

## UNIVERSITY OF

Major Map: Electrical Engineering Bachelor of Science in Engineering (B.S.E.) College of Engineering and Computing Department of Electrical Engineering Catalog Year: 2017-2018

This course plan is a recommended sequence for this major. Courses designated as critical (!) may have a deadline for completion and/or affect time to graduation. Please see the Program Notes section for details regarding "critical courses" for this particular Program of Study.

1   Course Subject and Title   Hours Grade!   GPA2   Code   Prerequisites     Semester One (17 Credit Hours)   1   ENGL 101 Critical Reading and Composition   3   C   CC-CMW   C     1   ENGL 101 Critical Reading and Composition   3   C   CC-CMW   C   Math placement test score     CHEM 111 & CHEM 111L – General Chem. I   4   C   CC-SCI   C or better in MATH 111/15/122/141 or     I   ELCT 101 Electrical & Electronics Engineering   3   *   PR     Carolina Core ATU4   3   CC-ATU   Semester Two (18 Credit Hours)   F     1   ELCT 101 Electrical A Composition   3   C   CC-ARP   C or better in ENGL 101     Semester Two (18 Credit Hours)   F   F   PR   Prereg or Coreq: MATH 141   F     1   MATH 142 Calculus II   4   C   CC-SCI   C or better in MATH 141   ELCT 102 Electrical Science   3   *   PR   Prereg or Coreq: MATH 141     1   ELCT 102 Electrical Science   3   C   *   PR   Prereg or Coreq: MATH 141   ELCT 102 Electrical Science   S   *   PR   MATH 141	Notes
! ENGL 101 Critical Reading and Composition   3   C   CC-CMW     ! MATH 141 Calculus 13   4   C   CC-ARP   C or better in MATH 112/115/116 or Math placement test score     CHEM 111 & CHEM 111L – General Chem. I   4   C   CC-SCI   C or better in MATH 111/115/122/141 or higher math or Math placement test score     ! ELCT 101 Electrical & Electronics Engineering   3   *   PR     Carolina Core AlU <sup>4</sup> 3   CC-AIU     Semester Two (18 Credit Hours)   *   PR     ! ENGL 102 Rhetoric and Composition   3   C   CC-ARP     I MATH 142 Calculus II   4   C   CC-ARP   C or better in MATH 141     ! ENGL 102 Rhetoric and Composition   3   C   CC-ARP   C or better in MATH 141     ! ENGL 102 Rhetoric al Science   3   *   PR   Prereq or Coreq: MATH 141     ! CSCE 145 Algorithmic Design I   4   C   CC-SCI   C or better in MATH 141     ! CSCE 145 Algorithmic Design I   3   C   *   PR   Prereq or Coreq: MATH 141     ! CSCE 146 Algorithmic Design I   3-d   PR   Prereq or Coreq: MATH 141   PHYS 306 Principles of Physics III   MATH 141, Prereq or Coreq:	Inotes
1   MATH 141 Calculus 13   4   C   CC-ARP   C or better in MATH 112/115/116 or Math placement test score     1   ELCT 101 Electrical & Electronics Engineering   3   *   PR     1   ELCT 101 Electrical & Electronics Engineering   3   *   PR     2   Carolina Core AlU <sup>4</sup> 3   CC-AIU   Semester Two (18 Credit Hours)     1   ENGL 102 Rhetoric and Composition   3   C   CC-ARP   C or better in MATH 111/15/122/141     1   ENGL 102 Rhetoric and Composition   3   C   CC-ARP   C or better in MATH 141     1   PHYS 211L – Essentials of Phys. I   4   C   CC-ARP   C or better in MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   ESCE 145 Algorithmic Design 1   4   C   *   PR   Prereq or Coreq: MATH 141     1   CSCE 211 Digital Logic Design   3   C   *   PR   MATH 142   Coreq: MATH 141     1   CSCE 146 Algorithmic Design II   3-4   PR   Cor better in CSCE 145, Prereq or Coreq: MATH 142   (FMACH 401 onl); Cor better in PHYS 207   or 212 & MATH 142	
