# ELECTRICAL ENGINEERING **(SPACE SYSTEMS ENGINEERING) - BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING**

#### Overview

The Electrical Engineering Bachelor of Science program is accredited by the Engineering Accreditation Commission of ABET, https:// www.abet.org (https://www.abet.org,), under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s), and Similarly Named Engineering Programs. This particular concentration in the Bachelor of Science in Electrical Engineering program gives students the opportunity to explore more deeply the area of space systems.

### **Electrical Engineering Program Educational Objectives**

Below are the program educational objectives (PEOs) that describe the expected accomplishments of graduate during their first few years after graduation.

- 1. Our graduates will obtain relevant, productive employment in the private sector, government and/or pursue an advanced degree.
- 2. Our graduates will be using their engineering foundation to innovate solutions to the problems of the real world.

#### Transfer Credit Guidelines for Electrical Engineering Degrees

Credit earned at other institutions are generally accepted; however, the following restrictions apply to transfer credits:

- · Engineering credit must be earned at an ABET accredited school.
- · Physics coursework must be calculus based.
- · If the NMSU required course includes a lab, the transfer credit must include a lab.
- · A grade of C- or better, must have been earned for transfer coursework.
- E E Courses numbered 300/3000 or higher, Cornerstone and Capstone courses may not be transferred for credit.
- Transfer credits for courses above 300/3000 level are not accepted.

#### Requirements (123-126 credits)

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 123 credits with 48 credits in courses numbered 300/3000 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.

Bachelor of Science in Electrical Engineering students must earn a grade of C- or better in all engineering, technology, math and science courses (including associated prerequisite courses) required for the degree. If a grade lower than C- is earned in any of these courses, the student is required to retake the course immediately the next semester it is offered.

Students who earn a grade less than a C- the first time will be contacted by the department and/or academic advising center and advised about

this policy and resources to help in their academic success. If the student fails to achieve a C- or better in any of these courses a second time, then the student must submit a written request to the Associate Dean of Academics in the College of Engineering to enroll in the course a third time. The student should explain the circumstances impacting their grade and the actions planned to improve their performance.

General Education           Area I: Communication - Level 1         4           EnGlish Composition - Level 2 <sup>1</sup> 3           Oral Communication <sup>1</sup> 3           Area II: Mathematics         4           MATH 1511G         Calculus and Analytic Geometry 1 <sup>2</sup> Area III: Laboratory Sciences         4           MATH 1511G         Calculus -Based Physics 1           & PHYS 1310G         Calculus -Based Physics 1 Lab           Area IV: Social/Behavioral Sciences <sup>1</sup> 3           Area IV: Social/Behavioral Sciences <sup>1</sup> 3           Area V: Munanities <sup>1</sup> 3           General Education Elective         4           MATH 1521G         Calculus and Analytic Geometry II           Departmental/College Requirements         3           Mathematics and Natural Science         18           MATH 3160         Introduction to Ordinary Differential Equations           PHYS 1320C         Calculus -Based Physics II Lab           ENGR 1300         Introduction to Engineering Mathematics           E E 200         Calculus -Based Physics II Lab           E NGR 1300         Introduction to Cralinary Differential Equations           STEM         G           C Choose two STEM Electives <sup>3</sup> 1	Prefix	Title	Credits
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E E Concentration Electives: Choose two courses from the following (one
must be an E E course): <sup>6</sup>

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	E E 495	Introduction to Digital Signal Processing
	E E 454	Antennas and Radiation
	or E E 541	Antennas and Radiation
	E E 473	Introduction to Optics
	E E 478	Fundamentals of Photonics
	or E E 528	Fundamentals of Photonics
	E E 496	Introduction to Communication Systems
	A E 362	Orbital Mechanics <sup>7</sup>
	ASTR 401	Topics in Modern Astrophysics <sup>7</sup>
	ASTR 402	Astronomical Observations and Techniques <sup>7</sup>
No	on-Departmental Rec	uirements (in addition to Gen.Ed)

