

**U.A. WHITAKER COLLEGE OF ENGINEERING
BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING (B.S.)
120 Credits Total**

Freshman Year					
Semester 1 (Fall Term)			Semester 2 (Spring Term)		
Course	Course Title	CR	Course	Course Title	CR
ENC 1101	Composition I	3	ENC 1102	Composition II	3
COP 1500	Intro to Computer Science	3	MAC 2312	Calculus II	4
MAC 2311	Calculus I	4	COP 2006	Programming I	3
XXX XXXX	Science Elective	4	XXX XXXX	Social Science*(recommend ECO 2013 or ECO 2023)	3
	Total	14		Total	13
Summer Term			*Special Notes:		
Course	Course Title	CR	Students must earn at least 9 semester hours by attending one or more summer sessions.		
XXX XXXX	Humanities*	3	Students should be sure one of their social science or humanities include 1 course that is designated with an attribute for College Level Writing Skills (CLWS), 2 courses that are designated with an attribute for Intercultural Knowledge (INKN), and 1 course that satisfies the Civic Literacy requirement. Please be aware that 1 course may satisfy multiple attributes. Example: AML 2010 = Humanities, College Level Writing, and Intercultural Knowledge (GEHM, CLWS, INKN)		
XXX XXXX	Humanities*	3			
XXX XXXX	State Core Social Science* (AMH 2020 or POS 2041)	3			
	Total	9			

Sophomore Year					
Semester 3 (Fall Term)			Semester 4 (Spring Term)		
Course	Course Title	CR	Course	Course Title	CR
COP 3003	Programming II	3	COP 3530	Data Structures & Algorithms	3
PHY 2048C	General Physics I w/lab	4	XXX XXXX	State Core Humanities*	3
STA 2023	Statistical Methods	3	PHY 2049C	General Physics II w/lab	4
XXXXXX	Math Elective (3-4)	3	CDA 3104 or CDA 3200	Computer Org & Assem Lang Prog or Digital Systems & Architecture	3
MAD 3107	Discrete Mathematics	3			
	Total	16		Total	13

Junior Year					
Semester 5 (Fall Term)			Semester 6 (Spring Term)		
Course	Course Title	CR	Course	Course Title	CR
COT 3400 or CEN 4083 or CEN 4721 or CEN 3941 or COP 3338	Algorithms or Cloud Computing or Human Computer Interaction or Internship or Systems (take one)	3	CEN 3073	Requirements Engineering and Analysis	3
XXX XXXX	Math Elective	3	CEN 4072	Software Testing	3
CEN 3031	Software Engng Fundamentals	3	COP 3710	Intro to Data Engineering	3
COP 4610	Operating Systems	3	XXX XXXX	SE Elective - Must be approved by department	3
XXX XXXX	Unrestricted Elective (3-4)	4	CEN 3078	Computer Security	3
	Total	16		Total	15

Senior Year					
Semester 7 (Fall Term)			Semester 8 (Spring Term)		
Course	Course Title	CR	Course	Course Title	CR
CEN 4065	Software Architecture & Design	3	CEN 4935	Senior Software Engr Project II	3
CEN 4934	Senior Software Engr Project I	3	XXX XXXX	SE Elective - Must be approved by department	3
COT 3400 or CEN 4083 or CEN 4721 or CEN 3941 or COP 3338	Algorithms or Cloud Computing or Human Computer Interaction or Internship or Systems (take one)	3	XXX XXXX	SE Elective - Must be approved by department	3
XXX XXXX	SE Elective - Must be approved by department	3	IDS 3920	University Colloquium	3
	Total	12		Total	12

Engineering Courses unique to B.S. in Software Engineering **60**

TOTAL ENGINEERING CREDITS 60

Prerequisites for Coursework (all prerequisites require a minimum grade of C)			
Course	Prerequisites	Course	Prerequisites
CDA 3104	PHY 2048C & COP 2006	COP 4072	CEN 3031
CEN 3031	COP 3530	COP 2006	COP 1500
CEN 3073	CEN 3031 & (STA 2037 or STA 2023)	COP 3003	COP 2006 & MAC 2312
CEN 3078	COP 3003	COP 3530	COP 3003 & MAD 3107 (Preq or Coreq)
CEN 4065	CEN 3031	COP 3710	COP 3530
CEN 4072	CEN 3031	COP 4610	COP 3530 & (CDA 3104 or CDA 3200)
CEN 4935	CEN 4934		
CEN 4934	CEN 3073 & EGN 3641C & Senior Standing	IDS 3920	Sophomore Standing
COP 1500	MAC 1105	MAD 3107	MAC 2311

Software Engineering Electives must be approved by the department.					
Course	Course Title	CR	Course	Course Title	CR
CEN 4721	Human Computer Interaction	3	COT 3400	Algorithms	3
CEN 3941	Internship in Software Engineering	3	CEN 3213	Embedded Systems Programming	3
CAP 4662	Introduction to Robotics	3	CEN 4083	Intro to Cloud Computing	3
CAP 4730	Computer Graphics	3	CEN 4216	Cyberphysical Systems	3
CAP 4770	Knowledge Disc. & Data Mining	3	CEN 4930	Special Topics in Software Engineering	3
CEN 4027	Software Maintenance and Evolution	3	COP 4908	Independent Study	3
CDA 3200	Digital Systems & Architecture	3	COP 4931	Special Topics in Computer Science	3
CDA 4150	Computer Architecture	3	COP 3338	Systems Administration and Programming	3