



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.

!	Course Subject and Title	Credit Hours	Min. Grade <sup>1</sup>	Program GPA <sup>2</sup>	Code	Prerequisites	Notes
<b>Semester One (16 Credit Hours)</b>							
	ENGL 101 Critical Reading and Composition	3	C		CC-CMW		
!	MATH 141 Calculus 1 <sup>3</sup>	4	C		CC-ARP	C or better in MATH 112/115/116 or placement through the MAP	
	INDE 190 Introduction to Industrial Engr. or ENCP 101 Introduction to Engineering	3			PR		
	Carolina Core AIU <sup>5</sup>	3			CC-AIU		
	Elective <sup>6</sup> (U101 recommended)	3			PR		
<b>Semester Two (17 Credit Hours)</b>							
	ENGL 102 Rhetoric and Composition	3		CC-CMW CC-INF		C or better in ENGL 101	
!	MATH 142 Calculus II	4	C		CC-ARP	C or better in MATH 141	
	INDE 291 Materials & Manufacturing ( <i>spring only</i> )	3		*	MR	D or better in MATH 122 or higher or placement through the MAP	
	ENCP 102 Intro. to Computer-Aided Design or ECIV 111 Intro. to Engr. Graphics & Visualization or EMCH 111 Intro. to Computer-Aided Design	3			PR		
	Carolina Core SCI <sup>5</sup>	4			CC-SCI		
<b>Semester Three (16-17 Credit Hours)</b>							
	INDE 292 Work Design & Ergonomics ( <i>fall only</i> )	3		*	MR		
!	STAT 509 Statistics for Engineers	3			PR	MATH 142 or equivalent	
	Computing Elective <sup>7</sup>	3-4			PR	See Bulletin Listing	
	Carolina Core SCI <sup>5</sup>	4			CC-SCI		
	Carolina Core GSS <sup>5</sup>	3			CC-GSS		
<b>Semester Four (15-17 Credit Hours)</b>							
	INDE 391 Production Engineering & Management	3		*	MR	D or better in MATH 141 or 122 & in STAT 201 or higher	
!	MATH 344 Applied Linear Algebra	3			PR	C or better in MATH 142	
	Math and Science Elective <sup>8</sup>	3-4			PR	See Bulletin Listing.	
	Computing Elective <sup>7</sup>	3-4			PR	See Bulletin Listing	
	Carolina Core GHS <sup>5</sup>	3			CC-GHS		
<b>Semester Five (15-16 Credit Hours)</b>							
!	INDE 392 Operations Research in Engineering	3		*	MR	D or better in MATH 344 & STAT 509	
	INDE 397 Industrial Engineering Laboratory	3		*	MR	D or better in MATH 142 and in one Computing Elective	
	INDE 490 Quality Engineering ( <i>fall only</i> )	3		*	MR	D or better in STAT 509 or higher & in INDE 391	
	ECON 421 Engineering Economics	3			PR		
	Math and Science Elective <sup>8</sup>	3-4			PR	See Bulletin Listing.	
<b>Semester Six (12-13 Credit Hours)</b>							
	INDE 593 Supply Chain Engineering ( <i>spring only</i> )	3		*	MR	D or better in INDE 392	
	INDE 496 Facilities Planning & Material Handling ( <i>spring only</i> )	3		*	MR	D or better in INDE 391	
	Math and Science Elective <sup>8</sup>	3-4			PR	See Bulletin Listing.	
	Carolina Core CMS <sup>5</sup>	3			CC-CMS		
<b>Semester Seven (15 Credit Hours)</b>							
	INDE 595 Systems Simulation ( <i>fall only</i> )	3		*	MR	D or better in INDE 392	
	INDE 591 Smart Manufacturing	3		*	MR	D or better in INDE 291 or EMCH 377	
	INDE 497 Industrial Engineering Capstone Project	3		*	MR CC-INT	D or better in INDE 291, 391, & 392	
	Carolina Core GFL <sup>4</sup> or Elective <sup>6</sup>	3			CC-GFL/PR		
	Elective <sup>6</sup>	3			PR		
<b>Semester Eight (14 Credit Hours)</b>							
	Carolina Core GFL <sup>4</sup> or Elective <sup>6</sup>	3			CC-GFL/PR		
	Carolina Core VSR <sup>5</sup> or Elective <sup>6</sup>	3			CC-VSR/PR		
	Elective <sup>6</sup>	3			PR		
	Elective <sup>6</sup>	3			PR		
	Elective <sup>6</sup> ( <i>only if needed to meet hours to graduate</i> )	2			PR		

## Graduation Requirements Summary

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	33	44-53	34-43	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 Industrial Engineering program GPA.
3. Students who place into MATH 115 will be required to successfully complete it before taking MATH 141.
4. 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. The [Carolina Core](#) provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
6. The program requires a minimum of 120 total credit hours. Electives (9-23): the number of electives depends upon how a student fulfills other program requirements. UNIV 101: The Student in the University is recommended.
7. **Computing Electives (6-8 hours):** CSCE 102, 106, 145, 146; ENCP 201 or ECIV 201 or EMCH 201; ITEC 104 or CSCE 104, ITEC 352.
8. **Math and Science Elective (9-12 hours):** ASTR 101-599; BIOL 110-690; CHEM 101-659; ENVR 101-572; GEOL 101-699; MATH 151-599; MSCI 101-627; PHYS 101-599; STAT 506-650.

### Program Notes:

- Courses identified as "critical" may affect time to graduation due to prerequisite requirements for subsequent required courses.
- All undergraduate students must take a 3-credit course or its equivalent with a passing grade that covers the founding documents. This course may fulfill any requirement in the program of study. Courses that meet this requirement are listed in the academic [bulletin](#).
- 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 25% of a student's degree must be completed in residence at the University, and at least half of the hours in the student's major courses and in the student's minor courses (if applicable) must be taken at the University.
- Disclaimer: Course prerequisites are subject to change. Please refer to Bulletin.

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

Codes:			
CC	Carolina Core	CC-INF	Carolina Core – Information Literacy
CC-AIU	Carolina Core-Aesthetic and Interpretive Understanding	CC-INT	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.