Course Descriptions
Foundations of Medicine Year 1

1. **Principles of Human Genetics**: *Course Co-Leaders: Beverly Hay, MD and Jeanne Lawrence, PhD*
   
   **Fall Semester, 29 hours**
   
   **A Note from Course Leadership:** Recognizing the growing body of science related to genetics and its applications to healthcare, this course has been reconfigured to focus on the principles of genetics. Genetics content will then be threaded longitudinally into other components of the curriculum: Foundations of Medicine 1 courses, Foundations of Medicine 2 organ blocks and Brain: Nervous System and Behavior and the clinical clerkships. *For additional information: Principles of Human Genetics*

2. **Building Working Cells and Tissues**: *Course Co-Leaders: Mary O’Brien, MD, and Bill Royer, PhD*
   
   **Fall Semester, 69 hours**
   
   **A Note from Course Leadership:** Our design team firmly believes that our first two years of medical school “needs to establish a new culture”. We need to initiate clinical thinking processes from the start, using a type of Oslerian model that promotes the application of scientific knowledge to solving medical problems. BWCT will make extensive use of cases to illustrate clinical aspects of the basic scientific concepts. We hope to have this teaching approach become the norm throughout all courses in the new curriculum, which will feature basic scientists collaborating with clinicians to illustrate topics. We hope that effective teaching in BWCT will lay the groundwork for the courses that follow, enabling these courses to spend more time on in-depth clinical illustrations of basic science principles. *For additional information: Building Working Cells and Tissues*

3. **Doctoring /Clinical Skills**: *Course Co-Leaders: Mike Ennis, MD and Dave Hatem, MD*
   
   **Fall & Spring Semesters, 160 hours**
   
   **A Note from Course Leadership:** Students enter medical school to become doctors and engage in a career of lifelong learning and personal and professional development. Doctoring and Clinical Skills will provide a solid foundation for each of these goals through a mentored, skills-based curriculum with faculty mentors who have long-term relationships with students across their four years of medical school. The course structure includes small groups with vertical integration so that senior students share lessons learned with more junior students. In addition, mentors offer close observation and frequent feedback on clinical skills, application of scientific principles, and demonstration of humanistic values, will prepare our students to become skilled, innovative doctors and individuals who function effectively in teams. *For additional information: Doctoring / Clinical Skills*

4. **Principles of Pharmacology**: *Course Co-Leaders: Mark Dershwitz, MD, PhD and Charles Sagerstrom, PhD*
   
   **Fall Semester, 20 hours**
   
   **A Note from Course Leadership:** The Principles of Pharmacology (PoP) course will lay the foundation for the teaching of pharmacology in the entire curriculum. Basic pharmacology principles and concepts will be introduced and placed in the context of other courses in the curriculum. The PoP course has been re-designed to emphasize how basic pharmacology principles impact treatment decisions – accomplished via close integration of clinical vignettes and case studies (to be co-taught by clinicians and basic scientists) with basic material. *For additional information: Principles of Pharmacology*

5. **Development, Structure and Function**: *Course Co-Leaders: John Cooke, PhD, Julie Jonassen, PhD and Daniel Schwartz, MD*
   
   **Fall and Spring Semesters, 200 hours**
   
   **A Note from Course Leadership:** Using a multifaceted approach, Development, Structure and Function (DSF) examines how the human body develops and how it works, by presenting a highly integrated view of anatomy, histology, physiology and development. This course emphasizes the importance of understanding both the regional and systemic aspects of human biology and medicine, using clinical cases and clinical imaging to integrate these heretofore isolated disciplines. A key feature of this course will be the development and implementation of a virtual library of shared resources (cases, images, course syllabi, etc) that link DSF to previous, concurrent and future courses. *For additional information: Development, Structure and Function*
6. Cancer Concepts: Course Co-Leaders: James Liebmann, MD and Rick Pieters, MD
Spring Semester, 20 hours
A Note from Course Leadership: This course will be entirely case based, so that the clinical relevance of each bit of information presented will be immediately apparent, but a very limited number of cases will be used to keep the focus on the basic science. The precept concept will require students to do reading before each session, and then be prepared to discuss. Recall of learned information is known to be better when it is learned in the same context in which it must be recalled. This structure is the way we wish we had been taught introduction to oncology. For additional information: Cancer Concepts

7. Host Defense and Blood: Course Co-Leaders: Leslie Berg, PhD and Robert Weinstein, MD
Spring Semester, 62 hours
A Note from Course Leadership: This course will provide an integrated overview of blood and its disorders (hematology), immunology and inflammation. It will incorporate several new features including on-line learning modules, virtual microscopy exercises and student-led clinical case discussions and problem-solving sessions. Our specific focus is on building student knowledge of the interactions between the blood, immune and inflammatory systems and using this information in conjunction with clinical data to identify important hematological and immunological disorders. For additional information: Host Defense and Blood

8. Infections: Course Co-Leaders: Jennifer Daly, MD and Anthony Poteete, PhD
Spring Semester, 59 hours
A Note from Course Leadership: Infectious agents and infectious diseases affect our world and its inhabitants across generations (human and microbial), and interact with the human and non-human environment to cause disease. We have designed this new course based on LInC principles and meetings with individual faculty and students, building upon our experiences teaching students about microbiology, infections and antimicrobial pharmacology at various levels. We also reviewed past course evaluations. We are excited about continuing to refine our concept of evolving the course into integrated modules and creating new materials for individual and group learning related to Infections. We believe that the new design will excite students and their faculty teachers; encourage them to innovate; and challenge themselves as teachers and life-long learners. For additional information: Infections
Course Descriptions

