



NAME (Last, First):

STUDENT ID NUMBER:

QUARTER AND YEAR EXPECTED TO GRADUATE:

OPTION (Thesis or Comprehensive Exam):

COURSEWORK (MINIMUM OF 12 COURSES REQUIRED)

<u>CORE COURSES</u>	<u>COURSE</u>	<u>UNITS</u>	<u>GRADE</u>	<u>QTR/YR</u>	Thesis	Comprehensive Exam
Crystalline Solids	MSE 200	4			<p>Minimum of 4 courses must be made up of core courses.</p> <p>Core Courses must be completed with a B (3.0) or higher.</p>	<p>Minimum of 4 courses must be made up of core courses.</p> <p>Core Courses must be completed with a B (3.0) or higher.</p>
Fundamentals of Microfabrication or Advanced Manufacturing	MAE 252 or ENGR 265	4				
Mechanical Behavior of Solids	MAE 259	4				
Biomedical Microdevices	BME 261	4				
Total Core Course Units						
<u>EMPHASIS COURSES</u>	<u>COURSE</u>	<u>UNITS</u>	<u>GRADE</u>	<u>QTR/YR</u>	<p>Students must choose one area of emphasis.</p> <p>Minimum of 3 courses must be from the chosen area of emphasis.</p>	<p>Students must choose one area of emphasis.</p> <p>Minimum of 4 courses must be from the chosen area of emphasis.</p>
Choose one emphasis from list below						
Choose one emphasis from list below						
Choose one emphasis from list below						
Choose one emphasis from list below						
Total Emphasis Course Units					<p>Students must fulfill a minimum of 5 courses.</p> <p>Up to 3 courses (12 units) of BME 296, CBEMS 296, CEE 296, EECS 296 or MAE 296 can count.</p>	<p>Students must fulfill a minimum of 4 courses.</p> <p>Up to 1 course (4 units) of research units (e.g.: 299 Individual Research) can count.</p>
<u>ELECTIVE COURSES</u>	<u>COURSE</u>	<u>UNITS</u>	<u>GRADE</u>	<u>QTR/YR</u>		
Students can choose to take elective graduate-level courses numbered 200-289.						
No more than 2 upper-division (100+) undergraduate courses taken as a graduate student may be counted.						
Total Elective Units						
TOTAL UNITS						

Signature of Student: _____

Date: _____

Program Director: _____

Date: _____

Associate Dean of Engineering: _____

Date: _____



There are four primary areas of emphasis within Materials and Manufacturing Technology (MMT): Chemical Processing and Production, Electronic and Photonic Materials and Devices, Biomedical and Electronic Manufacturing and Materials Engineering. Electives within each of the emphasis areas are listed below.

Elective Courses by Areas of Emphasis

Chemical Processing and Production	CHEM 213 (Chemical Kinetics) CBEMS 210 (Reaction Engineering) CBEMS 220 (Transport Phenomena) CBEMS 230 (Applied Engineering Mathematics I) CBEMS 240 (Advanced Engineering Thermodynamics)
Electronic and Photonic Materials and Devices	BME 210 (Cell and Tissue Engineering) EECS 174 (Semiconductor Devices) EECS 176 (Fundamentals of Solid-State Electronics and Materials) EECS 188 (Optical Electronics) EECS 277A (Advanced Semiconductor Devices I) EECS 277B (Advanced Semiconductor Devices II) EECS 277C (Nanotechnology) EECS 285A (Optical Communications) EECS 285B (Lasers and Photonics) EECS 280A (Advanced Engineering Electromagnetics I) EECS 280B (Advanced Engineering Electromagnetics II)
Biomedical and Electronic Manufacturing	BME 251 (Engineering Medical Optics) BME260 (Microfluids and Lab-on-a-Chip) BME262 (Microimplants) EECS279/MAE249 (Micro-Sensors and Actuators) MAE212 (Engineering Electrochemistry: Fundamentals and Applications) MAE247/EECS278 (Micro-System Design) MAE250 (Biorobotics) MAE253 (Advanced BIOMEMS Manufacturing Techniques)
MaterialsEngineering	CHEM 225 (Polymer Chemistry) CEE 243 (Mechanics of Composite Materials) MSE 205 (Materials Physics) MSE 251 (Dislocation Theory) MSE 252 (Theory of Diffusion) MSE 254 (Polymer Science and Engineering) MSE 255A (Design with Ceramic Materials) MSE 256A (Mechanical Behavior of Engineering Materials) MSE 256B (Fracture of Engineering Materials) MSE 265 (Phase Transformations) MSE 268 (Principles of Coatings, Thin Films, and Multi layers) PHYSICS 238A-238B-238C (Condensed Matter Physics)