
2. Communicate with patients and families
3. Perform a physical exam
4. Ability to Utilize and Interpret clinical tests and imaging
5. Ability to perform medical, diagnostic and surgical procedures
6. Ability to work in interprofessional teams
7. Ability to diagnose clinical problems
8. Ability to intervene in the natural history of disease
9. Ability to provide clinical care within the context of the patient's determinants of health
10. Solve clinical problems using medical knowledge and scientific evidence

***Foundations* – August – October, Year I**

Overview

The set of courses comprising *Foundations* are organized into three discipline-specific themes: *Molecular, Cellular and Genetic Basis of Medicine* (cell biology, biochemistry, genetics, and pharmacology); *Structure and Function of the Human Body* (anatomy, histology, developmental biology); and *Mechanisms of Defense and Disease* (pathology, immunology, microbiology). The content will be selected to emphasize the key principles of each field, yet most topics will be taught in an integrated fashion to help students identify conceptual links between fields. For example, cell signaling will be taught in the context of how signaling pathways are perturbed by mutation or disease and how drugs are used to intervene in signaling pathways. To complement discipline-oriented teaching, *Foundations* will introduce several disease-specific themes that will be used to teach content in a longitudinal and integrated fashion. These themes will include Cancer, Infectious Disease, and Atherosclerosis.

Relationship to other new courses

As implied by the name, *Foundations* will provide a molecular, cellular and anatomic framework upon which subsequent courses build. General principles of anatomy, pharmacology, and microbiology will be introduced during *Foundations* and extended in subsequent organ systems courses. For example, dissection of the human body during *Foundations* will provide an introduction to the major organ systems. Anatomy of each organ system will be reviewed with prosections and virtual tools during each organ system course. At the end of the first year, the anatomical basis of clinical skills and surgical procedures will be reviewed as students prepare to go on to the wards. A similar longitudinal approach will be used to teach pharmacology and infectious disease throughout the first year. We anticipate that the teaching of the disease-specific themes will also continue during the organ system courses. For example, in the *Cancer* theme, *Foundations* will teach general principles of cancer biology and therapeutics, while the organ systems will teach specific manifestations of cancer in the relevant organ systems.

Major topics to be covered (abbreviated)

Molecular, Cellular and Genetic Basis of Medicine: Molecular building blocks of cells; principles of cell organization, communication and metabolism; structure of genes, regulation of gene expression and consequences of genetic variation; mapping disease genes; population genetics; genetics of disease; drug-receptor interactions; enzyme kinetics and inhibition; pharmacokinetics and pharmacodynamics; drug-drug interactions; drug resistance; drug discovery; pharmacogenetics.

Structure/Function of the Human Body: Cell and tissue types; histology of normal tissues; overview of body organization; dissection of the major organ systems, emphasizing the musculoskeletal system and basic organization of the thorax, abdomen, pelvis, head, and neck; embryology and developmental biology, emphasizing organization of the body plan (details of specific organ systems will occur in organ system courses).

Mechanisms of Defense and Disease: Hematopoiesis, hemostasis, thrombosis, inflammation, innate and adaptive immunity, vascular biology, neoplasia. Medical microbiology: Structure and function of microorganisms; pathogenesis and pharmacology of infectious disease.

Possible Years III/IV Advanced Courses

1. Advanced Clinical Pharmacology
2. Clinical Anatomy for Surgical Specialties
3. Clinical Anatomy for General Surgery
4. Discovering New Drugs
5. Frontiers in Genetics
6. Diseases of Protein Folding
7. Infectious Diseases

Immunity in Defense and Disease (IDD) – November-December, Year I

Overview

This course will focus on commonly encountered and/or highly instructive diseases of the skin, joints, muscles and blood vessels, systemic diseases that involve these tissues, and on the mechanisms and manifestations of autoimmune and allergic diseases. The integrating theme of *IDD* will be immune/inflammatory mechanisms of disease, with a focus on dysregulated or inappropriately targeted immune responses that give rise to autoimmune and allergic diseases. Causes and manifestations of acquired immunodeficiency (both iatrogenic and infectious) will also be covered. Other clinically important aspects of Dermatology and Rheumatology that do not readily associate with the immune/inflammatory theme, such as skin cancer, and osteoarthritis will be included.

