

Harvard Medical School/Harvard School of Dental Medicine Health Sciences and Technology Program (HST) at Harvard and MIT

Established in 1970, the Harvard-MIT Division of Health Sciences and Technology (HST) combines the intellectual and programmatic resources of Harvard University and the Massachusetts Institute of Technology. The principal objective of the Division is to educate leaders in biomedical sciences academic medicine. The DMD-HST program was introduced in 2000. The educational curriculum of HST includes programs leading to the MD degree at Harvard Medical School, to the DMD degree at Harvard School of Dental Medicine, to the MS degree at MIT or HMS, or the PhD degree at MIT or Harvard, or to combined degrees at these institutions. The curriculum is designed to emphasize basic and quantitative understanding of modern biomedical sciences and pathophysiologic processes and a fundamental approach to important concepts in modern biology and biotechnology. Students complement their classroom and laboratory exposure to the cutting edge of modern biomedical, physical and engineering sciences with ample opportunities to participate in research in leading laboratories at MIT, and at Harvard and its affiliated hospitals. Graduates appreciate the relevance of fluid mechanics and mathematical modeling to the understanding of cardiovascular pathophysiology; they have been exposed to the potential contributions of artificial intelligence and robotics to the understanding of the human nervous system; they understand basic structural biology and the principles important for rational drug design. They are able to integrate the concepts of molecular biology, biochemistry, and physical sciences into their care of patients.

Preclinical courses are conducted at both Harvard Medical School and MIT, separate from those of the other academic Societies, and are organized in semester format to interface easily with the academic schedules of Harvard University and MIT. A variety of pedagogical approaches are employed including lectures, clinical-pathological conferences, small group discussions and other forms of interactive instruction. The curriculum is dynamic and innovative, and student input is vital to its evolution. The small class size of approximately forty students facilitates productive interaction among students and faculty. HST students join students in the other academic Societies for their medical or dental clinical training.

Students who desire to allocate a larger fraction of their time to research than is possible in the nominal four-year program may extend the MD or DMD Program to five or more years. Faculty advisors provide guidance in the choice of courses and in the pursuit of independent study.

As a requirement for graduation, every HST student must present evidence of scholarly work in the form of a thesis based on laboratory research, clinical investigation or, under special circumstances, critical analysis of a significant medical problem. A written thesis proposal must be submitted by October of the third year, and the thesis in final form by the first Monday in February of the year of graduation.

In pursuit of advanced study, HST MD or DMD students may become candidates for the Master of Science degree from MIT or a Master of Medical Sciences degree from Harvard Medical School or HSMD. The HST Division encourages and facilitates such combined degree programs, but the pursuit of a combined degree is not a Division requirement.