

INDUSTRIAL ENGINEERING - BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

A Suggested Plan of Study for Students

This roadmap is a semester-by-semester planning guide for Industrial Engineering major. It assumes student placement in MATH 1511G Calculus and Analytic Geometry I (or MATH 1511H) and ENGL 1110G Composition I (or ENGL 1110H). The contents and order of this roadmap may vary depending on initial student placement in Mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from semester to semester and may be subject to modification or change. Roadmaps should be reviewed in consultation with your advisor.

First Year

Fall		Credits
ENGL 1110G or ENGL 1110H	Composition I or Composition I Honors	4
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I ¹ or Calculus and Analytic Geometry I Honors	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
ENGR 190	Introduction to Engineering Mathematics	4
Credits		16
Spring		
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II or Calculus and Analytic Geometry II Honors	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
I E 151	Computational Methods in Industrial Engineering	3
Area V: Humanities Course ²		3
ENGR 110	Introduction to Engineering Design	3
Credits		17

Second Year

Fall		Credits
Choose one from the following:		4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	
MATH 2530G	Calculus III	3
ENGR 233	Engineering Mechanics I	3
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	3
Area VI: Creative and Fine Arts Course ²		3
Credits		16
Spring		
ECON 2110G or ECON 2110H or ECON 2120G or ECON 2120H	Macroeconomic Principles or Principles of Macroeconomics Honors or Principles of Microeconomics Honors or Principles of Microeconomics Honors	3
CHME 361	Engineering Materials	3
I E 217	Manufacturing Processes	3
I E 311	Engineering Data Analysis	3

COMM 1115G or HNRS 2175G	Introduction to Communication or Introduction to Communication Honors	3
Credits		15
Third Year		
Fall		
MATH 3160	Introduction to Ordinary Differential Equations	3
I E 316	Methods Engineering	3
I E 351	Applied Problem Solving in Industrial Engineering	3
I E 365	Quality Control	3
I E 451	Engineering Economy	3
Credits		15
Spring		
I E 423	Engineering Operations Research II	3
I E 424	Manufacturing Systems	3
I E 460	Evaluation of Engineering Data	3
MATH 4230 or MATH 2415	Applied Linear Algebra or Introduction to Linear Algebra	3
Industrial Engineering Topics Elective ³		3
Credits		15
Fourth Year		
Fall		
I E 413	Engineering Operations Research I	3
I E 467	Discrete-Event Simulation Modeling	3
ENGR 401	Engineering Capstone I	3
Choose one from the following:		3-4
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	
GEOL 1110G	Physical Geology	
PHYS 2120	Heat, Light, and Sound	
Viewing A Wider World Course ⁴		3
Credits		15-16
Spring		
Industrial Engineering Topics Elective ³		6
ENGR 402	Engineering Capstone II	3
Viewing A Wider World Course ⁴		3
Credits		12
Total Credits		121-122

¹ MATH 1511G (or MATH 1511H) is the starting Math course for the degree but students may need to complete any prerequisites prior to enrolling in this course depending on math placement.

² See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) Section of the catalog for a full list of courses.

³ See your adviser for more detailed information about selecting the Industrial Engineering Topics Elective Course that is approved to fulfill this requirement.

⁴ See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses