MEMP Curriculum Map

Science / Engineering[1]

Choose one of the established concentration areas and select four courses from the approved list for the chosen area.

Current MEMP concentration areas are:

- Aeronautics & Astronautics
- Biological Engineering
- Brain & Cognitive Sciences
- Chemical Engineering
- Chemistry
- Computer Science
- Electrical Engineering
- Materials Science & Engineering
- Mechanical Engineering
- Nuclear Engineering
- Physics

Biomedical Sciences & Clinical[2]

Biomedical Sciences Core

- HST030 or HST034: Human Pathology
- HST160: Genetics in Modern Medicine
- HST090: Cardiovascular Pathophysiology

Restricted Electives - two full courses required*

- HST010: Human Anatomy
- HST020: Musculoskeletal Pathophysiology*
- HST100: Respiratory Pathophysiology**
- HST110: Renal Pathophysiology**
- HST130: Introduction to Neuroscience
- HST175: Cellular & Molecular Immunology
- HST162: Molecular Diagnostics and Bioinformatics*
- HST164: Principles of Biomedical Imaging*

** May combine two half-term courses to count as one full course*
***Must choose at least one of HST100, HST110*

Clinical Core

- HST201: Intro. to Clinical Medicine I
- HST202: Intro. to Clinical Medicine II

Research/PhD Thesis[3]

Letter of Intent #1: Thesis supervisor and topic.
Due by April 30 of 2nd year.

Letter of Intent #2: Tentative thesis committee.
Due by April 30 of 3rd year.

Thesis proposal: Defended before thesis committee.
Due by April 30 of 4th year.

Final Thesis:
Public defense and submission of final thesis document.

Qualifying Exam[1]

TQE: Technical qualification based on performance in four concentration area courses and Pathology

OQE : Oral examination to evaluate ability to integrate information from diverse sources into a coherent research proposal and to defend that proposal

Professional Skills[2,4]

HST500: Frontiers in (Bio)Medical Engineering and Physics
Required spring of first year

HST590: Biomedical Engineering Seminar
Required fall semester of first year. Minimum of four semesters required; one on responsible conduct of research and three electives. Topics rotate.

Professional Perspectives Requirement
required once during PhD enrollment

1. Harvard MEMPs fulfull Basic Science/Engineering and Qualifying Exam through their collaborating departments
2. Required for ALL MEMP PhDs
3. Harvard MEMPs must publicize final thesis defense and submit an electronic copy to the HST Academic Office (including signed cover).
4. Harvard MEMP Biophysics students may substitute MedSci 300 for HST590 term on responsible conduct of research.

updated 3.24.2020