#### Viewing a Wider World Electives Programming Elective Select one course from the following: CSCI 1240 C++ Programming I<sup>9</sup>

Total Credits		
Electives, to bring the total credits to 123		
Second Language: (not required)		
CSCI 2210	Object-Oriented Programming	
CSCI 1720	Computer Science I	
or CSCI 4520	Python Programming I	
CSCI 1225	Python Programming II <sup>9</sup>	
or CSCI 4520	Python Programming I	
CSCI 1220	Computer Programming Fundamentals: Python 9	
or CSCI 4510	C++ Programming	
CSCI 1210	Computer Programming Fundamentals <sup>9</sup>	
or CSCI 4510	C++ Programming	
00011240		

123-126

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

- 2 MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I first.
- 3 STEM Elective: Course at the 300 level or above from E E that is not used to satisfy any other E E program requirement or courses at the 300 level or above from A E, C E, CHME, I E, M E, ASTR, BIOL, CHEM, CSCI, MATH, PHYS and STAT. Excluded courses include VWW courses and those which are substantially equivalent to an E E course. Click to view a list of excluded STEM Electives (https://ece.nmsu.edu/ undergrad-study/BSEE-STEM-electives.html).
- The prerequisite for ENGR 401 Engineering Capstone I for BSEE students is E E 300 Cornerstone Design.
- 5 Students must take E E 460 Space System Mission Design and Analysis which is currently offered in the Spring semester and (ASTR 401 Topics in Modern Astrophysics or ASTR 402 Astronomical Observations and Techniques which are currently offered in the Spring semester or A E 362 Orbital Mechanics which is currently offered in the Fall semester).
- 6 Some of these elective courses may have additional prerequisites.
- This course can satisfy either an E E Concentration Required Course or an E E Concentration Elective, but not both.
- 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.

Only one of the 100/1000-level or the 400/4000-level course may be taken to satisfy degree requirements. Students may not take the 100/1000-level of a course to satisfy the programming elective requirement and the 400/4000-level of the same course to satisfy other degree requirements.

## A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Intermediate Algebra and ENGL 1110G Rhetoric and Composition. 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.

