

## **Organ System Diseases (OSD)**

290 course hours

Updated June 2016

***Organ System Diseases (OSD)*** is a second-year course that extends over 7 months and consists of 9 organ system blocks: Respiratory, Cardiovascular, Renal, Endocrine, Skin, Musculoskeletal, GI, Male and Female Reproduction. Each system covers pathophysiology, pathology, pharmacology, infectious diseases and oncology in an integrated manner. The course focuses on the most common diseases and those that best illuminate basic principles. Clinical management will be presented only to illustrate the importance of basic principles. The course utilizes a variety of teaching formats including large group lectures and case conferences, as well as smaller group conferences, laboratories, and discussion groups; all emphasize thoughtful analysis and synthesis of information and its clinical application.

Key course objectives include:

- Correlation of normal structure and function with the corresponding abnormal changes in organs affected by disease.
- Recognition of the most important clinical signs and symptoms, structural changes (imaging; gross/microscopic pathology) and laboratory findings associated with a specific organ system disease.
- Knowledge of the medical pharmacology and general approach to treatment for the important organ system diseases.
- Further development and refinement of clinical problem-solving skills including the ability to develop an appropriate differential diagnosis in a given clinical case; this will require integration of clinical and laboratory data and basic knowledge relating to multiple organ systems.

Student competency is assessed primarily by individual responses to MCQs (including those from the NBME) as well as short answer questions based on case vignettes or full case presentations.

## **The Brain: Nervous System and Behavior (Brain)**

160 course hours

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*BRAIN: Nervous System and Behavior* is a 145-hour second-year course organized as three interrelated tracks covering **Clinical Neuroanatomy, Neurology / Neuropathology, and Psychiatry /Behavior**. Pharmacology and Neuroimaging are interwoven throughout the Tracks. The course considers disorders of the nervous system and behavior as disorders of the whole person, taking into account genes, neurological substrate, behavior, and environment. *BRAIN* includes large group interactive lectures and case conferences, as well as smaller group conferences, laboratories, and discussion groups. In all these formats, thoughtful analysis and synthesis of information and its clinical applications is emphasized.

Selected Key Concepts and objectives include:

- Normal structure and function of the human nervous system
- Anatomic localization as determined by clinical presentation and neuroimaging
- Pathophysiology of major nervous system disorders
- Approach to the patient and differential diagnosis - how common neurological and psychiatric disorders present clinically
- Clinical presentation and differential diagnosis of common neurological and psychiatric disorders
- Normal and abnormal psychological development
- Introduction to the pharmacologic and non-pharmacologic treatment of neurologic and psychiatric disorders in the context of pathophysiology and other etiologies

Student competency is assessed by both individual and team-based responses to MCQ and short answer questions that are often based on case vignettes or full case presentations.

## **Doctoring and Clinical Skills (DCS)**

85 course hours

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The **Doctoring and Clinical Skills (DCS)** course is the major curricular component of Learning Communities. DCS spans the first two years of medical school and teaches students the fundamental clinical skills of the medical interview and clinical communication, physical examination, clinical problem solving, professionalism and medical ethics, while attending to core issues of our students professional identity formation as student-physicians. The DCS course also provides clinical reinforcement of basic biomedical, social determinants of health and quantitative health sciences curricular content. Much of this content is taught in small groups consisting of students and their House Mentor or other key faculty. By teaching their students in the DCS course and in other curriculum over portions of the first 3 years, House Mentors observe their students in action over time and monitor their development of competencies.

DCS has three main components: 1) **small group sessions**, in which students meet regularly with two faculty facilitators (one MD and one non-physician) to learn and practice skills in core competencies including the medical interview, clinical reasoning, teamwork and presentation skills; this component includes extensive experience with Standardized Patients and a “Clinical Observation” that links students with interprofessional colleagues in ambulatory and inpatient settings throughout the Health Care system; this component is led by LC mentors in FOM2; 2) **Physical Diagnosis (PD)** in which students work with their LC mentors and Advanced Studies peer teachers to acquire the mechanical skill of the physical examination and focus on their efficient and respectful execution; in FOM2 these occur as ‘hospital sessions’ and students work with their LC mentor to integrate skills and perform full histories, physical examinations, oral presentation and write ups for hospitalized patients; 3) the **Longitudinal Preceptorship Program (LPP)** which places students a consistent clinical setting beginning in the first weeks of medical school, providing the opportunity to practice skills taught in small group or PD and to interact with patients under the supervision of an assigned faculty physician preceptor in diverse preceptorship sites including urban, rural and underserved, hospital and community settings.

Selected key concepts or objectives include

- Preparing first and second year students for clinical work of the third and fourth years and their future professional practice;
- Building a practice of patient-centered care including incorporating social and societal determinants of health, teamwork, health care systems and their technologies, motivational interviewing and behavioral change models, caring for underserved populations and promoting quality & safety into their interactions
- Experiential reflection, personal and professional development
- Integrating learning across courses to build skill in the art and science of medicine

Student assessment includes participation in all components, completion of reflective assignments and patient write-ups, standardized patient interactions.