Relationship to other new courses

IDD will build on several topics that should be covered in detail in *Foundations*, including anatomy and histology of the skin and musculoskeletal system, inflammation, the normal functions of the immune system, and basic microbiology. *IDD* will also pave the way for teaching how systemic diseases affect the organ systems covered in *Homeostasis I and II*. For example, the pathophysiological basis of SLE and the manifestations of this disorder in skin, joints, and blood vessels, will be introduced in this course. However, the manifestations of SLE in other organs systems will be covered in Renal, Cardiovascular, and Pulmonary blocks in the *Homeostasis* courses.

Major topics to be covered (abbreviated)

Dermatology: function of the skin; clinical description of skin lesions; skin cancer; the response of skin to infection (appropriate inflammation); inflammatory diseases of the skin (inappropriate inflammation).

Rheumatology: SLE-immunological abnormalities (clinical presentation, differential diagnosis); clinical assessment of aches and pains of joints and muscles; RA and other polyarthritis (pathophysiology, clinical manifestations, treatment); laboratory medicine of inflammatory /autoimmune diseases; monoarthritis (crystalopathies, osteoarthritis); septic arthritis.

Immunology/immunopathology: Allergy and asthma, sepsis, mechanism of self-tolerance and how they fail in autoimmunity; causes and manifestations of acquired immunodeficiency

Diseases covered that will integrate Dermatology and Rheumatology, and Immunopathology

SLE, psoriasis, vasculitis, drug hypersensitivity reactions

Possible Years III/IV Advanced courses, or topics within courses, related to *IDD*

Integrated: Common mechanisms and therapeutic targets in autoimmune diseases

Dermatology: Cutaneous manifestations of internal disease; Disorders of hair and nails

Rheumatology: Lupus-related disorders (Sjogren's, mixed connective tissue diseases. others); vasculitis revisited (serum sickness, cryoglobulinemia, ANCA+, ANCA-); fibrosing disorders (Scleroderma); autoinflammatory diseases and the inflammasome; pediatric rheumatology

Essentials of the Profession: Evidence, Ethics, Policy, and Social Medicine (EoP) – January, Year I

Overview

Essentials of the Profession will bring together the social and population science relevant to the practice of medicine. It will cover and integrate key concepts and methods of clinical epidemiology, population health, health care policy, social medicine, medical ethics and professionalism. The course will be taught in two components, the first in the January block of Year 1 and the second in a month after *PCE*.

Relationship to other new courses

The faculty of *EoP* and *POM* have worked together closely on how best to teach material that is relevant to both courses. This course will draw from students' encounters with patients and their clinical experiences during *POM*. Selected topics from *EoP* will also be woven throughout the four-year curriculum, including *Introduction to the Profession*, the *Transition to the PCE*, the *PCE*, and the *Capstone Course*.

Major topics to be covered during *EoP* (Year 1) include the following:

Clinical Epidemiology and Population Health: continuum of individual patient care and population health approaches; study design; critical reading; introduction to inference and biostatistics; diagnostic testing and clinical decisions (sensitivity, specificity, etc.); summarizing and integrating evidence; introduction to paradigmatic population health issues/interventions; and translation of evidence-based medicine to clinical care.

Health Policy: key characteristics of the U.S. health care system and recent reforms; private insurance; Medicare and Medicaid; payment of health care providers; measurement of quality of care; improving quality; how other countries organize and finance their health care systems; and health care spending growth and efforts to constrain it.

Social Medicine: applying the perspectives of social science to understand the role of medicine, the challenges that medicine faces, and possible solutions; introduction to the social, economic, and political forces that affect both the burden of disease and the ability of health care to improve patients' lives; health care disparities and social determinants of disease; how and why the burden of disease changes over time; the meaning of efficacy, how doctors assess it, and an introduction to the limits of "evidence based medicine"; responsibility for disease; an introduction to the social factors influencing health care; and examples of health care providers who work both within and outside the traditional clinical setting to advocate for their patients, improve access to health care, address the social determinants of health, and alleviate disparities.

Medical Ethics and Professionalism: role of the physician and the moral framework of modern health care practice; deciding for others (e.g., advanced directives); introduction to ethical issues at the beginning and end of life; overview of utility; introduction to research ethics; reproductive ethics and genetic testing; and introduction to ethics of bedside rationing.

Likely topics for *EoP* II (Year 3/4) include:

Clinical Epidemiology and Population Health: interpreting medical evidence; physicians and public health emergencies; data to support patient safety and quality; and interface of clinical practice and public health.

