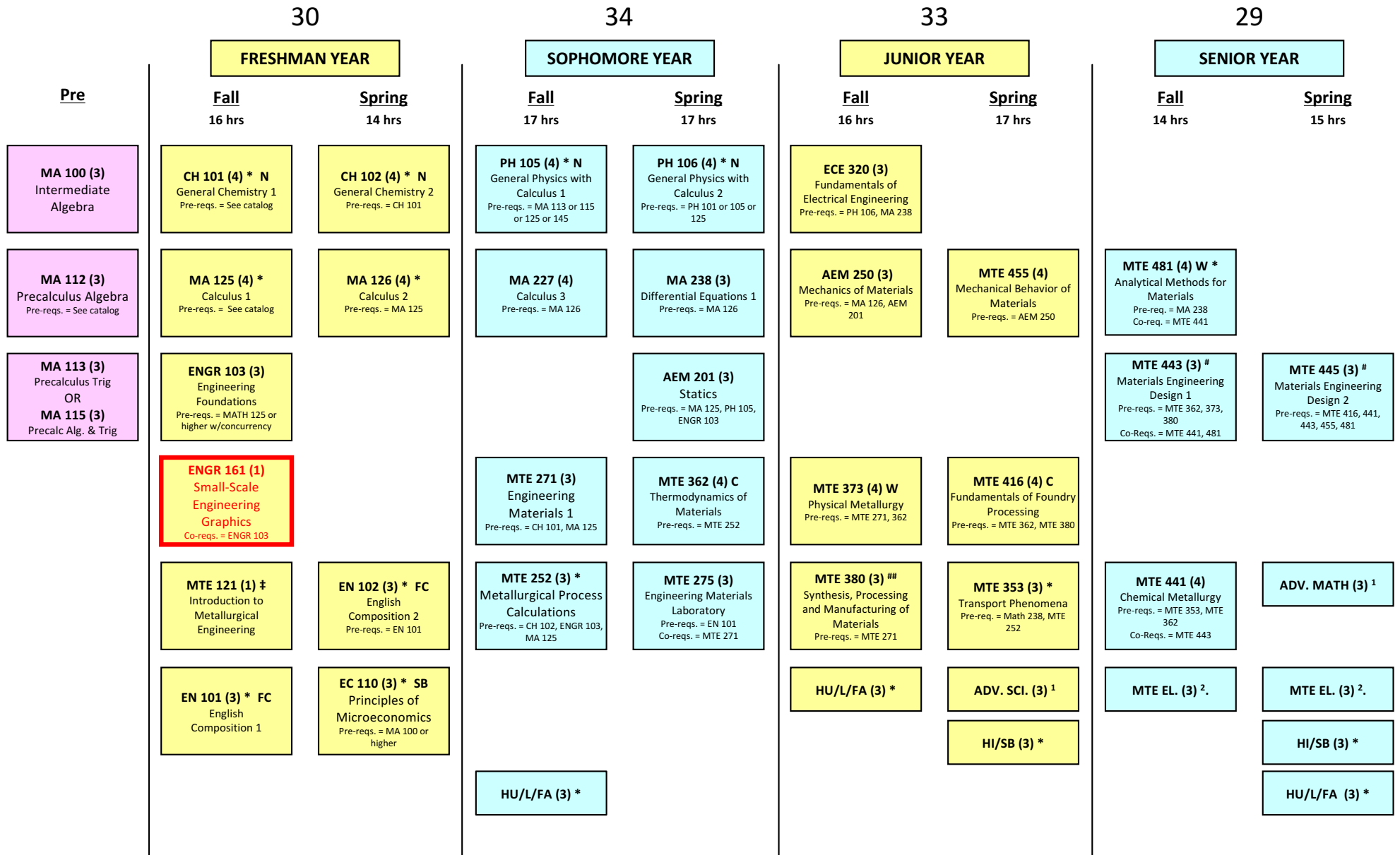


# ROADMAP TO YOUR GRADUATION

Metallurgical & Materials Engineering Curriculum – BS MTE Degree – Revised 2016-- Effective Spring 2017

126 hrs total



\* Core Curriculum courses

# Senior standing

## or ME 383

‡ or ENGR 111

1. A list of acceptable science and math electives is available in the metallurgical and materials engineering department office.

2. MTE students may take any MTE 400-level or higher courses with the permission of the instructor.

This is an unofficial flowchart prepared to assist students in planning their coursework. The UNIVERSITY CATALOG contains the official listing of academic information. The MTE Department may change prerequisites and corequisites from time to time as course content changes to keep pace with changing technology. These changes are posted on the academic bulletin board outside the Department office. Students should consult the CATALOG and Department bulletin board prior to registration. Revised Spring Semester 2016.

### **Policy on MTE Electives**

Each student may select any two MTE electives to satisfy the requirements of MTE elective courses. The technical elective requirement may be satisfied with an additional MTE elective or a 300 level or higher “materials-related” engineering, math, or science course by prior petition.

### **Policy on Humanities and Social Science Electives**

Students must satisfy College of Engineering Core curriculum requirements. These include 9 semester hours of humanities (HU), literature (L), and arts (FA) courses. Nine semester hours are also required in history (HI) and social and behavioral sciences (SB). Six of these 18 semester hours must be from a single discipline (Depth Study). There is no mandatory requirement of literature or fine arts in metallurgical engineering.

### **Engineering Registration as a Professional Engineer**

Engineering is a profession requiring state registration to become a “Professional Engineer.” The first step towards becoming registered is passing the Fundamentals of Engineering Exam. Students are strongly encouraged (but not required) to take and pass the Fundamentals of Engineering Exam before they graduate.

### **Approved Math Elective Courses\***

MA 237 – Applied Matrix Theory

MA 257 – Linear Algebra

MA 300 – Introduction to Numerical Analysis

MA 343 – Applied Differential Equations II

MA 411 – Introduction to Numerical analysis

GES 255 – Engineering Statistics I

GES 400 – Engineering Statistics

GES 451 – Matrix and Vector Analysis

ME 411 – Finite Element Analysis and Heat Transfer

\* Other courses in “engineering-related” mathematics (e.g., statistics, linear algebra, advanced calculus, etc.) can be taken provided that it has been approved by the Department by prior petition.

### **Approved Science Elective Courses\*\***

BSC 114 – Principles of Biology

CH 223 – Chemical Equilibria and Analyses

CH 231 – Elementary Organic Chemistry I

PH 253 – Modern Physics

PH 331 – Electricity and Magnetism I

PH 333 – Optics

GEO 210 – Minerology

GY 339 – Natural Resources & Environmental Planning

CE 425 – Air Pollution (see prerequisites in catalog)

CHE 438 – Electronic Materials

CHE 412 – Polymer Materials Engineering

ME 441 – Introduction to Biomedical Engineering

MTE 476 – Physical Ceramics

MTE 487 – Corrosion Science & Engineering

\*\* Other courses in “engineering-related” sciences can be taken provided that it has been approved by the Department by prior petition.

### **Approved MTE Elective Courses\*\*\***

MTE 412 (CHE 412) – Polymer Materials Engineering

MTE 439 – Metallurgy of Welding

MTE 449 – Powder Metallurgy

MTE 450 – Plasma Processing of Thin Films

MTE 467 – Strengthening Mechanisms in Materials

MTE 476 – Physical Ceramics

\*\*\* Other “materials-related” engineering, math or science courses can be taken provided that it has been approved by the Department by prior petition.