Boston University College of Engineering
Division of Materials Science & Engineering
MEng Program Planning Sheet

Student Name: _____ BU ID _____
Advisor Signature: _____

MEng students must complete 32 credits: **2 CORE MSE courses** (8 cr) MS 505 Thermodynamics and Statistical Materials **AND** MS 577 Electronic Optical and Magnetic Properties of Materials **OR** CAS PY 543 Introduction to Solid-State Physics (by instructor approval only). Students who demonstrate competence in a first-year 500-level thermodynamics and solid-state physics course through prior coursework may petition to substitute the core requirements by taking Other MS designated Core courses; **2 other Structured MSE Related Courses** (8 cr); **1 structured Engineering Management Course** (4 cr); **3 Elective Courses** (12 credits) can be engineering, science, or engineering management courses including a **Practicum** requirement. A maximum of 3 engineering management courses (12 credits) may be used toward the degree. MEng students must maintain a cumulative GPA of 3.00 to remain in good academic standing and to graduate. All graduate courses are counted in the GPA. Grades of C– or lower are not acceptable for the MEng degree.

CORE (2 courses, 8 credits)

1. ENG MS 505 Thermodynamics and Statistical Mechanics **Semester/Grade** _____
2. ENG MS 577 Elec, Opt and Mag Prop of Matls **OR** CAS PY 543 Introduction to Solid-State Physics (by instructor approval only)

Course/Sem/Grade _____

OTHER DESIGNATED CORE COURSES

(In place of above CORE, by petition only. See requirements above)

ENG MS 503 Kinetic Processes in Materials
ENG MS 504 Polymers and Soft Materials
ENG MS 508 Computational Methods in Materials Science

Petition Approved Date _____

ENG MS 574 Physics of Semiconductor Materials
ENG ME 582 Mechanical Behavior of Materials

Course/Semester/Grade _____

Course/Semester/Grade _____

STRUCTURED MSE RELATED COURSES (Any 2 courses, 8 credits. Course list on reverse.

Course/Semester/Grade _____ **Course/Semester/Grade** _____

ENGINEERING MANAGEMENT (1 course, 4 credits. Course list on reverse.)

Course/Semester/Grade _____

PRACTICUM and ELECTIVES (12 credits: **Practicum** (4 credits) MS 539, MS 782, MS 951 Independent Study, or MS 952 Mentored Project **AND** any two other engineering, science or engineering management courses, if not used to satisfy other MEng requirements. Course list on reverse.)

1. **Practicum Course/Semester/Grade** _____
2. **Elective Course/Semester/Grade** _____
3. **Elective Course/Semester/Grade** _____

COURSE LISTS

STRUCTURED MSE RELATED COURSES (Any 2 courses, 8 credits.)

ENG BE 521 Continuum Mechanics for Biomedical Engineers
ENG BE 526 Fundamentals of Biomaterials
ENG BE 533 Biorheology
ENG EK 546 Assessment of Sustainable Energy Technologies
ENG EC 560 Introduction to Photonics
ENG EC 575 Physics of Semiconductor Devices
ENG EC 578 Fabrication Tech for Integrated Circuits
ENG EC 770 Guided-wave Optoelectronics
ENG EC 777 Nanostructure Optics
ENG ME 576 Nanomanufacturing and Hierarchical Materials
ENG MS/BE/ME 549 Structure & Function Extracellular Matrix
ENG MS/EC 573 Solar Energy Systems
ENG MS/EC 764 Optical Measurement
ENG MS/EC 774 Semiconductor Quant. Strctrs & Phot Dev
ENG MS/ME 527 Trans. Phenomena in Matls Processing
ENG MS/ME 532 Atomic Structure & Dislocations in Matls
ENG MS/ME 535 Green Manufacturing
ENG MS/ME 545 Electrochemistry of Fuel Cells & Batteries
ENG MS/ME 555 MEMS Fabrication and Materials
ENG MS/ME 735 Computational Nanomechanics
ENG MS/ME 778 Micromachined Transducers
ENG MS/ME 781 Electroceramics
ENG MS/ME/BE 524 Skeletal Tissue Mechanics
ENG MS/ME/BE 727 Principles & Applications of Tissue Eng
GRS CH 550 Materials Chemistry
GRS CH 621 Biochemistry
GRS CH 629 DNA Nanotechnology
GRS CH 631 Structure and Bonding
GRS CH 631 Structure and Bonding
GRS PY 741 Solid State Physics I
GRS PY 742 Solid State Physics II
GRS PY 744 Polymer Physics
GRS PY 745 Experimental Surface Physics and Chemistry
GRS PY 745 Experimental Surface Physics and Chemistry
GRS PY 745 Experimental Surface Physics and Chemistry
GRS CH 752 Advanced Topics in Chemical Physics
GRS PY 771 Systems Biology for Physical Scientists & Eng

ENGINEERING MANAGEMENT (1 course, 4 credits.)

ENG ME 502 Intellectual Assets: Creation, Prot & Comm
ENG ME 517 Product Development
ENG ME 518 Product Quality
ENG EC 518 Software Project Management
ENG ME 525 Technology Ventures
ENG ME 550 Product Supply Chain Design
ENG ME 583 Product Management
ENG EK 731 Biomedical Innovation
GSM MO 848 The Leadership Challenge
QST PL 870 Gov't, Society, & the New Entrepreneur
QST SI 839 Design Thinking and Innovation
QST SI 852 Starting New Ventures
QST SI 855 Entrepreneurship
QST SI 871 Strategies for Bringing Technology to Market

* Note that QST courses are 3 credits. Sign up for 1 credit directed study, at discretion of instructor, using Directed Study Application Form: http://questromworld.bu.edu/udc/essentials/forms-2/

PRACTICUM and ELECTIVES **Practicum** (4 credits) **AND** any two other engineering, science or engineering management courses, if not used to satisfy other MEng requirements.)

ENG MS 500 Special Topics
ENG MS/ME 507 Process Modeling and Control
ENG ME 516 Statistical Mechanical Concepts in Engineering
ENG MS/ME 526 Simulation of Physical Processes
ENG MS 539 Intro to Materials Science and Engineering
ENG MS/ME/EC 579 Microelectronic Device Mfg
ENG MS/ME 580 Theory of Elasticity
ENG MS 700 Adv Special Topics
GRS PY 745 Experimental Physics and Chemistry
CAS CH 751 Advanced Topics in Physical Chemistry
ENG MS 782 Advanced Materials Characterization
ENG MS 951 Independent Study
ENG MS 952 Mentored Project