CHEM 111 & CHEM 111L - General Chem. I   4   C   CC-SCI   C or better in MATH 111/115/122/141 or higher math or Math placement test score     I ELCT 101 Electrical & Electronics Engineering   3   *   PR     Carolina Core AIU <sup>4</sup> 3   CC-AIU     Semester Two (18 Credit Hours)   CC-CMW   C or better in ENGL 101     I ELGT 102 Rhetoric and Composition   3   C   CC-CMW     I MATH 142 Calculus II   4   C   CC-ARP   C or better in MATH 141     I PLYS 211 & PHYS 211L - Essentials of Phys. I   4   C   CC-SCI   C or better in MATH 141     I ELCT 102 Electrical Science   3   *   PR   Perceq or Coreq: MATH 141     I CSCE 145 Algorithmic Design I   4   C   *   PR   Preceq or Coreq: MATH 141     I CSCE 110 Digital Logic Design   3   C   *   PR   MATH 142   Coreq: MATH 141     CSCE 111 Digital Logic Design II   3-4   C   *   PR   MATH 142, Coreqit Hours)   MATH 142, Coreqit Hours)     I CSCE 110 Digital Logic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 141     or EMCH 201 Intro. to Applied Num. Methods   MATH 142, Co	
CHEM 111 & CHEM 111L - General Chem. I   4   C   CC-SCI   C or better in MATH 111/115/122/141 or higher math or Math placement test score     I   ELCT 101 Electrical & Electronics Engineering   3   *   PR     Carolina Core AIU <sup>4</sup> 3   CC-AIU     Semester Two (18 Credit Hours)   -   CC-CAIU     1   ENGL 102 Rhetoric and Composition   3   C   CC-CAW     1   MATH 142 Calculus II   4   C   CC-CARP   C or better in MATH 1141     1   PHYS 211L – Essentials of Phys. I   4   C   CC-CARP   C or better in MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 114     1   CSCE 211 Digital Logic Design   3   C   *   PR   MATH 141   math 111 or 115     Semester Three (16-17 Credit Hours)   -   -   PR   C or better in CSCE 145, Prereq or Coreq: MATH 141     1   CSCE 211 Digital Logic Design II   3-4   PR   C or better in MATH 141, Preres or Coreq: MATH 142     (ms-GH41 201 Intro. to Appli	
I   ELCT 101 Electrical & Electronics Engineering   3   *   PR     Carolina Core AIU <sup>4</sup> 3   CC-AIU     Semester Two (18 Credit Hours)   3   CC-AIU     1   ELGI 102 Rhetoric and Composition   3   C   CC-AIU     Semester Two (18 Credit Hours)   4   C   CC-CINF   C     1   MATH 142 Calculus II   4   C   CC-SCI   C or better in MATH 141     1   PHYS 211 & PHYS 211L - Essentials of Phys. I   4   C   CC-SCI   C or better in MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   CSCE 145 Algorithmic Design I   4   C   *   PR   Or better in CSCE 145, Prereq or Coreq: MATH 141     1   CSCE 146 Algorithmic Design II   3-4   PR   Prereq or Coreq: MATH 141   PHYS 306 Principles of Physics III   MATH 142, Prereq or Coreq: MATH 141     1   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142, Math 445 offb,	
!   ELCT 101 Electrical & Electronics Engineering   3   *   PR     Carolina Core AIU <sup>4</sup> 3   CC-AIU     Semester Two (18 Credit Hours)   1   CC-AIU     !   ENGL 102 Rhetoric and Composition   3   C   CC-AIU     !   ENGL 102 Rhetoric and Composition   3   C   CC-ARP   C or better in ENGL 101     !   MATH 142 Calculus II   4   C   CC-C-ARP   C or better in MATH 141     !   PHYS 211 & ENST 1 Essentials of Phys. I   4   C   CC-SCI   C or better in MATH 141     !   CSCE 145 Algorithmic Design 1   4   C   *   PR   Prereq or Coreq: MATH 141     !   CSCE 146 Algorithmic Design II   3-4   C   *   PR   MATH 142   Coreq: MATH 141     cSCE 146 Algorithmic Design II   3-4   PR   C or better in PHYS 207 Coreq: MATH 141   PHYS 207 Coreq: MATH 141   PHYS 207 Coreq: MATH 142   PHYS 207 Coreq: MATH 141   PHYS 207 Coreq: MATH 142   PHYS 207 Cor	
Carolina Core AIU <sup>4</sup> 3   CC-AIU     Semester Two (IS Credit Hours)   7     ! ENGL 102 Rhetoric and Composition   3   C   CC-AIU     1   MATTH 142 Calculus II   4   C   CC-ARP   C or better in ENGL 101     1   PMYS 211& PHYS 211L – Essentials of Phys. I   4   C   CC-ARP   C or better in MATTH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   ESCE 145 Algorithmic Design I   4   C   *   PR   MATTH 141     1   CSCE 140 Algorithmic Design II   3-4   C   *   PR   MATH 141     1   CSCE 140 Algorithmic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 142     1   or 212 (Phys 306 Principles of Physics III   3-4   PR   C or better in MATH 142 & ELCT 102 or D or petter in ELCT 220     1   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142 & ELCT 102 or D or D or better PHYS 211 and MATH 142     1   PHYS 212 & PHYS 21	