First Year		
Fall		Credits
ENGR 190	Introduction to Engineering Mathematics	4
ENGL 1110G	Composition I	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
ENGR 120	DC Circuit Analysis	4
	Credits	16
Spring		
MATH 1511G	Calculus and Analytic Geometry I <sup>1</sup>	4
General Education Co	urse <sup>2</sup>	3
ENGR 130	Digital Logic	4
ENGR 140	Introduction to Programming and Embedded Systems	4
	Credits	15
Second Year		
Fall		
MATH 1521G	Calculus and Analytic Geometry II	4
PHYS 1310G	Calculus -Based Physics I	4
& PHYS 1310L	and Calculus -Based Physics I Lab	
E E 200	Linear Algebra, Probability and Statistics Applications	4
ENGR 230	AC Circuit Analysis	4
ENGR 230	AC Circuit Analysis Credits	4
ENGR 230 Spring	•	
	•	
Spring	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II	16
<b>Spring</b> MATH 3160 PHYS 1320G & PHYS 1320L	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab	<b>16</b> 3 4
<b>Spring</b> MATH 3160 PHYS 1320G & PHYS 1320L General Education Co	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup>	16 3 4 3
<b>Spring</b> MATH 3160 PHYS 1320G & PHYS 1320L General Education Co	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following:	<b>16</b> 3 4
<b>Spring</b> MATH 3160 PHYS 1320G & PHYS 1320L General Education Con Choose one Programm	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup>	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Con Choose one Programm CSCI 1240 or CSCI 1240 CSCI 1210	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Computer Programming Fundamentals	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Cor Choose one Programm CSCI 1240 or CSCI 4510 CSCI 1210 or CSCI 4505	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Computer Programming Fundamentals or Java Programming	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Con Choose one Programm CSCI 1240 or CSCI 1240 CSCI 1210	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Computer Programming Fundamentals or Java Programming Computer Programming Fundamentals: Python	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Coi Choose one Programm CSCI 1240 or CSCI 4510 CSCI 1210 or CSCI 4505 CSCI 1220 or CSCI 4520	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Computer Programming Fundamentals or Java Programming Computer Programming Fundamentals: Python or Python Programming I	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Cor Choose one Programm CSCI 1240 or CSCI 4510 CSCI 1210 or CSCI 4505 CSCI 1220	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Computer Programming Fundamentals or Java Programming Computer Programming Fundamentals: Python	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Cor Choose one Programm CSCI 1240 or CSCI 4510 CSCI 1210 or CSCI 4505 CSCI 1220 or CSCI 4520 CSCI 1225	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Fundamentals or Java Programming Computer Programming Fundamentals: Python or Python Programming I Python Programming II	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Coo Choose one Programm CSCI 1240 or CSCI 4510 CSCI 1210 or CSCI 4505 CSCI 1220 or CSCI 4520 CSCI 1225 or CSCI 4525	Credits Introduction to Ordinary Differential Equations Calculus -Based Physics II and Calculus -Based Physics II Lab urse <sup>2</sup> ning course from the following: C++ Programming I or C++ Programming Fundamentals or Java Programming Computer Programming Fundamentals: Python or Python Programming I Python Programming II or Python Programming II	16 3 4 3
Spring MATH 3160 PHYS 1320G & PHYS 1320L General Education Coo Choose one Programm CSCI 1240 or CSCI 4510 CSCI 1210 or CSCI 4505 CSCI 1220 or CSCI 4520 CSCI 1225 or CSCI 4525 CSCI 1720	Credits         Introduction to Ordinary Differential Equations         Calculus -Based Physics II         and Calculus -Based Physics II Lab         urse <sup>2</sup> ning course from the following:         C++ Programming I         or C++ Programming Fundamentals         or Java Programming         Computer Programming Fundamentals: Python         or Python Programming I         Python Programming II         or Python Programming II         Computer Science I	16 3 4 3

