

# Materials Science and Engineering 2021–2022 Undergraduate Curriculum

**Total Credits: 123**

<b>1<sup>st</sup> Year</b>	<b>FALL</b> 16 Credits	<b>MATH 171</b> [3-3-4] (C) * Calculus I {ALEKS Placement = 83%}	<b>CHEM 105</b> [3-3-4] (C) * Principles of Chemistry I {ALEKS Placement = 80%}	<b>MSE 201</b> [3-0-3] (C) * Materials Engineering Fundamentals {CHEM 105 or c//}	<b>ENGL 101</b> [3-0-3] College Composition {Writing Placement}	<b>ME 116</b> [0-6-2] (C) * Engineering CAD & Visualizations {MATH 171 or c//}		
	<b>SPRING</b> 17 Credits	<b>MATH 172</b> [3-3-4] (C) * Calculus II {MATH 171}	<b>CHEM 106</b> [3-3-4] (C) * Principles of Chemistry II {CHEM 105}	<b>MSE 202</b> [3-0-3] (C) * Materials Science Fundamentals {MSE 201, CHEM 106 or c//}	<b>HIST 105</b> [3-0-3] Roots of Contemporary Issues	<b>Technical Elective</b> [3-0-3] (C) * CE 211, CE 215, EE 261 & EE 262, ME 212, and ME 216. Any upper division CE, CHE E, CHEM, CPT S, EE, MATH, ME, MSE or PHYS not used to fulfill other requirements (exclude ME 416) <sup>2</sup>		
<b>2<sup>nd</sup> Year</b>	<b>FALL</b> 15 Credits	<b>MATH 220</b> [2-0-2] (C) * Linear Algebra {MATH 171 or c//}	<b>MATH 273</b> [2-0-2] (C) * Calculus III {MATH 172}	<b>PHYSICS 201</b> [3-0-3] (C) * Physics for Scientists & Engineers I {MATH 172 or c//}	<b>PHYSICS 211</b> [0-3-1] (C) * Physics Lab for Scientists & Engineers {MATH 172 or c//, PHYSICS 201 or c//}	<b>ME 220</b> [0-3-1] (C) * Materials Lab {CE 215 or c//; or MSE 202 or c//}	<b>[ARTS]</b> [3-0-3] Any Course Under "ARTS" from UCORE <sup>1</sup>	<b>MSE 316</b> [3-0-3] (C) * Thermodynamics and Kinetics of Materials {MSE 202}
	<b>SPRING</b> 15 Credits	<b>MSE 321</b> [3-0-3] (C) * Materials Characterization {MSE 201}	<b>MSE 323</b> [1-3-2] (C) * Materials Characterization Lab {MSE 321 or c//}	<b>PHYSICS 202</b> [3-0-3] (C) * Physics for Scientists & Engineers II {PHYSICS 201 & 211; MATH 172}	<b>PHYSICS 212</b> [0-3-1] (C) * Physics Lab for Scientists & Engineers II {PHYS 202 or c//}	<b>MSE 241</b> [3-0-3] (C) * Engineering Computations {MATH 273 or c//, PHYS 201 & 211 or c//}	<b>ECONS 102</b> [3-0-3] Macro Economics {ALEKS placement= 40%}	
<b>3<sup>rd</sup> Year</b>	<b>FALL</b> 15 Credits	<b>STAT 370</b> [3-0-3] (C) * Statistics for Engineers {MATH 171}	<b>MSE 302</b> [3-0-3] (C) * Electronic Materials {CHEM 105, PHYS 202 & 212}	<b>MSE 320</b> [1-6-3] (C) * Materials Structure-Properties Lab {MSE 202 or c//}	<b>MSE 3XX</b> [3-0-3] (C) * Choose from MSE 331, MSE 332, or MSE 333 {MSE 201}	<b>MSE 413</b> [3-0-3] (C) * Mechanical Behavior of Materials {CE 215 and MSE 201; or MSE 202}		
	<b>SPRING</b> 15 Credits	<b>[BSCI]</b> [3-0-3] Any Course Under "BSCI" from UCORE <sup>1</sup>	<b>MSE 318</b> [3-0-3] (C) * Materials Design {ECONS 102, MSE 201, MSE 241, STATS 370}	<b>MATH 315</b> [3-0-3] (C) * Differential Equations {MATH 273, MATH 220 or c//}	<b>MSE 3XX</b> [3-0-3] (C) * Choose from MSE 331, MSE 332, or MSE 333 {MSE 201}	<b>MSE Elective</b> [3-0-3] (C) * Any 300, 400, or 500- level MSE course, except MSE 499		
<b>4<sup>th</sup> Year</b>	<b>FALL</b> 15 Credits	<b>ENGL 402</b> [3-0-3] Technical Writing {ENGL 101, Junior Standing [60 credits]}	<b>ME 312</b> [2-3-3] (C) * Manufacturing Engineering {MSE 201, MIE}	<b>ME 416</b> [1-6-3] (C) * Mechanical Systems Design {MSE 202, MSE 318, MSE 413 or c//, MIE}	<b>Technical Elective</b> [3-0-3] (C) * CE 211, CE 215, EE 261 & EE 262, ME 212, and ME 216. Any upper division CE, CHE E, CHEM, CPT S, EE, MATH, ME, MSE or PHYS not used to fulfill other requirements (exclude ME 416) <sup>2</sup>	<b>MSE Elective</b> [3-0-3] (C) * Any 300, 400, or 500- level MSE course, except MSE 499		
	<b>SPRING</b> 15 Credits	<b>[DIVR]</b> [3-0-3] Any Course Under "DIVR" from UCORE <sup>1</sup>	<b>[HUM]</b> [3-0-3] Any Course Under "HUM" from UCORE <sup>1</sup>	<b>MSE 425</b> [0-9-3] (C) * Senior Thesis I {MSE 318, MSE 323, MIE} -OR- <b>MSE 488 &amp; ENGR 489</b> [0-ARR-3] Professional Practice Coop/Internship I & II {Department Permission}	<b>Technical Elective</b> [3-0-3] (C) * CE 211, CE 215, EE 261 & EE 262, ME 212, and ME 216. Any upper division CE, CHE E, CHEM, CPT S, EE, MATH, ME, MSE or PHYS not used to fulfill other requirements (exclude ME 416) <sup>2</sup>	<b>MSE Elective</b> [3-0-3] (C) * Any 300, 400, or 500- level MSE course, except MSE 499		

