



BIOMEDICAL ENTERPRISE PROGRAM



Required Courses for SM Degree in Health Sciences and Technology

Note: All required courses must be taken for a letter grade. A grade of **A** or **B** is required in each required course in order to fulfill degree requirements.

MANAGEMENT STREAM

One law course:

- 15.616 Basic Business Law, Tilted Towards Innovation and Strategy (fall only), **-or-**
- 15.615 Basic Business Law (offered spring & fall), **-or-**
- 15.648 Legal Framework of Biomedical Enterprise, **-or-**
- HBS 1540, Legal Aspects of Management (Harvard Business School)

One course in finance

Satisfied by Sloan Fellows core and HBS core - not required for students in post-MBA track.

One course in marketing

Satisfied by Sloan Fellows core and HBS core - not required for students in post-MBA track.

BIOMEDICAL SCIENCES STREAM

Required Core

HST.031/35 Principles & Practice of Human Pathology (fall/spring) - only students in the post-MBA program may take HST.031.

HST.191 Biostatistics and Epidemiology (IAP)

Biomedical Sciences Restricted Electives*

Selection Requirements:

- 1 a minimum of three elective courses
- 2 a minimum of 36 units
- 3 one large-organ systems course (minimum of 9 units)
- 4 one molecular/cellular biology course (minimum of 9 units)
- 5 a third elective in the student's area of interest

CLINICAL EXPERIENCE

HST.211 Biomedical Enterprise Clinical Experience I (IAP)

HST.212 Biomedical Enterprise Clinical Experience II (spring)

INTEGRATIVE STREAM

15.363J/HST.971J Strategic Decision Making in Biomedical Business (spring)

15.141J/HST.918J Economics of Health Care Industries (spring)

15.121J/HST.975J Clinical Trials in Biomedical Enterprise (fall)

15.122J /HST.977J Critical Reading and Technical Assessment of Biomedical Information (spring)

15.123J/HST.979J Dynamics of Biomedical Technologies (fall and spring)

Required each semester of enrollment in single and dual degree tracks except, with permission of advisor, when there is a conflict with another course or when there is a conflict due to Sloan limitation on total units. Except in cases where there is a direct conflict with another course, all BEP students are strongly encouraged to attend sessions of this course whether or not they are officially

15.124J/HST.973J	enrolled. In all cases, enrollment required for at least two semesters. Evaluating a Biomedical Business Concept (spring)
15.136J/HST.920J	Principles & Practice of Drug Development (fall)
-or-	
HST.572	Future Medical Technologies (spring)

THESIS

Students must register for a minimum of 24 units of HST.THG. The thesis will be jointly supervised by HST and Sloan faculty, with one serving as primary supervisor.

* Consult list of approved HST restricted electives. All other electives must be approved in advance by the HST Academic Requirements Subcommittee.

Students in the single-degree post-MBA track will complete only the requirements listed above. Students in a dual-degree track will also fulfill the degree requirements of their management degree program.

Approved Biomedical Science Restricted Electives

All BEP students must take a minimum of 36 units and at least 3 courses distributed as indicated below. Selection of electives other than those listed below is possible but must be requested via petition and approved by the BEP Academic Requirements Subcommittee. All requests to substitute an unapproved elective should be e-mailed to BEP's Program Manager (bep@mit.edu) prior to registration for the course.

U = undergraduate course

G = graduate course

H = advanced

Cellular/Molecular HST Restricted Electives (9 units required; minimum of 1 course)

7.012,	Introductory Biology (fall) <i>or</i>	12 units U
7.013,	Introductory Biology (spring) <i>or</i>	
7.014	Introductory Biology (spring)	
7.05	General Biochemistry (spring)	12 units U
7.23	General Immunology (spring)	12 units U
7.27	Principles of Human Disease (spring)	12 units U
7.31	Current Topics in Mammalian Biology: Medical Implications (fall)	12 units U
7.37J	Molecular and Engineering Aspects of Biotechnology (spring)	12 units U
7.51	Principles of Biochemical Analysis (fall)	12 units G H-level
7.548J	Perspectives in Biological Engineering (spring)	12 units G H-level
7.58	Molecular Biology (spring)	12 units G H-level
7.60	Cell Biology: Structure and Functions of the Nucleus	12 units G H-level
7.61	Eukaryotic Cell Biology: Principles and Practice	12 units G H-level
7.63	Immunology (spring)	12 units G H-level
7.70	Regulation of Gene Expression (spring)	12 units G H-level
7.76	Topics in Protein Biochemistry (spring)	9 units G
7.81J	Systems Biology (fall)	12 units G

7.90J	Computational Functional Genomics (spring)	12 units G	H-level
7.95	Cancer Biology (spring)	12 units G	H-level
10.542	Biochemical Engineering (spring)	12 units G	H-level
20.201	Mechanisms of Drug Actions (fall)	12 units G	H-level
HST.041	Mechanisms of Microbial Pathogenesis (fall)	14 units G	H-level
HST.140	Molecular Medicine (fall)	6 units G	H-level
HST.147	Human Biochemistry and Metabolic Diseases (IAP)	6 units G	H-level
HST.161	Molecular Biology & Genetics in Modern Medicine (fall)	12 units G	H-level
HST.176	Cell & Molecular Immunology (fall)	12 units G	H-level
HST.512	Genomic Medicine (spring)	9 units G	H-level

Large Organ Systems HST Restricted Electives (9 units required; minimum of 1 course)

HST.061	Endocrinology (spring)	12 units G	H-level
HST.081	Hematology (spring)	12 units G	H-level
HST.091	Cardiovascular Pathophysiology (spring)	15 units G	H-level
HST.101	Respiratory Pathology (spring)	12 units G	H-level
HST.111	Renal Pathology (spring)	12 units G	H-level
HST.121	Gastroenterology (fall)	14 units G	H-level
HST.131	Introduction to Neuroscience (fall)	15 units G	H-level
HST.151	Principles of Pharmacology (spring)	12 units G	H-level
HST.540J	Human Physiology (fall)	12 units U	
HST.542J	Quantitative Physiology (spring)	12 units U	

Other Electives (9 units required; minimum of 1 course)

Students are free to take at least one 9-unit course in an area of particular interest to them. This course(s) may be one of the large organ systems and cellular/molecular courses listed above or another of HST's many course offerings. The student's selection(s) must be an H-level graduate course(s).