B.S. in BUSINESS ADMINISTRATION
SOFTWARE ENGINEERING EMPHASIS
Suggested Four-Year Schedule
2021-2022 Catalog

Student: **Date:**

Advisor: **Bear ID:**

The Bachelor of Science in Software Engineering degree requires a minimum of ***120 hours*** which includes:
31 hours of Liberal Arts Curriculum
85-86 hours of Software Engineering coursework and
University Wide Electives to reach the 120 minimum credits.

Year One

FALL SEMESTER				SPRING SEMESTER			
	BACS 180	Introduction to Software Engineering	1	MATH 132	Calculus II	4
	CS 120	Computer Programming	3	BACS 287	Graphical Interface Programming	3
	MATH 131	(LAC Mathematics) Calculus I	4	STAT 150	Introduction to Statistical Analysis	3
	ENG 122	(LAC Written Communication)	3	ENG 123 or SCI 291	(LAC) College Research Paper or (LAC) Scientific Writing	3
		(LAC Arts & Humanities with International)	3			
					(LAC Social and Behavioral)	3
		Total Credits	**14**		**Total Credits**	**16**

Year Two

FALL SEMESTER				SPRING SEMESTER			
	MATH 228	Discrete Mathematics	3	BACS 200	Web Design & Dev. For Small Business	3
	PHYS 220 or PHYS 240	(LAC) Introductory Physics I (Fall Only) or (LAC) General Physics I (Fall Only)	5	CS 160	Structured Programming	3
		(LAC Arts & Humanities with Multicultural)	3	BIO 110 or CHEM 111	(LAC) Principles of Biology with lab or (LAC) Principles of Chemistry with Lab	4 or 5
		(LAC History)	3		(LAC Arts, Humanities, History, Social & Beh)	3
					University-Wide Elective	3
		Total Credits	**14**		**Total Credits**	**16/17**

Year Three

FALL SEMESTER				SPRING SEMESTER			
	CS 200	Object Oriented Design (Fall Only)	3	CS 301	Algorithms and Data (Spring Only)	3
	BACS 380	Network & Data Comm (Fall Only)	3	BACS 385	Fund. of Project Management (Spring Only)	3
	BACS 387	Object Oriented Programming (Fall Only)	3		SE Major Elective *(see back)*	3
	BACS 350	Intermediate Web Development (Fall Only)	3		University-Wide Elective	3
	MATH 350	Elementary Probability Theory (Fall Only)	4		University-Wide Elective	3
		Total Credits	**16**		**Total Credits**	**15**

Year Four

FALL SEMESTER				SPRING SEMESTER			
	CS 350	Software Engineering I (Fall Only)	3	BACS 488 or CS 497	Senior Project (Spring Only)	3
	BACS 383	User Interface Design (Fall Only)	3			
	BACS 485	Database Management Systems (Fall Only)	3	CS 440 or CS 442	Operating Systems or (Spring Only) Networking (Spring Only)	3
	BACS 487	Systems Analysis & Design (Fall Only)	3			
		University-Wide Elective	3		SE Major Elective *(see back)*	3
					University-Wide Elective	3
					University-Wide Elective	2
		Total Credits	**16**		**Total Credits**	**14**

At least 44 credit hours of the degree must be earned at UNC.

Students are reminded that to graduate with a Software Engineering degree, a student must maintain a 2.0 or greater cumulative Software Engineering GPA and at least a "C-" grade in each required major and specified LAC course.

Some courses require having earned a grade of "C" or better in a prerequisite ("C-" is not acceptable). Pay attention to the specific prerequisites on the next page.

Admission Requirements: *Incoming New First Time and Transfer* students are admitted to the Software Engineering major provided they meet the admission requirements set forth by UNC. *Current UNC students* who have completed at least 15 credit hours with a cumulative GPA of 2.50 or above are guaranteed admission to the Software Engineering. *Current UNC students* who have completed at least 15 credit hours with a cumulative GPA of 2.00-2.49 qualify to apply for admission to a Software Engineering major. Students may apply at the MCB Advising Center located in Kepner 1095.

No more than 20 credits in CS/BACS/MATH may be transferred in from another institution. Of the 20 credits, no more than 9 of these credits may be transferred in from other institutions at the 300-/400- level.

SOFTWARE ENGINEERING PREREQUISITES: 2021-2022 CATALOG

Students must meet course prerequisites as stated in the current UNC catalog.
Check the catalog each semester you register to make certain you meet requirements.
A grade of "C-" or better is required in all courses, except where grade of "C" is required.

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
CS 120	Computer Programming	None	
CS 160	Structured Programming	None	
CS 200	Object-Oriented Analysis, Design, & Prog. **(FALL ONLY)**	CS 160	Structured Programming with minimum grade of "C"
CS 301	Algorithms and Data Structures **(SPRING ONLY)**	CS 160	Structured Programming with minimum grade of "C"
CS 350	Software Engineering I **(FALL ONLY)**	CS 200	Object-Oriented Analysis with minimum grade of "C"
CS 440 or CS 442	Operating Systems or Networking **(SPRING ONLY)**	CS 301 or CS 301	Algorithms and Data Structures with minimum grade of "C" or Algorithms and Data Structures with minimum grade of "C"

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
BACS 180	Introduction to Software Engineering	None	
BACS 200	Web Design & Development for Small Bus.	None	
BACS 287	Graphical Interface Programming	Business Major/minor or SE Majors only	
BACS 350	Intermediate Web Development **(FALL ONLY)**	BACS 200	Web Design and Development for Small Business
BACS 380	Networking and Data Communications **(FALL ONLY)**	Business Major/minor or SE Majors only Juniors or above	
BACS 383	Designing User Experiences **(FALL ONLY)**	BACS 200 BACS 287 **or** CS 200 Junior or above	Web Design and Development with minimum grade of "C-" Graphical Interface Programming **OR** Object-Oriented Analysis, Design and Programming with a minimum grade of "C-"
BACS 385	Fundamentals of Project Management **(SPRING ONLY)**	Juniors or above	
BACS 387	Object Orient Sys Development **(FALL ONLY)**	BACS 287 Business Major/minor or SE Majors only Juniors or above	Graphical Interface Programming
BACS 485	Database Management Systems **(FALL ONLY)**	BACS 287 BACS 300 Business Major/minor or SE Majors only Senior Standing	Graphical Interface Programming Information Systems
BACS 487	Systems Analysis & Design **(FALL ONLY)**	BACS 287 BACS 300 CIS Major, CIS Minors & SE Majors only Seniors Standing	Graphical Interface Programming Information Systems

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
MATH 131	Calculus I	ALEKS minimum score of 060	
MATH 132	Calculus II	MATH 131	Calculus I with minimum grade of "C"
MATH 228	Discrete Mathematics	MATH 131	Calculus I with minimum grade of "C"
MATH 350	Elementary Probability Theory **(FALL ONLY)**	MATH 132	Calculus II with minimum grade of "C"
STAT 150	Intro to Statistical Analysis	ALEKS minimum score of 030	

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
BACS 488 or CS 497	Senior CIS Project **(SPRING ONLY)** or Senior Project **(SPRING ONLY)**	BACS 387 or CS 350 BACS 487 Business Major/minor or SE Majors only Senior Standing	Object Oriented System Development or Software Engineering I with minimum grade of "C-" and Systems Analysis and Design with minimum grade of "C-"

Software Engineering Major Electives – 6 Credit hours

Choose six (6) credits or more from any 300 or 400 level BACS or CS course not otherwise required for the major.
BACS 300 WILL NOT COUNT.