## **Integrated Case Exercises (ICE)**

15 course hours

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The **Integrated Case Exercises (ICE)** curriculum aims to link the student's core learning through Foundations of Medicine (FOM) 1 and 2 to clinical problems that real patients face every day. The ICE curriculum in the first year of medical training (ICE-1) cross-links material from other FOM-1 courses, and applies it practically in a clinical case setting. The ICE curriculum in the second year of medical training (ICE-2) is geared toward preparing the second year student for competency on the wards and clinics in their following two years of training, while cross-linking material between courses in the FOM-1/FOM-2 curricula.

There are 18 one-hour ICE sessions in the first year curriculum and an additional 12 in the second year. The topics covered are intentionally very broad. The goal is to treat a variety of subjects that display the interconnections of the basic medical sciences, clinical medicine and the humanistic side of practicing medicine. In both ICE-1 and ICE-2, we draw on the knowledge of experts in relevant fields of medicine whenever possible. Particularly in ICE-2 we review many practical technical skills that a student might find themselves doing in the subsequent two years (e.g. reading an ECG, applying oxygen to a patient, calling a consultant, etc.) ICE utilizes interactive large group learning, incorporating technology and simulation to support faculty engagement from off-site and student learning.

Selected key concepts or objectives include:

- Reinforcement of the foundational basic sciences with application to clinical problem solving
- Considering unique patient populations, impact of disease and social determinants of health
- Active engagement in the processes of clinical care including real-time decision-making and consultation

Student performance assessment in ICE includes online assessments associated with each case, as well as participation in a Formative Assessment that is given each year.

Foundations of Health and Disease (FHD) is a component of the bridge curriculum, comprising the end of the first academic year of medical school. The content and approach are designed to serve as a transition between FOM1 and FOM2. Through FHD, students will begin to apply principles developed in prior FOM1 courses to content areas that underscore many of the normal and dysregulated homeostatic mechanisms learned in FOM2. Content is integrated across several disciplines, primarily including pathobiology (the study of disease mechanisms), pathophysiology (the study of disease manifestations), and medical pharmacology (the contextual study of drug mechanisms), but with strong ties to epidemiology, anatomy, physiology, immunology, and neoplasia.

## **Determinants of Health (DOH)**

50 course hours

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The **Determinants of Health** course lays the foundation for students to consider the ways in which the external environment affects and influences human beings' health. Implemented across both semesters of the FOM1 and fall FOM2 semester, DOH combines didactic, classroom based lecture and small group discussion in the first year with the Population Health Clerkship (PHC) in the second. Through the first year's Epidemiology and Biostatistics segment, students work in an interprofessional setting with colleagues from our Graduate School of Nursing to study fundamentals and learn to assess the medical literature. In the fall of the second year, the PHC provides an intensive, two-week hands-on interprofessional small group immersion learning experience for medical and graduate school of nursing students. Student and DOH course leaders build on this foundation to work actively with faculty from other courses to effectively integrate DOH concepts into courses throughout the curriculum.

Selected key objectives include:

- Develop a fundamental understanding of the determinants of health, including the many complex and interrelated factors associated with the health of individuals and populations.
- Understand the relationships among community, cultures, the medical care systems, and the health of individuals and populations.
- Understand the role of biostatistical and epidemiological principles in: (1) clinical diagnosis and treatment; (2) population health; and (3) evaluating outcomes of health care services.
- Understand and demonstrate the clinician's role as advocate for the health of individuals and populations.
- Understand and demonstrate the clinician's role as one member of the inter-professional health care team functioning within a community.

The course uses narrative feedback on first year students' reflective essays as well as formative and summative assessments of epidemiology and biostatistics problem sets and exams. In the second year's PHC, students complete reflective essays and an academic poster to present insights gained through the clerkship, and receive feedback on a range of characteristics to support ongoing professional development.

## **Patients**

51 course hours

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The **Patients** course is designed as a final integration of FOM 1 and 2 content supported by clinical problem solving in order to prepare students for success in the clinical clerkships and on Step 1 of the boards. The goal include teaching students how clinicians use basic science content to problem-solve symptom-based, multisystem illness. The teaching style focuses on large-group, interactive, case-based methodology using NBME question format to integrate core pathophysiologic principles across the organ systems. Patients links closely to the OSD course through 'Integrated Review Sessions' which are Patients-style interactive large group sessions that follow each OSD organ system block to provide opportunities for consolidation of knowledge and skills. The Integrated Review Sessions utilize NBME-style questions and Responseware technology to create an interactive exercise.

Selected key concepts or objectives include:

- comprehensive and intense review of material presented in the OSD course (cardiology, pulmonary, nephrology, endocrinology, rheumatology, gastroenterology and selected topics in hematology).
- applied sciences such as key pharmacology, microbiology, embryology, anatomy and immunology concepts in the appropriate clinical context.
- The curriculum is taught through the eyes of an internist using the lens of the NBME, and integrated across organ systems.

Student assessment is largely through a comprehensive NBME-style exam based on material covered throughout the course.