Health Policy: malpractice policy, long-term care policy; mental health policy; pharmaceutical and device policy and regulation; and end of life care policy.

Social Medicine: caring for complex patients; delivering high value care; reverse innovation (learning from global perspectives to improve health care in the U.S.); race and other "isms"; poverty's impact on child health and well-being; applying social medicine to global health.

Medical Ethics and Professionalism: ethics of conflict of interest and commercialization; ethical issues in disclosure and apology after errors and adverse events.

Homeostasis I: Maintaining Aerobic Metabolism (Respiratory, Cardiovascular, Hematology) – February-March, Year I

Overview

Homeostasis I will focus on key concepts that are common to patients presenting with respiratory, cardiovascular and hematologic problems, and that are illustrative of principles that form the basis for the understanding of related conditions that are less prevalent. The common theme will be the support of aerobic metabolism via gas exchange, oxygen delivery and utilization. To support a pedagogical approach that emphasizes inductive reasoning, analytical thinking, and problem-solving, the course content will emphasize a series of questions, the answers to which will require students to have not only factual knowledge but deeper understanding that will enable them to apply the information in a range of clinical contexts. Most of the teaching will be done in sections of 42 students using team-based learning. In addition, small group work independent of faculty will occur daily to consolidate learning from assignments and to facilitate peer instruction. Content will be integrated across organ systems to emphasize a holistic approach to health and disease. Two core faculty members will work with students in a longitudinal learning experience that will continue for the entire eight weeks of the course.

Relationship to other new courses

This course will extend many of the basic principles elaborated in the *Foundations* course with particular attention to functional anatomy, histology, and pathology of the three organ systems. In addition, we will build on the themes of vascular biology, tumor biology, and core immunology/microbiology as we explore coronary disease, infections (e.g., pneumonias in immunocompetent and compromised hosts) and neoplasms (e.g., lung cancer, leukemia) present in these organ systems. To support the development of skills in diagnostic reasoning for the *Practice of Medicine* course, content questions will be formulated to provide the anatomic, physiologic, and pathophysiologic basis for findings ascertained on the physical exam.

Major topics to be covered (abbreviated)

Note: topics will integrate anatomy, histology, physiology, pathophysiology, pharmacology, pathology, radiology

Respiratory: principles of gas exchange and flow through tubes, pulmonary function testing, obstructive lung diseases, restrictive lung disease, common pulmonary vascular problems, pulmonary infections

Cardiovascular: muscle contraction, hemodynamics and heart failure, determinants of stroke volume, core electrophysiology of rhythm generation and conduction, Fick Principle, coronary artery disease, valvular dysfunction

Hematology: function of blood cells, anemias, clotting mechanisms and anticoagulation, white blood cells and immune function

Diseases that will integrate organ systems (examples)

Pulmonary embolism, pulmonary vascular disease, heart failure, anemia

Possible Years III/IV advanced courses

Cardiology: Advanced Hemodynamics – to include didactic time as well as time in catheterization lab

Respiratory: Advanced Clinical Physiology – to include didactics, pulmonary function interpretation, chest radiology, and medical ICU (mechanical ventilation)

Homeostasis II: Food, Water, Mineral Metabolism, Maintenance of Internal Balance (GI; Renal; Endocrine/Reproductive) – April-June, Year I

Overview

Homeostasis II will focus on how the body can maintain the steady state despite the wide range of challenges from the external environment.

Relationship to other new courses

Homeostasis II will build explicitly on material from preceding courses. Lessons in anatomy, histology and embryology will show how form dictates function. Transporters and cell barriers described in *Foundations* will become critical players in the nephron and the GI tract. The interplay between cardiac function, the vasculature and the kidney's calibrated response will be considered as will the essential role of hormones in the maintenance of homeostasis. Similarly, earlier study of the role of respiration in the maintenance of pH will be complemented by contributions from the kidney. Perturbations created by the GI tract that cause fluid and electrolyte losses will help demonstrate renal adaptive response. *Homeostasis II* will also consider reproductive endocrinology and dovetail exploration considered earlier in embryology within the *Foundations* course. Absorption and neuroendocrine signaling by the GI tract will also be addressed in the context of the regulation of normal serum glucose levels.