Semester Two (18 Credit Hours)   3   C   CC-CMW   C or better in ENGL 101     1   ENGL 102 Rhetoric and Composition   3   C   CC-ARP   C or better in MATH 141     1   MATH 142 Calculus II   4   C   CC-ARP   C or better in MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 141     1   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 141     1   CSCE 146 Algorithmic Design II   4   C   *   PR   MATH 141     CSCE 146 Algorithmic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 142     0   CSCE 145 Oright Algorithmic Design II   3-4   PR   C or better in ELCT 207   MATH 141, Prereq or Coreq: MATH 142     0   FMS 306 Principles of Physics III	
!   ENGL 102 Rhetoric and Composition   3   C   CC-CMW (CC-INF)   C or better in ENGL 101 (CC-NF)     !   MATH 142 Calculus II   4   C   CC-ARP   C or better in MATH 141     !   PHYS 211 & PHYS 211L - Essentials of Phys. I   4   C   CC-SCI   C or better in MATH 141     !   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     !   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 141     CSCE 211 Digital Logic Design I   3   C   *   PR   MATH 141     CSCE 146 Algorithmic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 141     CSCE 146 Othysics III   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 142 <i>or s-bisted: ENCP 201, PHYS 311</i> 0   MATH 142, Oreq: MATH 142, Oreq: MATH 142 <i>or s-bisted: ENCP 201, PHYS 311</i> 0   WATH 142, Coreq: MATH 142, Oreq: MATH 142, Oreq: MATH 142 <i>or 212 Chick 20 Inft. to Applied Num.</i> 3   C   *   PR   C or better in MATH 142, & ELCT 102 or Do thetre in ELCT 201 only; C or better in PHYS 207     !   ELCT 221 Circuits   3	
1   MATH 142 Calculus II   4   C   CC-ARP   C or better in MATH 141     1   PHYS 211 & PHYS 211L – Essentials of Phys. I   4   C   CC-SCI   C or better in MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 141     1   CSCE 146 Algorithmic Design I   3   C   *   PR   MATH 141     CSCE 211 Digital Logic Design   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 141     CSCE 145 Algorithmic Design II   3-4   PR   C or better in CSCE 146 only;     MATH 120 or 1H1 co to Applied Num. Methods   (ross-distd: ENCP 201, PHYS 311)   MATH 142, Coreq: MATH 142     or PHYS 306 Principles of Physics III   -   -   PR   C or better in MATH 142 & ELCT 102 or     0   D or better in ELCT 220   -   -   D or better in ELCT 220   -     PHYS 212 & PHYS 212L – Essentials of Phys. II   4   C   PR   C or better i	
1   PHYS 211 & PHYS 211 L Essentials of Phys. I   4   C   CC-SCI   C or better in MATH 141     1   1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 141     1   CSCE 211 Digital Logic Design   3   C   *   PR   MATH 141     CSCE 211 Digital Logic Design   3   C   *   PR   MATH 141     CSCE 2146 Algorithmic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 142     or EMCH 201 Intro. to Applied Num. Methods   (rms-kitdi: ENCP 201, PHYS 311)   MATH 141, Prereq or Coreq: MATH 142     or PHYS 306 Principles of Physics III   0   WATH 142, Oreque MATH 142   (EMCH 201 only); C or better in PHYS 207     or Jetter 221 Circuits   3   C   *   PR   C or better in MATH 142, & ELCT 102 or     PHYS 212 & PHYS 212L - Essentials of Phys. II   4   C   PR   C or better in MATH 142   (PHYS 212, Prereq or Coreq: PHYS 207     or 212 (PHYS 212L)   1   MATH 142, Cereq or Coreq: PHYS 207   or 212 (PHYS 212, Prereq or Coreq; PHYS 207 <td< td=""><td></td></td<>	
1   ELCT 102 Electrical Science   3   *   PR   Prereq or Coreq: MATH 141     1   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 111 or 115     Semester Three (16-17 Credit Hours)   *   PR   Prereq or Coreq: MATH 111 or 115     1   CSCE 211 Digital Logic Design   3   C   *   PR   MATH 141     CSCE 146 Algorithmic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 141     or EMCH 201 Intro. to Applied Num. Methods   mathematical Encore 201, PHYS 311)   mATH 142, Prereq or Coreq: MATH 142     or PHYS 306 Principles of Physics III   *   PR   C or better in CSCE 145, Prereq or Coreq: MATH 241     (EMCH 201 only); C or better in PHYS 207   or 212 & MATH 142, Coreq: MATH 241   (EMCH 201 only); C or better in PHYS 207     or 212 & PHYS 212 & PHYS 212L – Essentials of Phys. II   4   C   PR   C or better in MATH 142     PHYS 212 & PHYS 212 & PHYS 212L – Essentials of Phys. II   4   C   PR   C or better in MATH 142     Semester Four (18 Credit Hours)   *   PR   C or better in MATH 142   PHYS 212,     !   MATH 242 Elem. Differential Equations   3   C <td></td>	
