

# MECHANICAL ENGINEERING CURRICULUM – *GREEN 4-YEAR PLAN*

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**Humanities & Social Science (3)**  
Lower Division

**GEEN 1400 (3)**  
First-Year Engineering Projects

**MCEN 1024 (3)**  
Chemistry of Energy & Materials

**APPM 1350 (4)**  
Calculus 1 For Engineers

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**Humanities & Social Science (3)**  
Lower Division

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**PHYS 1110 (4)**  
General Physics 1  
(Coreq: Calc 1)

**APPM 1360 (4)**  
Calculus 2 For Engineers  
(Prereq: Calc 1)

**CSCI 1300 (4)**  
Computer Science 1  
(Coreq: Calc 1)

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**Free Elective (3)**

**PHYS 1140 (1)**  
Experimental Physics  
(Coreq: PHYS 1120)

**PHYS 1120 (4)**  
General Physics 2  
(Prereq: PHYS 1110)  
(Coreq: Calc 2)

**APPM 2350 (4)**  
Calculus 3 For Engineers  
(Prereq: Calc 2)

**MCEN 1025 (4)**  
Computer-Aided Design & Fabrication

**MCEN 2000 (1)**  
Mechanical Engineering as a Profession

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**Humanities & Social Science (3)**  
Upper Division

**Free Elective (3)**

**MCEN 2023 (3)**  
Statics & Structures  
(Prereqs: Calc 2, PHYS 1110)

**APPM 2360 (4)**  
Linear Algebra & Differential Equations  
(Prereq: Calc 2)

**MCEN 3017 (3)**  
Circuits & Electronics  
(Prereq: PHYS 1120)  
(Coreq: APPM 2360)

**MCEN 2024 (3)**  
Materials Science  
(Prereqs: MCEN 1024, PHYS 1110)

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**Writing Requirement (3)**

**MCEN 2063 (3)**  
Mechanics of Solids  
(Prereqs: MCEN 2023, Calc 2)

**MCEN 2043 (3)**  
Dynamics  
(Prereq: MCEN 2023, Calc 2)

**MCEN 3012 (3)**  
Thermodynamics 1  
(Prereq: Calc 2)

**MCEN 4026 (3)**  
Manufacturing Processes & Systems  
(Prereq: MCEN 2024)

 == Can be taken any semester pending completion of any applicable pre/co-requisites.

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**Humanities & Social Science (3)**  
Upper Division

**MCEN 3021 (3)**  
Fluid Mechanics  
(Prereq: MCEN 2023, Calc 3)

**MCEN 3030 (3)**  
Computational Methods  
(Prereqs: CSCI 1300, APPM 2360)

**MCEN 3025 (3)**  
Component Design  
(Prereqs: MCEN 1025, MCEN 2024, MCEN 2063)

**MCEN 3047 (4)**  
Data/Measurements  
(Prereqs: MCEN 2063, APPM 2360, PHYS 1140)  
(Coreqs: Writing, MCEN 3030, MCEN 3017)

 == Must be taken as a pre-requisite to MCEN 4045.

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**Math/Science Requirement (3)**

**MCEN 4045 (3)**  
Mechanical Engineering Design Project 1  
(Fall Only)

**MCEN 3022 (3)**  
Heat Transfer  
(Prereqs: MCEN 3012, MCEN 3021, APPM 2360)

**MCEN 4043 (3)**  
System Dynamics  
(Prereqs: MCEN 2043, MCEN 3017, APPM 2360)  
(Coreq: MCEN 3030)

**Mechanical Technical Elective (3)**

 == Must take at least one of MCEN 3047, MCEN 3022 or MCEN 4043 as a pre-requisite to MCEN 4045. Remaining two can be taken as a co-requisite to MCEN 4045. All courses must be taken as a pre-requisite to MCEN 4085.

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**MCEN 3032 (3)**  
Thermodynamics 2  
(Prereqs: MCEN 3012, MCEN 3021, APPM 2360)

**MCEN 4085 (3)**  
Mechanical Engineering Design Project 2  
(Spring Only)

**General Technical Elective (3)**

**General Technical Elective (3)**

**Mechanical Technical Elective (3)**

 == Can be taken as a pre-requisite or co-requisite to MCEN 4045.

 == Mechanical Engineering Design Project Sequence.