Major topics to be covered (abbreviated)

Note: topics will integrate anatomy, histology, physiology, pathophysiology, pharmacology, pathology, radiology

Gastroenterology: Function of the esophagus, stomach, small intestine, colon, exocrine pancreas, liver; intraluminal digestion, brush border absorption, colonic fluid reclamation, response to infection in the small intestine; study of celiac disease to reinforce the immune mechanisms of disease.

Renal: The essential role of the kidney in the maintenance of homeostasis. Disorders of volume, osmoregulation, acid-base, potassium and divalent cations will be considered. In addition, renal pathology with study of glomerular diseases will serve an opportunity to reinforce the immune mechanisms of disease

Endocrinology and Reproductive Endocrinology: Hormones orchestrate much of physiology, including growth, development, energy regulation, metabolism, and homeostasis. The endocrine program will examine dysregulation of these hormonal systems and how they lead to problems as varied as diabetes mellitus, adrenal insufficiency, osteoporosis, hypothyroidism, Graves' disease, infertility, preeclampsia, hypogonadism, while exploring common neoplasia including thyroid, breast, uterus, and prostate.

Disorders covered that will integrate Gastroenterology, Nephrology and Endocrinology

Vomiting, diarrhea, cirrhosis, diabetes mellitus, Conn's syndrome, primary hyperparathyroidism

Possible Years III/IV advanced courses, or topics within courses, related to *Homeostasis II*

Integrated: Common mechanisms and therapeutic targets in autoimmune diseases (with *IDD*) or advanced clinical physiology (with *Homeostasis I*)

Nephrology: History and Hot Topics in Nephrology. This course would showcase the remarkable contributions of HMS in the understanding of nephrology past and present.

Endocrinology: Diabetes pathobiology and therapeutics; fertility and reproduction; endocrine neoplasia; integrated chronic care; sexual identity and its resolution; bench to bedside with thyroid diseases.

Gastroenterology: The microbiome in wellness and disease (with Crohn's and ulcerative colitis as models of disease); advanced pharmacology, biological treatments and pharmacogenetics; GI disease in children: influence of malnutrition and inflammation on growth; the liver in repair and disrepair: drug-induced liver injury and sclerosing cholangitis as model illnesses of acute and chronic injury.

Mind, Brain, Behavior, and Development (MBBD) – June-July, Year I/II

Overview

Mind, Brain, Behavior, and Development is a core integrated preclerkship course on the nervous system, behavior, and development. *MBBD* integrates content that was previously covered in three separate courses that ran contemporaneously in the curriculum (Human Systems: Nervous System and Behavior, Psychopathology and Introduction to Clinical Psychiatry, and Human Development). The design team for *MBBD* identified core content that needed to be learned prior to the principal clinical year and created class sessions that matched the most appropriate pedagogical methods and teaching settings with the material to be covered. Thus, students learn brain anatomy using hands-on dissection of human specimens, close study of anatomical models, and exercises in clinical neurology; they learn the approach to psychiatric interviewing through both didactic sessions and small-group visits to mental health facilities led by clinical preceptors; and they learn about cognitive and emotional development through interactive exercises with pediatric specialists and children. A highlight of the course is the weekly integration session at which the lead faculty members from each discipline discuss a clinical case together from a multidisciplinary perspective.

Major topics to be covered:

Week 1: Neurons, axons, synapses; external and internal brain and spinal cord anatomy; descending motor pathways, myelin, and nerve conduction; upper and lower motor neuron disorders; overview of clinical psychiatry and treatment; developmental theories, infant/toddler developmental streams.

Week 2: Child psychiatry; preschooler progression, cultural differences, autism; basal ganglia and cerebellar function, anatomy, and diseases; pediatric neurology; sensory systems and disorders; neurotransmitters; neuropharmacology.

Week 3: Middle childhood and adolescence, attention-deficit disorder, learning disabilities; cerebral cortex, higher cognitive functions, cortical syndromes, ischemic and hemorrhagic stroke, epilepsy; mood and psychotic disorders.

Week 4: Principles of neuroimaging, multiple sclerosis, brain tumors, brainstem and cranial nerves, neuropathology and neurodegenerative disorders; anxiety and substance use; senescence and aging.

Week 5: Personality disorders, post-traumatic stress disorder and adjustment to stress; nervous system development, sleep and autonomic disorders, neuroimaging and head trauma.