!   CSCE 145 Algorithmic Design I   4   C   *   PR   Prereq or Coreq: MATH 111 or 115     Semester Three (16-17 Credit Hours)   .   .   .   .   .   .     !   CSCE 211 Digital Logic Design   3   C   *   PR   MATH 141     CSCE 2146 Algorithmic Design II   3-4   .   PR   C or better in CSCE 145, Prereq or Coreq: MATH 1142     or EMCH 201 Intro. to Applied Num. Methods   .   .   .   MATH 142, or 141 (CSCE 146 only);   .     .   .   .   .   .   .   .   .   .   .     .	
Semester Three (16-17 Credit Hours)   3   C   *   PR   MATH 141     CSCE 211 Digital Logic Design II or EMCH 201 Intro. to Applied Num. Methods (ross-listed: ENCP 201, PHYS 311) or PHYS 306 Principles of Physics III   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 122 or 141 (CSCE 146 only); (MATH 141, Prereq or Coreq: MATH 142 (EMCH 201 only); C or better in PHYS 207 or 212 & MATH 142, Coreq: MATH 241 (PHYS 306 only)     !   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     PHYS 212 & PHYS 212L - Essentials of Phys. II   4   C   PR   C or better PHYS 211 and MATH 142     Semester Four (18 Credit Hours)   1   C   PR   C or better in ENCT 220 (PHYS 212 Intro. to Computer Architecture   3   C   PR   C or better in MATH 142     !   MATH 242 Elem. Differential Equations   3   C   PR   C or better in MATH 142     !   MATH 242 Elem. Differential Equations   3   C   PR   C or better in MATH 142     !   MATH 242 Elem. Differential Equations   3   C   PR   C or better in ENGL 102, CSCE 211, mATH 142     !   MATH 242 Elem. Engr. Fund. for Non-Majors   3   PR   C or better in ENGL 102, CSCE 211, ELCT 201 Introductory El	
1   CSCE 211 Digital Logic Design   3   C   *   PR   MATH 141     CSCE 146 Algorithmic Design II   3-4   PR   C or better in CSCE 145, Prereq or Coreq: MATH 122 or 141 (CSCE 146 only);     or EMCH 201 Intro. to Applied Num. Methods (cross-listed: ENCP 201, PHYS 311)   MATH 122 or 141 (CSCE 146 only);   MATH 142, Coreq: MATH 142     or PHYS 306 Principles of Physics III   MATH 141, Prereq or Coreq: MATH 142, Coreq: MATH 142, Coreq: MATH 241 (PHYS 306 only)   MATH 142, Coreq: MATH 241 (PHYS 306 only)     1   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     PHYS 212 & PHYS 212L - Essentials of Phys. II   4   C   PR   C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     PHYS 212 & Credit Hours)   3   C   PR   C or better in MATH 142 & ELCT 200 or coreq: PHYS 207 or 212 (PHYS 212L)     1   MATH 242 Elem. Differential Equations   3   C   PR   C or better in ELCT 201 & ether SCE 145 or 206     EMCH 220 Mech. Engr. Fund. for Non-Majors   3   PR   C or better in ELCT 201, Prereq or Coreq: ELCT 222     1   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ELCT 201, SCE 211, ELCT 102; Prereq or Coreq: ELCT 222	
CSCE 146 Algorithmic Design II or EMCH 201 Intro. to Applied Num. Methods ( <i>cross-listed:</i> ENCP 201, PHYS 311) or PHYS 306 Principles of Physics III3-4PRC or better in CSCE 145, Prereq or Coreq: MATH 141, Prereq or Coreq: MATH 142 ( <i>EMCH 201 only</i> ); C or better in PHYS 207 or 212 & MATH 142, Coreq: MATH 241 ( <i>PHYS 306 only</i> )!ELCT 221 Circuits3C*PRC or better in MATH 142 & ELCT 102 or D or better in ELCT 220PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better in MATH 142 & ELCT 102 or D or better in ELCT 220PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better in MATH 142 & ELCT 102 or D or better in ELCT 220PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better in MATH 142 & ELCT 102 or D or better in ELCT 220!