

MEMP Curriculum Map

July 2016

Science / Engineering Concentration¹

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*
- *Computer Science*
- *Chemistry*
- *Electrical Engineering*
- *Materials Science & Engineering*
- *Mechanical Engineering*
- *Nuclear Engineering*
- *Physics*

Biomedical Sciences and Clinical Requirements²

Biomedical Sciences Core

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

Restricted Electives - Choose two

- HST010: Human Anatomy
- HST100: Respiratory Pathophysiology*
- HST110: Renal Pathophysiology*
- HST130: Introduction to Neuroscience
- HST175: Cellular & Molecular Immunology

- *Must choose at least one of HST100, HST110*

Clinical Core

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

Research³

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 Exam¹

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 Skills²

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.

1. Harvard MEMPs fulfill Basic Science/Engineering Concentration and Qualifying Exam through their collaborating department (SEAS or Biophysics).
2. Required for all MEMP students. (Biophysics students may substitute *MedSci 300* for HST590 term on responsible conduct of research.)
3. Harvard MEMPs must an electronic copy of the final thesis including the signed cover sheet. Harvard MEMPs should not register for HST.ThG.