BOSTON UNIVERSITY

Post-Bachelors PhD
Program Planning Sheet

Student Name: ______________________________ BU ID#_________________________________
Email Address: ______________________________ Advisor Name: __________________________
Expected Graduation Date: ___________________

Fill out the sheet below with the courses you will use fulfill your MS requirements.
All instructions and explanations can be found on succeeding pages.

1) Focus Area Requirement – 12 credits

Focus Area: __________________________________

Course #	Course Name	Credits	Semester/Year	Grade
________	______________________________	_______	_____________	_____
________	______________________________	_______	_____________	_____
________	______________________________	_______	_____________	_____

2) Breadth Requirement – 4 credits

Course #	Course Name	Credits	Semester/Year	Grade
________	______________________________	_______	_____________	_____

3) Mechanical Engineering Requirement – 8 credits

Course #	Course Name	Credits	Semester/Year	Grade
________	______________________________	_______	_____________	_____
________	______________________________	_______	_____________	_____

4) Engineering, Math and Physical Science Requirement – 8 credits

Course #	Course Name	Credits	Semester/Year	Grade
________	______________________________	_______	_____________	_____
________	______________________________	_______	_____________	_____

Approved By:

__________________________________ ____

Advisor Signature Date Student Signature Date

The Master of Science in Mechanical Engineering (post-BS PhD)
Curricular Requirements

The program requires 32 credit hours at the 500-level or above. At least 20 credits must be ME courses. At least 24 credits must be taken at Boston University. To graduate, a cumulative grade point average of at least 3.0 (B) must be attained.

If necessary, student can take more than 32 credits and drop the lowest grade. Grades of C+ or lower are not acceptable. Successful completion of a 3-credit course in either the College of Arts and Sciences or the Questrom School of Business does not obviate the need to complete 32 credits. Students are permitted to take a single course multiple times to achieve the GPA requirement, but will only receive 4 credits if used against the degree requirements.

1. Focus Area Requirement (12 credits)
Each focus area has one course requirement that can be satisfied by the courses indicated on last page. The courses that can be used to satisfy the requirement for each focus area are listed with a ^ symbol. The ^ are provided as recommendations for courses to be taken in each focus area. At least one course with a ^ must be taken. In some focus areas, more than three courses have a ^ because some of the focus area requirements are not taught yearly.

These guidelines are intended to provide each student with core competency in a specific area of mechanical engineering. However, a student may instead elect to choose a more general course of study through an alternate selection of three graduate-level ME courses that constitute an individually designed program of study. This program of study must be approved by the student's advisor prior to initiation.

2. Breadth Requirement (4 credits)
Each student must take one course from a focus area different from that used to fulfill the Focus Area Requirement. A course in this category is not in this focus area, but it is helpful to support a focus area with additional information.

3. Mechanical Engineering Elective Requirement (8 credits)
Each student must complete two additional 500-level or above courses in Mechanical Engineering to fulfill the ME Elective Requirement.

4. Engineering, Math and Physical Science Requirement (8 credits)
Each student must complete two graduate-level courses in any engineering, math or physical science course, all of which need to be 500-level or above. These courses may be taken in any department or division of the College of Engineering or in the College of Arts and Sciences. The advisor must approve the two courses used to fulfill this requirement.

Focus Areas

*NOTE: Courses with a * are taught yearly*

^Courses that are required for the focus area

Solid Mechanics	
ME515*	Vibration of Complex Mech. Systems
ME521*^	Continuum Mechanics
ME524	Skeletal Tissue Mechanics
ME538*^	Intro to Finite Element Analysis
ME580*^	Theory of Elasticity
ME582	Mechanical Behavior of Materials
ME788	Soft Tissue Biomechanics

Materials	
ME503*^	Kinetic Processes in Materials
ME504*	Polymers and Soft Materials
ME505*^	Thermo & Statistical Mechanics
ME508	Computational Methods in Materials Science
ME545	Electrochem. Of Fuel Cells and Batteries
EC577^	Electronic, Optical & Magnetic Properties of Materials
ME576	Nanomanufacturing and Hierarchical Materials
ME582^	Mechanical Behavior of Materials
ME781	Electroceramics

Biomechanics/Biomaterials	
ME504*	Polymers & Soft Materials
ME521*^	Continuum Mechanics
ME524^	Skeletal Tissue Mechanics
ME526*	Simulation of Physical Processes
ME538*^	Intro to Finite Element Analysis
ME726*	Fundamentals of Biomaterials
ME727*	Principles and Applications of Tissues
ME788^	Soft Tissue Biomechanics

Acoustics	
ME515*^	Vibration of Comp. Mech. Systems
ME520*^	Acoustics I
ME521*	Continuum Mechanics
ME526*	Simulation of Physical Processes
ME538*	Intro to Finite Element Analysis
ME720^	Acoustics II
ME721^	Acoustic Bubble Dynamics

Thermofluid Science & Energy	
EK546	Assessment of Sustainable Energy Technologies
ME505*^	Thermo. & Statistical Mechanics
ME516*	Stat. Mech. Concepts in Engineering
ME519^	Theory of Heat Transfer
ME521*^	Continuum Mechanics
ME527^	Transport Phenomena in Mat. Proc.
ME533	Energy Conversion
ME541	Classical Thermodynamics
ME542*^	Advanced Fluid Mechanics
ME543*	Sustainable Power Systems
ME702	Computational Fluid Dynamics

MEMS/Nanotechnology	
ME504*	Polymers & Soft Materials
ME506	Engineering Device Physics
ME508	Computational Methods in Materials Science
ME516*	Statistical Mech. Concepts in Engineering
ME521*	Continuum Mechanics
ME546*^	Micro/Nanofluidics
ME555*^	MEMS: Fabrication & Materials
ME560*	Machine Design & Instrumentation
ME576	Nanomanufacturing and Hierarchical Materials
ME579*^	Nano/Microelectronic Device Technology
ME778	Micromachined Transducers

Dynamics, Systems, and Controls	
EK505	Intro to Robotics & Autonomous Systems
ME501*^	Dynamic System Theory
ME507*	Process Modeling and Control
ME510*	Production Systems Analysis
ME515*	Vibration of Comp. Mech. Systems
ME526*	Simulation of Physical Processes
ME544*	Networking the Physical World
ME568	Soft Robotics
ME570*^	Robot Motion Planning
ME571	Medical Robotics
ME701	Optimal & Robust Control
ME710*	Dyn. Program. & Stochastic Control
ME714*	Adv. Stochastic Modeling & Simul.
ME724*	Adv. Optim, Theory & Methods
ME725	Queuing Systems
ME733*	Discrete Event & Hybrid Systems
ME734	Hybrid Systems
ME740*	Vision, Robotics & Planning
ME762*^	Nonlinear Systems & Control
ME766	Adv. Scheduling Models & Methods