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142Semester Four (18 Credit Hours)3*PRC or better in ENGL 102, CSCE 211, ELCT 201 Introductory Elect. Engr. Laboratory!ELCT 222 Signals & Systems3C*PRC or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222!ELCT 222 Signals & Systems3CPRC or better in ENGL 102, CSCE 211, ELCT 301 Electronics Laboratory3*!ELCT 301 Electronics Laboratory3*MRELCT 201; Prereq or Coreq: ELCT 371ELCT 321 Digital Signal Processing3*MRC or better in ELCT 222!ELCT 301 Electronics Laboratory3 <td></td>	
or EMCH 201 Intro. to Applied Num. Methods (cross-listed: ENCP 201, PHYS 311) or PHYS 306 Principles of Physics III   MATH 122 or 141 (CSCE 146 only); MATH 141, Prereq or Coreq: MATH 142 (EMCH 201 only); C or better in PHYS 207 or 212 & MATH 142, C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     !   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     PHYS 212 & PHYS 212L – Essentials of Phys. II   4   C   PR   C or better PHYS 211 and MATH 142     Semester Four (18 Credit Hours)   3   C   PR   C or better in MATH 142 & PHYS 212L     !   ELCT 221 Intro. to Computer Architecture   3   C   PR   C or better in MATH 142     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   C   PR   C or better in ELCT 221 & MATH 242     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   PR   C or better in ELCT 222   11     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C o	
(cross-listed: ENCP 201, PHYS 311) or PHYS 306 Principles of Physics IIIMATH 141, Prereq or Coreq: MATH 142 (EMCH 201 only); C or better in PHYS 207 or 212 & MATH 142, Coreq: MATH 241 (PHYS 306 only)!ELCT 221 Circuits3C*PRC or better in MATH 142, Coreq: MATH 242 (PHYS 306 only)!ELCT 221 Circuits3C*PRC or better in MATH 142, ELCT 102 or D or better in ELCT 220PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better PHYS 211 and MATH 142 (PHYS 212); Prereq or Coreq: PHYS 207 or 212 (PHYS 212L)!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142 (PHYS 212L)!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142 (PHYS 212L)!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142 (PHYS 212L)!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142 (PHYS 212L)!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142 (PHYS 212L)!ELCT 201 Introductory Elect. Engr. Laboratory3*PRC or better in ELCT 221 & MATH 242!ELCT 222 Signals & Systems3C*PRC or better in MATH 142 (ELCT 102; Prereq or Coreq: ELCT 221!ELCT 222 Signals & Systems3CPRC or better in MATH 142 (ELCT 201; Prereq or Coreq: ELCT 371!ELCT 301 Electronics Laboratory3*MR <td< td=""><td></td></td<>	
or PHYS 306 Principles of Physics III   (EMCH 201 only); C or better in PHYS 207 or 212 & MATH 142, Coreq: MATH 241 (PHYS 306 only)     !   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     PHYS 212 & PHYS 212L - Essentials of Phys. II   4   C   PR   C or better PHYS 211 and MATH 142     PHYS 212 & PHYS 212L - Essentials of Phys. II   4   C   PR   C or better PHYS 211 and MATH 142     PHYS 212 & PHYS 212L - Essentials of Phys. II   4   C   PR   C or better PHYS 212, perceq or Coreq: PHYS 207 or 212 (PHYS 212);     !   MATH 242 Elem. Differential Equations   3   C   PR   C or better in MATH 142     Semester Four (18 Credit Hours)   *   PR   CSCE 211 & either CSCE 145 or 206     EMCH 220 Mech. Engr. Fund. for Non-Majors   3   PR   MATH 142 & PHYS 211     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   C   *   PR   C or better in ENGL 102, CSCE 211, ELCT 202; Rereq or Coreq: ELCT 222     !   ELCT 201 Introductory Elect. Engr. Elect 33   PR	
