

**B.S. in SOFTWARE ENGINEERING**  
**Suggested Four-Year Schedule**  
**2013 - 2014 Catalog**

Student:	Date:
Advisor:	Bear ID:

The Bachelor of Science in Software Engineering degree requires a minimum of 120 hours.  
 A minor is **required** for Software Engineering degree and **may not** include Computer Science, Computer Information Systems, or Network and Information Systems Security minors.

YEAR ONE			Sem. Hrs.
<b>FALL</b>			
CS 101	(LAC Elect) Intro to Computer Science		3
ENG 122	(LAC 1a) College Composition		3
MATH 131	(LAC 2) Calculus I		4
	(LAC 3 - Art & Humanities)		3
	(LAC 5 - Social Science)		3
<b>SPRING</b>			
BACS 180	Introduction to Software Engineering		1
CS 102	Structure Programming		3
ENG 123	(LAC 1b) College Research Paper or		3
SCI 291	(LAC 1b) Scientific Writing		3
	(LAC 4 - History)		3
	(LAC 5 - Social Science)		3
	(LAC 6 - Sciences)		3
<b>Total</b>			<b>32</b>

YEAR TWO			Sem. Hrs.
<b>FALL</b>			
CS 200	Object-Oriented Design & Prog.		3
PHYS 220	(LAC 6L) Introductory Physics I or		5
PHYS 240	(LAC 6L) General Physics I		3
	(LAC 3 - Arts & Humanities)		3
	(LAC 8 - Multicultural Studies)		3
	Select Minor Course		3
<b>SPRING</b>			
BACS 200	Web Design & Devel. for Small Bus.		3
BACS 287	Graphical Interface Programming		3
CS 301	Algorithms and Data Structures		3
	(LAC 7 - International Studies)		3
	Select Minor Course		3
<b>Total</b>			<b>32</b>

YEAR THREE			Sem. Hrs.
<b>FALL</b>			
BACS 380	Network & Data Comm. Systems		3
BACS 383	User Interface Design & Development		3
CS 350	Software Engineering I		3
	SE Major Elective*		3
	Select Minor Course		3
<b>SPRING</b>			
BACS 300	Information Systems		3
BACS 350	Intermediate Web Development		3
BACS 385	Fundamentals of Project Management		3
	SE Major Elective*		3
	Select Minor Course		3
<b>Total</b>			<b>30</b>

YEAR FOUR			Sem. Hrs.
<b>FALL</b>			
BACS 485	Database Management Systems		3
BACS 487	Systems Analysis & Design (F)		3
	Select Minor Course		3
	University Wide Electives/Add'l Minor Credits		4
<b>SPRING</b>			
BACS 488	Senior CIS Project or		3
CS 497	Senior Project		3
CS 440	Operating Systems		3
	Select Minor Course		3
	University Wide Electives/Add'l Minor Credits		4
<b>Total</b>			<b>26</b>

At least 44 credit hours of the degree must be earned at UNC.  
 A student must attain a 2.0 or greater GPA in the required major and specified LAC courses.  
 Each student must attain at least a "C-" grade in each required major and specified LAC course.

UNC's Grade Replacement Policy may be applied to Software Engineering courses during the student's undergraduate academic career. Please see <http://www.registrar.unco.edu/records/grades/gradereplacement.html> for details.

**Note:** Some students may qualify to apply for admission to Software Engineering. These students include: Transfer students with at least 15 hours with a cumulative GPA of 2.5-2.99 and UNC students who have completed a total of 15 hours with a cumulative UNC GPA of 2.5-2.99. Students may apply for admission to Software Engineering by contacting the Department of Accounting and CIS in Kepner 2090.

# SOFTWARE ENGINEERING COURSE PREREQUISITES: 2013-2014 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.

## SOFTWARE ENGINEERING CORE: 43 semester credit hours total

Take all courses in the following list. A grade of "C-" or better is required in each course required for this major.

No more than 12 of these credits may be transferred in from another institution.

Of the 12 credits, no more than 9 of these credits may be transferred in from other institutions at the 300-/400- level.

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
CS 102	Structured Programming	CS 101 <b>or</b> CG 120	Introduction to Computer Science <b>OR</b> Computer Programming
BACS 180	Introduction to Software Engineering	None required	
BACS 200	Web Design & Development for Small Bus.	Computer Literacy	
CS 200	Object-Oriented Analysis, Design, & Prog.	CS 102	Structured Programming
BACS 287	Graphical Interface Programming (SP)	Business Majors/Minors & SE Majors only	
BACS 300	Information Systems	CPE, BACS 101, <b>or</b> CS 101 Business Majors/Minors & SE only Juniors or above	Business Computing <b>OR</b> Introduction to Computer Science
CS 301	Algorithms and Data Structures	CS 200	Object-Oriented Analysis, Design and Programming
BACS 350	Intermediate Web Development	BACS 200 <b>or</b> Consent of Instructor	Web Design and Development for Small Business
CS 350	Software Engineering I	CS 301	Algorithms and Data Structures
BACS 380	Networking & Data Communications Systems	Business Majors/Minors & SE Majors only Juniors or above	
BACS 383	User Interface Design & Development	BACS 101 CS 102 BACS 200 BACS 287 <b>or</b> CS 200	Business Computing Structured Programming Web Design and Development for Small Business Graphical Interface Programming <b>OR</b> Object-Oriented Analysis, Design and Programming with a minimum grade of "C-"
BACS 385	Fundamentals of Project Management	Juniors or above	
CS 440	Operating Systems	CS 301	Algorithms and Data Structures
BACS 485	Database Management Systems	BACS 287 Business Majors/Minors & SE Majors only Juniors or above	Graphical Interface Programming
BACS 487	Systems Analysis & Design	BACS 287 BACS 300 Business Majors/Minors & SE Majors only Juniors or above	Graphical Interface Programming Information Systems

## Software Engineering Required Senior Project – 3 Credit hours

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
BACS 488	Senior CIS Project	BACS 387 BACS 487 <b>or</b> Consent of Instructor Business Majors/Minors & SE Majors only Senior or above	Object Oriented System Development Systems Analysis and Design
CS 497	Senior Project	Senior or above	

## \*Software Engineering Major Electives – 6 Credit hours

Take two 3 credit courses from the following list.

Course #	Course Titles	Prerequisites	Prerequisite Course Titles/Notes
CS 302	Programming Languages	CS 301	Algorithms and Data Structures
BACS 382	TCP/IP Network Security	BACS 380 <b>or</b> Consent of Instructor	Networking and Data Communications Systems
BACS 387	Object Oriented System Development (F)	BACS 287 Business Majors/Minors & SE Majors only Juniors or above	Graphical Interface Programming
BACS 492	Internship in Computer Information Systems	Consent of Faculty Business Majors/Minors & SE Majors only Juniors or above	
CS 442	Networking	CS 440	Operating Systems
CS 480	Graphics	CS 301	Algorithms and Data Structures