

ENGINEERING PHYSICS (MECHANICAL ENGINEERING) - BACHELOR OF SCIENCE IN ENGINEERING PHYSICS

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. 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 fall to spring semester and may be subject to modification or change. Full-time students are usually required to take at least 15 credits per semester. This requirement could be satisfied for example by taking a one-credit supplemental instruction course.

First Year

Semester 1		Credits
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I ¹ or Calculus and Analytic Geometry I Honors	4
ENGL 1110G or ENGL 1110H	Composition I ¹ or Composition I Honors	4
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics ^{1,2}	4
ENGR 110	Introduction to Engineering Design	3
Credits		15
Semester 2		Credits
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II ¹ or Calculus and Analytic Geometry II Honors	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors ¹	4
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory ^{1,2}	4
M E 240	Thermodynamics ¹	3
Credits		15

Second Year

Semester 1		Credits
MATH 2530G	Calculus III ¹	3
ENGL 2210G or ENGL 2210H	Professional and Technical Communication ¹ or Professional and Technical Communication	3
PHYS 2120 & 2120L	Heat, Light, and Sound and Heat, Light, and Sound Laboratory ¹	4
ENGR 233	Engineering Mechanics I	3
Area IV: Social and Behavioral Science Course ³		3
Credits		16
Semester 2		Credits
MATH 3160	Introduction to Ordinary Differential Equations ¹	3
C E 301	Mechanics of Materials ¹	3
PHYS 315	Modern Physics ¹	3
PHYS 325	Intermediate Experimental Physics	3
ENGR 234	Engineering Mechanics II	3
Credits		15

Third Year

Semester 1		Credits
PHYS 395	Intermediate Mathematical Methods of Physics ¹	3
PHYS 454	Intermediate Modern Physics I	3
M E 261	Numerical Methods	3
M E 326	Mechanical Design ¹	3
M E 338	Fluid Mechanics ¹	3
Credits		15
Semester 2		Credits
PHYS 455	Intermediate Modern Physics II	3
M E 425	Design of Machine Elements ¹	3
Area V: Humanities Course ³		3
VWW: Viewing a Wider World Course ⁴		3
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Credits		15

Fourth Year

Semester 1		Credits
PHYS 451	Intermediate Mechanics I ¹	3
PHYS 461	Intermediate Electricity and Magnetism I	3
ENGR 401	Engineering Capstone I	3
COMM 1115G or HNRS 2175G	Introduction to Communication or Introduction to Communication Honors	3
Area VI: Creative and Fine Arts Course ³		3
Credits		15
Semester 2		Credits
PHYS 462	Intermediate Electricity and Magnetism II	3
M E 341	Heat Transfer	3
ENGR 402	Engineering Capstone II ¹	3
Technical Elective Course ⁵		3
Elective Course		2
Credits		14
Total Credits		120

¹ These courses may have prerequisites and/or co-requisites, and it is the students responsibility for checking and fulfilling all those requirements

² PHYS 2110 Mechanics/PHYS 2110L Experimental Mechanics and PHYS 2140 Electricity and Magnetism/PHYS 2140L Electricity & Magnetism Laboratory will not automatically count towards the Area III: Laboratory Science requirement, an exception will be made if students elect to take these courses.

³ See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses.

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.

⁵ Technical electives are approved by Engineering Physics advisors