or 212 & MATH 142, Coreq: MATH 241 (PHYS 306 only)!ELCT 221 Circuits3C*PRC or better in MATH 142 & ELCT 102 or D or better in ELCT 220PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better PHYS 211 and MATH 142 (PHYS 212); Prereq or Coreq: PHYS 207 or 212 (PHYS 212L)!MATH 242 Elem. Differential Equations3CPRC or better in MATH 142Semester Four (18 Credit Hours)1*PRCSCE 211 & either CSCE 145 or 206!CSCE 212 Intro. to Computer Architecture3*PRMATH 142 & PHYS 211!ELCT 201 Introductory Elect. Engr. Laboratory3*PRC or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222!ELCT 222 Signals & Systems3C*PRC or better in MATH 142!MATH 241 Vector Calculus3CPRC or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222!ELCT 301 Electronics Laboratory3*MRELCT 201; Prereq or Coreq: ELCT 371!ELCT 301 Electronics Laboratory3*MRC or better in ELCT 222!ELCT 301 Electronics Laboratory3*MRC or better in ELCT 222 <td></td>	
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!   ELCT 221 Circuits   3   C   *   PR   C or better in MATH 142 & ELCT 102 or D or better in ELCT 220     PHYS 212 & PHYS 212L – Essentials of Phys. II   4   C   PR   C or better PHYS 211 and MATH 142 (PHYS 212); Prereq or Coreq: PHYS 207 or 212 (PHYS 212L)     !   MATH 242 Elem. Differential Equations   3   C   PR   C or better in MATH 142     Semester Four (18 Credit Hours)   :   .   .   PR   C or better in ENGL 102, CSCE 211 & either CSCE 145 or 206     EMCH 220 Mech. Engr. Fund. for Non-Majors   3   .   PR   MATH 142 & PHYS 211     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   .   PR   C or better in ELCT 221 & MATH 142     !   ELCT 222 Signals & Systems   3   C   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   *   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   PR   MATH 142 or equivalent   S     !   ELCT 301 Electronics Laboratory   3   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 321 Digital Signal Processing   3   *   MR	
PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better in ELCT 220PHYS 212 & PHYS 212L - Essentials of Phys. II4CPRC or better PHYS 211 and MATH 142(PHYS 212); Prereq or Coreq: PHYS 207 ar 212 (PHYS 212L)1MATH 242 Elem. Differential Equations3CPRC or better in MATH 142Semester Four (18 Credit Hours)1551111!CSCE 212 Intro. to Computer Architecture3*PRCSCE 211 & either CSCE 145 or 206EMCH 220 Mech. Engr. Fund. for Non-Majors3PRMATH 142 & PHYS 211!ELCT 201 Introductory Elect. Engr. Laboratory3*PRC or better in ELCT 221 & MATH 242!MATH 241 Vector Calculus3C*PRC or better in MATH 142STAT 509 Statistics for Engineers3PRMATH 142 or equivalentSemester Five (18 Credit Hours)1*MRELCT 201; Prereq or Coreq: ELCT 371!ELCT 301 Electronics Laboratory3*MRC or better in ELCT 222!ELCT 301 Electronics Laboratory3*MRELCT 201; Prereq or Coreq: ELCT 371ELCT 321 Digital Signal Processing3*MRC or better in ELCT 222ELCT 321 Digital Signal Processing3*MRC or better in ELCT 222	
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!   MATH 242 Elem. Differential Equations   3   C   PR   C or better in MATH 142     Semester Four (18 Credit Hours)   !   CSCE 212 Intro. to Computer Architecture   3   *   PR   CSCE 211 & either CSCE 145 or 206     EMCH 220 Mech. Engr. Fund. for Non-Majors   3   *   PR   MATH 142 & PHYS 211     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222     !   ELCT 222 Signals & Systems   3   C   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   PR   MATH 142 or equivalent     Semester Five (18 Credit Hours)   *   PR   ELCT 201; Prereq or Coreq: ELCT 371     !   ELCT 301 Electronics Laboratory   3   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 321 Digital Signal Processing   3   *   MR   C or better in ELCT 202	
Semester Four (18 Credit Hours)     ! CSCE 212 Intro. to Computer Architecture   3   *   PR   CSCE 211 & either CSCE 145 or 206     EMCH 220 Mech. Engr. Fund. for Non-Majors   3   PR   MATH 142 & PHYS 211     ! ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222     ! ELCT 222 Signals & Systems   3   C   *   PR   C or better in ELCT 221 & MATH 242     ! MATH 241 Vector Calculus   3   C   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   PR   MATH 142 or equivalent     Semester Five (18 Credit Hours)   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ! ELCT 321 Digital Signal Processing   3   *   MR   C or better in ELCT 222; Prereq or Coreq: ELCT 321	
