

INDUSTRIAL ENGINEERING - BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

Requirements (121 credits)

In addition to the university requirements for graduation, a student must have at least a 2.0 grade-point average in all departmental courses.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 121 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
<i>Area I: Communications</i>		
<i>English Composition - Level 1</i>		
ENGL 1110G or ENGL 1110H	Composition I Composition I Honors	4
<i>English Composition - Level 2</i>		
ENGL 2210G or ENGL 2210H	Professional and Technical Communication Professional and Technical Communication	3
<i>Oral Communication</i>		
COMM 1115G or HNRS 2175G	Introduction to Communication Introduction to Communication Honors	3
<i>Area II: Mathematics</i>		
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I ¹ Calculus and Analytic Geometry I Honors	4
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</i>		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
ECON 2110G or ECON 2110H or ECON 2120G or ECON 2120H	Macroeconomic Principles Principles of Macroeconomics Honors Principles of Microeconomics Honors Principles of Microeconomics Honors	3
<i>Area V: Humanities ²</i>		
<i>Area VI: Creative and Fine Arts ²</i>		
<i>General Education Elective</i>		
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II Calculus and Analytic Geometry II Honors	4
Viewing A Wider World ³		
Departmental/College Requirements		
<i>Program Specific Requirements</i>		
<i>Mathematics</i>		
MATH 1521G (or MATH 1521H) will count towards both the General Education Elective requirement and the Mathematics requirement for the department		
MATH 2530G	Calculus III	3
MATH 3160	Introduction to Ordinary Differential Equations	3
MATH 4230 or MATH 2415	Applied Linear Algebra Introduction to Linear Algebra	3

Natural Science Electives

7-8

CHEM 1225G or PHYS 1320G/1320L	General Chemistry II Lecture and Laboratory for STEM Majors Calculus -Based Physics II
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Choose one from the following (3-4 credits):

GEOL 1110G	Physical Geology
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology
PHYS 2120	Heat, Light, and Sound

Engineering Core

ENGR 110	Introduction to Engineering Design	3
ENGR 190	Introduction to Engineering Mathematics	4
ENGR 233	Engineering Mechanics I	3
CHME 361	Engineering Materials	3

Capstone Course

ENGR 401	Engineering Capstone I	3
ENGR 402	Engineering Capstone II	3

Industrial Engineering Topics Electives

Choose three 3 credit Industrial Engineering topics courses, consisting of engineering and computer sciences and engineering design, and utilizing modern engineering tools: At least two courses must be numbered 300 and above ⁴

<i>Industrial Engineering</i>		
I E 151	Computational Methods in Industrial Engineering	3
I E 217	Manufacturing Processes	3
I E 311	Engineering Data Analysis	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 413	Engineering Operations Research I	3
I E 423	Engineering Operations Research II	3
I E 424	Manufacturing Systems	3
I E 451	Engineering Economy	3
I E 460	Evaluation of Engineering Data	3
I E 467	Discrete-Event Simulation Modeling	3

Second Language: (not required)

Electives, to bring the total credits to 121 **0**

Total Credits **121-122**

¹ MATH 1511G (or MATH 1511H) is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G (or MATH 1511H) first.

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 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

⁴ Students are required to see the advisor for more detailed information about selecting the Industrial Engineering Topics Elective Courses that are approved to fulfill this requirement.