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 2023.
**MTE 380 (3)## Synthesis, Processing and Manufacturing of Materials**
Pre-reqs. = MTE 316, AEM 250

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**MTE 316 (4) C Fundamentals of Foundry Processing**
Pre-reqs. = MTE 275

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**MTE 275 (3) Engineering Materials Laboratory**
Pre-reqs. = EN 101, MA 252

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**MTE 252 (3) Metallurgical Process Calculations**
Pre-reqs. = CH 102/118, ENGR 103, MA 125/259

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**MTE 227 (4) Calculus 2**
Pre-reqs. = MA 125/146

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**MA 128 (4) * Calculus 2**
Pre-reqs. = MA 125/146

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**MA 100 (3) Precalculus Algebra**
Pre-reqs. = See catalog

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**ENGR 103 (3) Engineering Foundations**
Co-reqs. = MATH 115/145

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**CH 100 (5) if MA placement is MA 112**

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**MA 105 (3) Remedial Mathematics**

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Updated 11/30/2023
1. A list of acceptable science and math electives is available in the metallurgical and materials engineering department office.

2. MTE Students may take up to six (6) hours of MTE 400-level coursework with prior approval from the Instructor, Graduate Director and the Graduate School. These courses must be taken at 400-level or higher. Prior approval must be obtained from the Instructor, Graduate Director and the Graduate School before the semester begins. All other coursework to count toward the Graduate degree must be taken at the 500-level or higher.

3. A course in engineering-related mathematics (e.g., statistics, linear algebra, advanced calculus, or other math-based course that has been approved by the Department)
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 MTE/Science Elective Courses**
BSC 114 – Principles of Biology
CE 262 – Civil & Construction Engineering Materials
CE 425 – Air Pollution (see prerequisites in catalog)
CH 223 – Chemical Equilibria and Analyses
CH 231 – Elementary Organic Chemistry I
CHE 412 – Polymer Materials Engineering
ECE 320 – Fundamentals of Electrical Engineering
GEO 210 – Minerology
GY 339 – Natural Resources & Environmental Planning
MFE 342 – Fundamentals of Materials Processing
MFE 442 – Advanced Materials Science and Additive Processes
MTE 412 (or 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
MTE 487 – Corrosion Science & Engineering
PH 253 – Modern Physics
PH 331 – Electricity and Magnetism I
PH 333 – Optics
PH 481 – Solid State Physics

Approved Math Elective Courses*
MA 237 – Applied Matrix Theory
MA 257 – Linear Algebra
ST 260 – Statistical Data Analysis
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

* 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.

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