!   CSCE 212 Intro. to Computer Architecture   3   *   PR   CSCE 211 & either CSCE 145 or 206     EMCH 220 Mech. Engr. Fund. for Non-Majors   3   PR   MATH 142 & PHYS 211     !   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222     !   ELCT 222 Signals & Systems   3   C   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   PR   MATH 142 or equivalent     Semester Five (18 Credit Hours)   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     !   ELCT 321 Digital Signal Processing   3   *   MR	
!   ELCT 201 Introductory Elect. Engr. Laboratory   3   *   PR   C or better in ENGL 102, CSCE 211, ELCT 102; Prereq or Coreq: ELCT 222     !   ELCT 222 Signals & Systems   3   C   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   *   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   C   PR   MATH 142 or equivalent     Semester Five (18 Credit Hours)   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 301 Electronics Laboratory   3   *   MR   C or better in ELCT 222     ELCT 301 Digital Signal Processing   3   *   MR   C or better in ELCT 222	
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!   ELCT 222 Signals & Systems   3   C   *   PR   C or better in ELCT 221 & MATH 242     !   MATH 241 Vector Calculus   3   C   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   C   PR   MATH 142 or equivalent     Semester Five (18 Credit Hours)   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 301 Electronics Laboratory   3   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 321 Digital Signal Processing   3   *   MR   C or better in ELCT 222	
!   MATH 241 Vector Calculus   3   C   PR   C or better in MATH 142     STAT 509 Statistics for Engineers   3   PR   MATH 142 or equivalent     Semester Five (18 Credit Hours)   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 321 Digital Signal Processing   3   *   MR   C or better in ELCT 222	
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! ELCT 301 Electronics Laboratory   3   *   MR   ELCT 201; Prereq or Coreq: ELCT 371     ELCT 321 Digital Signal Processing   3   *   MR   C or better in ELCT 222	
ELCT 321 Digital Signal Processing 3 * MR C or better in ELCT 222	
ELCT 363 Intro. to Microelectronics 3 * MR C or better in CHEM 111. PHYS 212 &	<u> </u>
MATH 241   ! ELCT 371 Electronics 3 * MR C or better in ELCT 222	
! ELCT 3/1 Electronics 5 * MR C or better in ELCT 222   ECON 421 Engineering Economics 3 PR	
Carolina Core VSR <sup>4</sup> 3 CC-VSR	
Semester Six (15 Credit Hours)	
! ELCT 302 Real-Time Systems Laboratory   3   *   MR   ELCT 301; Prereq or Coreq: ELCT 331	
! ELCT 302 Real-Time Systems 3 * MR ELCT 501, Freied of Cored. ELCT 501   ! ELCT 331 Control Systems 3 * MR C or better in ELCT 222	
ELCT 350 Computer Modeling of Elect. Systems 3 * MR C or better in ELCT 222 & CSCE 145	
ELCT 361 Electromagnetics 3 * MR PHYS 212 & MATH 241	
Carolina Core GSS <sup>4</sup> 3 CC-GSS	
Semester Seven (12 Credit Hours)	
! ELCT 403 Capstone Design Project I 3 * MR/CC- ELCT 302	
Inter too capstone besign rojeet i	
Career Plan Elective <sup>5</sup> 3 * PR	
Career Plan Elective <sup>5</sup> 3 * PR	
Carolina Core GHS <sup>4</sup> 3 CC-GHS	

Semester Eight (12 Credit Hours)						
! ELCT 404 Capstone Design Project II	3		*	MR	ELCT 403	
Career Plan Elective <sup>5</sup>	3		*	PR		
Career Plan Elective <sup>5</sup>	3		*	PR		
Career Plan Elective <sup>5</sup>	3		*	PR		
Take during any semester (0-9 Credit Hours)						
Carolina Core CMS <sup>4</sup>	0-3			CC-CMS		
Carolina Core GFL <sup>4</sup>	0-6			CC-GFL		

## Graduation Requirements Summary

Minimum Total	Major Requirements Hours	Minimum College & Program	Minimum	Minimum
Hours		Requirements Hours	Carolina Core Hours	Overall GPA
126	30	62	34	2.00

- 1. Regardless of individual course grades, students must maintain a minimum 2.00 cumulative GPA.