**Admit to Major Requirements:** MATH 171 ready (A minimum of 83% ALEKS, AP Calculus test score of 2, or MATH 106 and 108 with a C)

**Benchmarks to Stay in the Major:** Earn a C or higher in all major classes and a maintain a 2.60 or higher major GPA<sup>3</sup>

See next page for footnotes and table key. This document is for unofficial planning purposes.

## Notes

Review the [Washington State University Catalog](#) for course pre-requisites and grade requirements.

<sup>1</sup> [WSU Undergraduate Education UCORE](#)

<sup>2</sup> Technical Electives (Minimum of 9 credits, of which 3 must be upper division or 500 level): Any upper division CE, CH E, CHEM, CPT S, E E, MATH, ME, MSE, or PHYSICS course not used to fulfill other requirements (excluding ME 416), CE 211, and 215, EE 261, and 262, ME 212 and 216.

<sup>3</sup> Major courses required for the MSE degree include all engineering, physics, chemistry, and math courses listed in the schedule of studies. Only one repeat of MME courses is allowed.

MME students are required to complete the senior exit survey.

## Key

\* = Grade calculated for ENGR GPA

[ ] = Lecture Hours – Lab Hours – **Total Credits**

( ) = Minimum Grade Required

{ } = Course Pre-requisites

c// = Concurrent Enrollment

MIE = Admitted to the Mechanical Engineering Major

