Recommended course sequence for the B.S. MSE Degree

**Freshman Year**

**First Semester**

(4) MA 16500 (Analytic Geometry And Calculus I)
(4) CHM 11500 (General Chemistry I) (or CHM 13600 Honors)
(4/3) Written Communication Foundational Outcome course
(2) ENGR 13100 or 1 (Transforming Ideas to Innovation I) or ENGR 14100 (Honors version)

**Second Semester**

(4) MA 16600 (Analytic Geometry And Calculus II)
(4) CHM 11600 (General Chemistry II) (or CHM 13600)
(4) PHYS 17200 (Modern Mechanics)
(4/3) Oral Communication Foundational Outcome course
(2) ENGR 13200 (Transforming Ideas to Innovation II) or ENGR 14200 (Honors version)

**Sophomore Year**

**Third Semester**

(3) MSE 23000 (Structure and Properties of Materials)
  Prerequisites: CHM 11500, MA 16500
(3) MSE 2nd year course∗
(3) MSE 2nd year course∗
(4) MA 26100 (Multivariate Calculus)
(3) MA 26500 (Linear Algebra)

**Fourth Semester**

(3) MSE 2nd year course∗
(3) MSE 2nd year course∗
(3) PHYS 24100 (Electricity and Optics)
(3) MA 26600 (Ordinary Differential Equations)
(1) PHYS 25200 (Elec. And Optics Lab)
(3) General Education Elective
(0) MSE 39000 (Seminar)

**Junior Year**

**Fifth Semester**

(3) MSE 33500 (Materials Characterization Laboratory)
  Prerequisites: MSE 23500
(3) MSE 34000 (Transport Phenomena)
  Pre: MA 26600 (or MA 26000), MSE 26000
(3) MSE 37000 (Elec,Opt, and Mag. Props. of Materials)
  Prerequisites: MSE 23000, MSE 27000, PHYS 24100 (or PHYS 27200)
(3) General Education Elective
(3) General Education Elective
(0) MSE 39000 (Seminar)

**Sixth Semester**

(3) MSE 33000 (Proc. and Props. of Matls.)
  Prerequisites MSE 23000
(3) MSE 36700 (Materials Processing Laboratory)
  Pre-MSE 26000
(3) MSE 38200 (Mechanical Response of Materials)
  Prerequisites MSE 25000, MA 26500 (or MA 26200)
(3) MSE 420 (Structure & Props. of Organic Matls.)
(3) Technical Elective
(0) MSE 39000 (Seminar)
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<th>Seventh Semester</th>
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<tr>
<td>(3) MSE 43000 (Materials Processing and Design I)</td>
<td>(3) MSE 44000 (Materials Processing and Design II)</td>
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<td>Prerequisites MSE 33500 or 36700</td>
<td>Prerequisites MSE, 43000</td>
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<td>(3) MSE 44500 (Materials Engineering Systems Analysis)</td>
<td>(9) Technical Electives</td>
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<td>Pre-MSE 33000, 34000, Co-MSE 43000</td>
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<td>(6) Technical Electives</td>
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