- 2. Some colleges require a minimum GPA for major courses. Courses indicated in this column are included in the major GPA of 2.00 for this program.
- 3. Students who place into MATH 115 will be required to successfully complete it before taking MATH 141.
- 4. The <u>Carolina Core</u> provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students. Students in the College of Engineering and Computing are required to demonstrate proficiency in one foreign language equivalent to the 121 course by 1) a score of two or better on the foreign language placement test; or 2) completion of the 109 and 110 courses in FREN, GERM, LATN, or SPAN or completion of the 121 course in another foreign language. Students who do not place out of the GFL requirement may need to take additional hours to meet this requirement.
- 5. Career Plan Electives: The student, in consultation with his or her advisor, will select 15 hours of electives that support the student's defined career plan. Not more than 6 hours of these electives may be from another discipline, and all must be at or above the 300-level. As career plan electives have 300-level prerequisites, there may be career plans for which one or more of the 300-level courses are critical, even though not listed as critical in this document.

## **Program Notes:**

- Courses identified as "critical" must be completed in the semester in which they are listed in order to ensure a timely graduation due to prerequisite requirements for subsequent required courses.
- As career plan electives have 300-level prerequisites, there may be career plans for which one or more of the 300-level classes are critical, even though they are not listed as critical in this document.
- A student cannot repeat courses from the College of Engineering and Computing in which they earned a grade of C or better. In addition, a student cannot repeat any course from the College a second time. No more than four courses from the College of Engineering and Computing may be repeated in order to satisfy the requirements for any degree from the College, regardless of satisfactory work. For this purpose, withdrawal from a course with a grade of **W** is not regarded as enrollment in that course. A student that does not satisfactorily complete a degree-required College course within two attempts must change major or transfer out of the College of Engineering and Computing.
- The last 30 credit hours toward your degree and at least half of the major must be earned in residence at the University of South Carolina-Columbia.
- Disclaimer: Prerequisites on courses are subject to change. Please refer to <u>Bulletin</u>.

University Requirements: Bachelor's degree-seeking students must meet Carolina Core (general education) requirements. For more information regarding these requirements, please visit the <u>Carolina Core</u> page on the University website.

Codes:	
CC Carolina Core	<b>CC-INF</b> Carolina Core – Information Literacy
CC-AIU Carolina Core-Aesthetic and Interpretive Understanding	<b>CC-INT</b> Carolina Core – Integrative Course
CC-ARP Carolina Core-Analytical Reasoning and Problem-Solving	CC-SCI Carolina Core – Scientific Literacy
CC-CMS Carolina Core-Effective, Engaged, and Persuasive Communication: Spoken Component	CC-VSR Carolina Core – Values, Ethics, and Social Responsibility
CC-CMW Effective, Engaged, and Persuasive Communication: Written Component	CR College Requirement
CC-GFL Carolina Core-Global Citizenship and Multicultural Understanding: Foreign Language	MR Major Requirement
CC-GHS Carolina Core – Historical Thinking	PR Program Requirement
CC-GSS Carolina Core – Social Sciences	

Disclaimer: Major maps are only a suggested or recommended sequence of courses required in a program of study. Please contact your academic advisor for assistance in the application of specific coursework to a program of study and course selection and planning for upcoming semesters.