

# ENGINEERING PHYSICS (AEROSPACE 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
ENGL 1110G	Composition I <sup>1</sup>	4
MATH 1511G	Calculus and Analytic Geometry I <sup>1</sup>	4
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics <sup>1,2</sup>	4
Area IV: Social and Behavioral Science Course <sup>3</sup>		3
<b>Credits</b>		<b>15</b>

### Semester 2

MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II <sup>1</sup> or Calculus and Analytic Geometry II Honors	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors <sup>1</sup>	4
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory <sup>1,2</sup>	4
M E 240	Thermodynamics <sup>1</sup>	3
<b>Credits</b>		<b>15</b>

### Second Year

Semester 1		Credits
MATH 2530G	Calculus III <sup>1</sup>	3
PHYS 2120 & 2120L	Heat, Light, and Sound and Heat, Light, and Sound Laboratory <sup>1</sup>	4
ENGR 233	Engineering Mechanics I	3
M E 261	Numerical Methods <sup>1</sup>	3
ENGL 2210G	Professional and Technical Communication Honors <sup>1</sup>	3
<b>Credits</b>		<b>16</b>

### Semester 2

MATH 3160	Introduction to Ordinary Differential Equations <sup>1</sup>	3
PHYS 315	Modern Physics <sup>1</sup>	3
PHYS 325	Intermediate Experimental Physics	3
ENGR 234	Engineering Mechanics II	3
C E 301	Mechanics of Materials <sup>1</sup>	3
<b>Credits</b>		<b>15</b>

### Third Year

Semester 1		Credits
PHYS 395	Intermediate Mathematical Methods of Physics <sup>1</sup>	3

PHYS 454	Intermediate Modern Physics I	3
A E 339	Aerodynamics I <sup>1</sup>	3
A E 362	Orbital Mechanics <sup>1</sup>	3
A E 364	Flight Dynamics and Controls <sup>1</sup>	3

**Credits** 15

### Semester 2

PHYS 455	Intermediate Modern Physics II	3
A E 363	Aerospace Structures <sup>1</sup>	3
A E 424	Aerospace Systems Engineering	3
A E 439	Aerodynamics II <sup>1</sup>	3
COMM 1115G	Introduction to Communication	3

**Credits** 15

### Fourth Year

#### Semester 1

PHYS 461	Intermediate Electricity and Magnetism I	3
A E 419	Propulsion <sup>1</sup>	3
A E 447	Aerofluids Laboratory <sup>1</sup>	3
ENGR 401	Engineering Capstone I	3
Area V: Humanities Course <sup>3</sup>		3

**Credits** 15

#### Semester 2

PHYS 462	Intermediate Electricity and Magnetism II	3
ENGR 402	Engineering Capstone II <sup>1</sup>	3
VWW: Viewing a Wider World Course <sup>4</sup>		3
VWW: Viewing a Wider World Course <sup>4</sup>		3
Area VI: Creative and Fine Arts Course <sup>3</sup>		3

**Credits** 15

**Total Credits** 121

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

<sup>2</sup> 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.

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

<sup>4</sup> 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.