

Leder Medical Sciences Program Summary

Introduction

The future success of translational research relies upon dedicated and talented individuals who are well versed in the science of human biology. To provide formal training in this area for Harvard life sciences PhD students, we are establishing the Leder Medical Sciences (LMS) Program, honoring Dr. Phillip Leder, outgoing Chair of the Department of Genetics at Harvard Medical School. This Program is for HILS PhD students and will be initiated in the spring semester of 2006. An outline of the Program is given below. The Program Administration, with contact information, is listed below.

Outline of LMS Program

The LMS Program has two goals. First, it will provide PhD students with a working knowledge of the fundamentals of human biology and disease, primarily through a series of courses, to enrich their basic science training and broaden their research interests. Second, it will demystify the culture and practice of medicine, facilitating future collaborations with clinicians and physician-scientists, through activities designed to bring students into a hospital environment into direct contact with physicians, patients, medical students, and physician-scientists. The full program runs for one and one half years, beginning in Spring of the G1 Year, and it will be interdigitated with a student's other graduate program requirements. Students who successfully complete the LMS Program will receive a certificate of distinction with their PhDs. Students who do not enter the LMS program but wish to learn about human biology will have access to all LMS courses on an ad hoc basis. After the formal LMS Program is completed, students will be encouraged to continue to develop careers in human biology through ongoing mentoring and extracurricular activities throughout their time at Harvard. However, there is no requirement that a student undertake thesis research in a laboratory that is working on human biology or disease as any type of basic science is considered to be vital and fundamental for the goal of understanding and treating human disease.

Application

Students in Year 1 of any HILS program are invited to apply. A short application and an interview with members of the LMS Admissions Committee will be required. Evidence of a commitment to this type of training and good academic standing will be the criteria upon which applicants will be judged. If there is a greater number of qualified applicants than slots available, a lottery will be held. An application was distributed this November and decisions will be made by the holiday break in December 2005.

Course Requirements

The curriculum does not replicate the pre-clinical coursework taken by medical students; rather, it focuses on knowledge and concepts of particular use to biomedical investigators. To this end, there are three specific courses that are required, two of which are existing courses: [BCMP 207. Molecular Approaches to Drug Action, Discovery and Design](#) and [HT 035. Principles and Practice of Human Pathology](#) (offered at MIT). The third required course is a new course for all PhD students that will be offered for the first time in Fall 2006, Med Sci 220. Human Pathophysiology. It introduces fundamental homeostatic mechanisms and organ systems, covering both normal and disease states. Several longitudinal themes (immunology, cancer, genetics, and developmental abnormalities) integrate concepts across organ systems. Students will observe physiology in practice through field trips to clinical outpatient units (e.g., a dialysis unit, an exercise physiology lab, a cardiac function lab) and the operating room..

In addition to the above courses, at least two elective courses are required. These will be chosen in consultation with an LMS Program Advisor to allow students to broaden their exposure to human biology and to study selected topics (e.g., immunology, neuroscience, human genetics, infectious disease, epidemiology) in greater depth. Electives include a subset of courses currently available to medical and graduate students, along with courses designed specifically for LMS students.

All courses taken for the LMS Program can be counted towards a student's requirements for their PhD Program, as allowed by each individual PhD Program.

Clinical Experiences

In parallel with formal courses, LMS students will have structured opportunities to learn about the culture of medicine and explore roles for basic scientists in clinical settings. LMS students will attend pre-selected clinical conferences at the major teaching hospitals and meet with attending physicians to discuss conference topics in a journal club format. They will also attend a Molecular Medicine seminar series. Throughout Year 2 of the Program, they will engage in [the Mentored Clinical Case Book Project \(MCCB\)](#) directed by Dr. Dan Tosteson. In this course, each LMS student will follow a patient longitudinally and develop their observations into a written case. They will be introduced to the patient by the patient's physician, and will meet in small groups with medical students and a faculty mentor to develop the case. In addition to these activities, LMS students will have seminar sessions with hospital fellows and junior faculty to learn about translational investigation. Each LMS student will also be assigned a clinical mentor, chosen according to the student's research interests.

LINKS

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