Relationship to other new courses

This course requires prior mastery of many of the fundamentals from the *Foundations* course, including cell and molecular biology, principles of musculoskeletal anatomy, and principles of peripheral nervous system anatomy. In addition, it builds on the *Practice of Medicine* course in emphasizing the range of human behavioral responses across the lifespan that inform patient-doctor interactions. With regard to the other organ system courses, *MBBD* highlights normal and abnormal aspects of nervous system functioning that are unique and distinct from other systems. In conjunction with the *Practice of Medicine* course, *MBBD* covers the anatomical and physiological underpinnings of the neurological examination and will specifically address specialized aspects of the pediatric physical exam and psychiatric mental status exam.

Transition to the PCE – August-September, Year II

Overview

This course provides students with an opportunity to consolidate knowledge they have acquired during the first year of the curriculum with an emphasis on experiences that will help them excel in their *Principal Clinical Experience (PCE)*. Sessions are held at both Harvard Medical School and the affiliated teaching hospitals. The curriculum includes a focus on further developing skills necessary for success in the clerkships, including an emphasis on critical thinking. A robust simulation curriculum creates an opportunity for strengthening teamwork and applying medical knowledge to patient care as well as recognizing limits and understanding how to navigate potentially stressful encounters. Interactive sessions on topics including EKG interpretation and diagnostic imaging will help students be more prepared for their clerkships. Focused individualized learning is an integral aspect of this course, providing opportunities for students either to strengthen previously identified areas requiring remediation or to pursue advanced study of a topic of interest.

Relationship to other new courses

This course integrates with all courses preceding it. The clinical anatomy sessions will build on knowledge gained during the introductory anatomy sessions in the *Foundations* course, with a focus on the anatomical basis of physical examinations and procedures. Students will also have the opportunity to build on skills learned during the *Essentials of the Profession* course during sessions on clinical epidemiology and medical ethics. Knowledge gained during courses on *Immunity and Defense of Disease*, *Homeostasis I and II*, and *Mind, Brain, Behavior and Development* will be applied to clinical scenarios in medical simulation and morning report cases. Throughout the first year, students learn communication, physical exam, and clinical reasoning skills in the *Practice of Medicine* course. The *Transition to the PCE* course provides opportunities to apply these skills both at the PCE sites as well as through simulation.

Ten Fundamental Skills

1. Understand the roles of non-physician colleagues in the hospital
2. Demonstrate critical thinking in patient evaluations
3. Interpret EKGs
4. Interpret chest x rays
5. Demonstrate teamwork in simulated patient encounters
6. Use ultrasound to better understand human anatomy
7. Perform intravenous line insertion
8. Understand how to search the medical literature
9. Understand how to write a SOAP note
10. Recognize and analyze ethical dilemmas that may be encountered on clerkships

Possible Years III/IV Advanced Courses

1. Advanced medical simulation – curriculum development
2. Emergency ultrasound – applications in bedside diagnosis
3. Advanced surgical anatomy
4. Medical education elective

Advanced Experiences and Scholarly Project – October, Year III – April, Year IV

Overview

One of the greatest features of the *Pathways* curriculum is the opportunity for students to customize their route through Years III and IV to prepare optimally for whatever aspect of the profession of medicine that has attracted their curiosity and passion. While rigorous demands and high expectations will be set for students in Years III and IV, the expanded time following the *PCE* allows for considerable flexibility as students pursue advanced integrated science courses, clinical electives, and scholarly research projects, and take advantage of myriad opportunities across Harvard University and around the world.

Relationship to other new courses

The *Pathways* curriculum organization acknowledges that core basic/population science knowledge and skills are needed prior to the principal clinical year, but that the richness of more advanced science is best suited to students who have already had clinical experience on the hospital inpatient services and in ambulatory clinics. The expectation is that, having lived in a clinical context for a year, students will return to be more engaged in learning advanced basic and population sciences that are now much more relevant and compelling to them.

Proposed Core Elements of Years III/IV

The following core elements are proposed for the **19 months** (76 weeks) of the post-*PCE* period – October, Year III, through April, Year IV (with graduation in May):

- USMLE – Step 1 study; Step 1, Steps 2CK and 2CS Exams
- Advanced Integrated Science courses
- Scholars in Medicine (SiM) project
- Subinternship in Medicine or Pediatrics
- Clinical Elective Experiences
- Leadership Development
- Opportunities to teach first- and second-year students
- Capstone Course

Please note that the curriculum is undergoing continuous review and improvement and is subject to change at any time.