Foundations of Medicine Year 2

1. Organ System Diseases: Course Co-Leaders: Henri Cuenoud MD, Armando Fraire MD, Mark Madison, MD and Tom Smith, MD
   Fall & Spring Semesters, 233 hours
   A Note from Course Leadership: An understanding of disease pathogenesis, pathology and pathophysiology is the bridge linking basic science to the clinical bedside. Combined with medical pharmacology, these disciplines provide the knowledge base necessary for effective and lasting learning in the third and fourth years of medical school. In keeping with LinC principles, the course Organ System Diseases (OSD) will build that knowledge base and then foster integration of the knowledge so that it can be applied in problem solving. For additional information: For additional information: Organ System Diseases

2. Determinants of Health: Course Co-Leaders: Jeroan Allison, MD and Suzanne Cashman, ScD
   Fall Semester, 70 hours
   A Note from Course Leadership: Much of medical study focuses on what is happening in the body to cause illness and/or disease. Through the Determinants of Health (DOH) course, students are challenged to think beyond the parameters of the human body and to consider the many ways in which the external environment affects and influences human beings’ health. This includes factors related to the environment, social conditions, and behaviors. In FOM2, DOH will link instruction in the fundamentals of Biostatistics and Epidemiology with advocacy skills and practice through applying elements of population health in the community health clerkship. Given that individuals’ living circumstances largely constitute the determinants of health, this course will ensure that students begin to identify and, as appropriate, learn methods for intervening and advocating related to any of the many factors affecting patients’ health status. It will support the Physician as Advocate competency. For additional information: Determinants of Health

3. The Brain: Nervous System and Behavior: Course Co-Leaders: Sue Gagliardi, PhD, Neeta Garg, MD, Mai-Lan Rogoff, MD, Tom Smith, MD
   Fall & Spring Semester, 143 hours
   A Note from Course Leadership: We believe that physicians should see disorders of the nervous system and behavior as disorders of the whole person, taking into account genes, neurological substrate, behavior, and environment. They should consider the impact of these disorders on the person, the family, and society. We are designing our new course to promote this philosophy. It will emphasize content and clinical problem solving skills relevant to general medical practice now and in the foreseeable future. We also hope that it will excite and challenge both students and teachers to continue exploring this rapidly evolving field, and to incorporate what they learn into their ongoing work and practices. For additional information: The Brain: Nervous System and Behavior

4. Doctoring/Clinical Skills: Course Co-Leaders: Mike Ennis, MD and Dave Hatem, MD
   Fall & Spring Semesters, 91 hours
   A Note from Course Leadership: Students enter medical school to become doctors and engage in a career of lifelong learning and personal and professional development. Doctoring and Clinical Skills will provide a solid foundation for each of these goals through a mentored, skills-based curriculum with faculty mentors who have long-term relationships with students across their four years of medical school. The course structure includes some small groups with vertical integration so that senior students share lessons learned with more junior students. In addition, mentors offer close observation and frequent feedback on clinical skills, application of scientific principles, and demonstration of humanistic values. This experience will prepare our students to become skilled, innovative doctors and individuals who function effectively in a broad range of teams. For additional information: Doctoring/Clinical Skills
5. Integrated Case Exercises (ICE):  
Program Co-Leaders: Mike Fahey, MD and Christina Hernon, MD  
Fall and Spring Semesters, 15 hours

A Note from Program Leadership: Studying medicine is an extremely challenging endeavor. The first two years of medical school strive to make incoming students competent in a variety of fields, including biochemistry, physiology, histology, anatomy, genetics, pharmacology, pathophysiology, and clinical doctoring skills. It is easy for the medical student to become lost in the deluge of information in which they are immersed, thereby losing sight of the overarching goal of this education. The goal is to become an outstanding physician who can relate their expertise in multiple disciplines to the health and well-being of their patients. 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) will serve to cross-link material from the other FOM1 courses, and apply this material practically in a clinical case setting. The ICE curriculum in the second year of medical training (ICE-2) will be geared toward preparing the second year student for competency on the wards and clinics in their following two years of training. For additional information: Integrated Case Exercises

6. Patients:  
Course Co-Leaders: Michele Conroy, MD and Howard Sachs, MD  
Spring Semester, 33 hours

A Note from Course Leadership: Scheduled as the final teaching block of the foundational studies years, students arrive at the Patients course having completed their training in FOM 1, FOM 2, ICE and DCS. Thus, the course is situated at the crossroads of their foundational educational experience and the opportunity to apply this knowledge to clinical scenarios involving complex patients with multisystem disease states. The Patients course represents a culmination of the integrated curriculum and serves as a stepping stone from which the students will confidently move ahead, through a month long journey looking “backward” at their FOM. The course will reinforce that Foundations is truly the basis for successful clinical problem solving while generating enthusiasm and piquing curiosity toward their clinical training. For additional information: Patients

7. Nutrition Program:  
Program Leader: Angela Beeler, MD  
Fall and Spring Semester, 11 hours

A Note from Program Leadership: Nutrition is a pervasive topic that affects all aspects of health care. It is important that students understanding the relationship between patients’ (and their own) choices related to food and activity, and the emotional and physical health outcomes of these choices. The Nutrition Program aims to provide students with broad based nutritional information that they will be able to apply in their interactions with patients. For additional information: Nutrition