Third Year

E E 320Signals and Systems IE E 340Fields and WavesGeneral Education Requirement (Area I, IV, V, VI or VWW)2CreditsSpringE E 317Semiconductor Devices and Electronics IE E 325Signals and Systems IIE E 362Introduction to Computer OrganizationGeneral Education Requirement (Area I, IV, V, VI or VWW)2CreditsFourth YearFallENGR 401Engineering Capstone ISpace Systems Elective5.6Choose one of the following:Space Systems Elective5.6CreditsSpringENGR 402Engineering Capstone IE 460Space System Mission Design and AnalysisAstronomical Observations and Techniques or ASTR 401or Orbital MechanicsStem Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW)2SpringENGR 402Engineering Capstone IIE 460Space System Mission Design and AnalysisASTR 402Astronomical Observations and Techniques or A STR 401or Orbital MechanicsGeneral Education Requirement (Area I, IV, V, VI or VWW) <th>123-120</th>	123-120
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following: Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring ENGR 402 Engineering Capstone II E 460 Space System Mission Design and Analysis ASTR 402 Astronomical Observations and Techniques or ASTR 401 or Topics in Modern Astrophysics or A E 362 or Orbital Mechanics General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup>	1
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following: Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring ENGR 402 Engineering Capstone II E 460 Space System Mission Design and Analysis ASTR 402 Astronomical Observations and Techniques or ASTR 401 or Topics in Modern Astrophysics General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup>	:
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following: Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring ENGR 402 Engineering Capstone II E E 460 Space System Mission Design and Analysis ASTR 402 Astronomical Observations and Techniques or ASTR 401 or Topics in Modern Astrophysics or Orbital Mechanics	:
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following: Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 402 Engineering Capstone II ENGR 402 Engineering Capstone II E H 400 Space System Mission Design and Analysis	
E E 340       Fields and Waves         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Spring         E E 317       Semiconductor Devices and Electronics I         E E 325       Signals and Systems II         E E 362       Introduction to Computer Organization         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Fourth Year         Fall         ENGR 401       Engineering Capstone I         Space Systems Elective <sup>5,6</sup> Choose one of the following:         Space Systems Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Sortem Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Spring         ENGR 402       Engineering Capstone II	:
E E 340       Fields and Waves         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Spring         E E 317       Semiconductor Devices and Electronics I         E E 317       Semiconductor Devices and Electronics I         E E 325       Signals and Systems II         E E 362       Introduction to Computer Organization         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Fourth Year         Fall         ENGR 401       Engineering Capstone I         Space Systems Elective <sup>5,6</sup> A E 362       Orbital Mechanics         STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits	:
E E 340       Fields and Waves         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Spring         E E 317       Semiconductor Devices and Electronics I         E E 317       Semiconductor Devices and Electronics I         E E 325       Signals and Systems II         E E 362       Introduction to Computer Organization         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Fourth Year         Fall         ENGR 401       Engineering Capstone I         Space Systems Elective <sup>5,6</sup> Choose one of the following:         Space Systems Elective <sup>5,6</sup> A E 362       Orbital Mechanics         STEM Elective <sup>4,5</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup>	
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following: Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics STEM Elective <sup>4,5</sup>	15-17
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following: Space Systems Elective <sup>5,6</sup> A E 362 Orbital Mechanics	
E E 340       Fields and Waves         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Spring         E E 317       Semiconductor Devices and Electronics I         E E 325       Signals and Systems II         E E 362       Introduction to Computer Organization         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Fourth Year         Fall         ENGR 401       Engineering Capstone I         Space Systems Elective <sup>5,6</sup> Choose one of the following:         Space Systems Elective <sup>5,6</sup>	:
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I Space Systems Elective <sup>5,6</sup> Choose one of the following:	
E E 340       Fields and Waves         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Spring         E E 317       Semiconductor Devices and Electronics I         E E 325       Signals and Systems II         E E 362       Introduction to Computer Organization         General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits         Fourth Year         Fall         ENGR 401       Engineering Capstone I         Space Systems Elective <sup>5,6</sup>	Ŭ
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall ENGR 401 Engineering Capstone I	3-4
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year Fall	3-4
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Fourth Year	
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits	
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup>	1
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II E E 362 Introduction to Computer Organization	
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I E E 325 Signals and Systems II	4
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring E E 317 Semiconductor Devices and Electronics I	4
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits Spring	4
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> Credits	
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup> General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup>	1
E E 340 Fields and Waves General Education Requirement (Area I, IV, V, VI or VWW) <sup>2</sup>	:
E E 340 Fields and Waves	:
E E 320 Signals and Systems I	4
	:
E E 300 Cornerstone Design	2
Fall       E E 300     Cornerstone Design	

- <sup>1</sup> MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I first.
- <sup>2</sup> See the General Education (https://catalogs.nmsu.edu/nmsu/generaleducation-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.
- <sup>3</sup> Students must take E E 460 Space System Mission Design and Analysis which is currently offered in the Spring semester and (ASTR 401 Topics in Modern Astrophysics or ASTR 402 Astronomical Observations and Techniques which are currently offered in the Spring semester or A E 362 Orbital Mechanics which is currently offered in the Fall semester).
- <sup>4</sup> STEM Elective: Course at the 300/3000 level or above from E E that is not used to satisfy any other E E program requirement or courses at the 300/3000 level or above from A E, C E, CHME, I E, M E, ASTR, BIOL, CHEM, CSCI, MATH, PHYS and STAT. Excluded courses include VWW courses and those which are substantially equivalent to an E E course. Click to view a list of excluded STEM Electives (https://ece.nmsu.edu/ undergrad-study/BSEE-STEM-electives.html).
- <sup>5</sup> Depending on availability of specific courses in the fall or spring semester, students may need to reorganize the ECE Electives, STEM electives, and/or Gen Ed electives in their final year. Students are strongly advised to consult with their ECE Faculty Mentor for assistance in planning their final year.

<sup>6</sup> At least one Space Systems Elective must be from the E E Prefix. See E E Concentration Electives in the Degree Requirements section above.