

Cybersecurity Engineering, BSCBS

To obtain a Bachelor of Science degree in Cybersecurity Engineering, students are required to complete the following courses:

Code	Title	Semester Hours
Freshman Composition		3-6
EH 101	COLLEGE WRITING I	
EH 102	COLLEGE WRITING II	
Humanities and Fine Arts		9
Fine Art: Choose one		3
ARH 100	ARH SURV:ANCIENT-MEDIEVAL	
ARH 101	ARH SURV:RENAISSANCE-MODERN	
ARH 103	ARH SUR: WORLD ART	
ARS 160	DRAWING: FOUNDATIONS	
TH 122	THEATRE APPRECIATION	
MU 100	INTRO TO MUSIC LITERATURE	
Literature: Choose one or two ¹		3-6
EH 207	READINGS LITERATURE/CULTURE I	
EH 208	READINGS LITERATURE/CULTURE 2	
EH 242	MYTHOLOGY	
Humanities: Choose one		3
PHL 101	INTRODUCTION TO PHILOSOPHY	
PHL 102	INTRO TO ETHICS	
PHL 103	INTRODUCTION TO LOGIC	
PHL 150	TECH, SCIENCE & HUMAN VALUES	
Any 100 or 200 level Foreign Language ³		
WGS 200	INTRO WOMEN'S & GENDER STUDIES	
Mathematics and Natural Sciences		12
Mathematics		4
MA 171	CALCULUS A ²	
Natural Sciences		8
CH 121 & CH 125	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I	
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	
History and Social and Behavioral Sciences		9
History: Choose one or two ¹		3-6
HY 103	WORLD HISTORY TO 1500	
HY 104	WORLD HISTORY SINCE 1500	
HY 221	UNITED STATES TO 1877	
HY 222	UNITED STATES SINCE 1877	
Social and Behavioral Science: Choose one or two		3-6
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	
SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 105		
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ESS 105	WORLD REGIONAL GEOGRAPHY	
ESS 110	PRINCIPLES OF HUMAN GEOGRAPHY	

ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
Engineering		
FYE 101	CHARGER SUCCESS	1
ENG 101	INTRO COMPUTING ENGINEERS	3
CPE 299	CPE MENTORING I	0
CPE 399	CPE MENTORING II	0
Computer Science		
CS 214	INTRO DISCRETE STRUCTURE	3
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
Cybersecurity Engineering		
CPE 211	INTRO COMPUTER PROG FOR ENGR	3
EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 212	FUNDAMENTALS SOFTWARE ENGRG	3
CPE 221	COMPUTER ORGANIZATION	3
CPE 323 & CPE 325	INTRO TO EMBEDDED COMPUTER SYS and EMBEDDED SYSTEMS LAB	4
CPE 348	INTRO TO COMPUTER NETWORKS	3
CPE 353 or CS 307	SOFTWARE DESIGN & ENGINEERING OBJECT ORIENT/PROG C++	3
CPE 434 & CPE 435	OPERATING SYSTEMS and OPERATING SYSTEMS LABORATORY	4
ISE 390	PROB & ENGR STATISTICS I	3
CPE 449	INTRO TO CYBERSECURITY ENGINRG	3
IS 450	CYBERSECURITY MANAGEMENT	3
CS 465	NETWORK SECURITY	3
CS 480	MOBILE DIGITAL FORENSICS	3
CPE 455	SECURE SOFTWARE DEVELOPMENT	3
CPE 457	SOFTWARE REVERSE ENGINEERING	3
CPE 459	SYSTEMS SECURITY	3
CPE 488	CYBERSECURITY ENG CAPSTONE I	3
CPE 498	CYBERSECURITY CAPSTONE	3
Cybersecurity Engineering Electives		
Select 6 semester hours of 300-level or above CPE, EE, CS or other upper-level courses approved by Department		6
Total Semester Hours		124

- ¹ Students must take one literature and one history course. Students must also take either a second literature or history course to complete a sequence. (EH 207 + EH 208, EH 209 + EH 210, HY 103 + HY 104, or HY 221 + HY 222)
- ² Based on Math placement (<http://www.uah.edu/science/departments/math/undergraduate-students/placement/>), prerequisite (MA 112 and/or MA 113) Mathematics courses may be required.
- ³ For choices see the World Languages and Culture (<http://catalog.uah.edu/undergrad/colleges-departments/arts-humanities-social-sciences/foreign-languages-literatures/#coursestext>) Department.

Suggested Schedule for Full-Time Students

Year 1

Fall		Semester Hours
MA 171	CALCULUS A	4
CH 121 & CH 125 or BYS 119	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB I or PRINCIPLES OF BIOLOGY	4
ENG 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
Fine Arts/Humanities/Social Behavioral Science		3

Term Semester Hours: 17

Spring

MA 172	CALCULUS B	4
PH 111 & PH 114	GEN PHYSICS W/CALCULUS I and GENERAL PHYSICS LAB I	4
FYE 101	CHARGER SUCCESS	1
EH 102	COLLEGE WRITING II	3
Fine Arts/Humanities/Social Behavioral Science		3

Term Semester Hours: 15

Year 2

Fall		
MA 201	CALCULUS C	4
PH 112 & PH 115	GEN PHYSICS W/CALC II and GENERAL PHYSICS LAB II	4
CPE 211	INTRO COMPUTER PROG FOR ENGR	3
EE 202	INTRO DIGITAL LOGIC DSGN	3
CPE 299	CPE MENTORING I	0
Fine Arts/Humanities/Social Behavioral Science		3

Term Semester Hours: 17

Spring

MA 244	INTRO TO LINEAR ALGEBRA	3
CPE 212	FUNDAMENTALS SOFTWARE ENGRG	3
CS 214	INTRO DISCRETE STRUCTURE	3
CPE 221	COMPUTER ORGANIZATION	3
EE 203	DIGITAL LOGIC DESIGN LAB	1
Fine Arts/Humanities/Social Behavioral Science		3

Term Semester Hours: 16

Year 3

Fall		
CS 317	INTRO DESIGN/ANALYSIS OF ALG	3
CPE 353 or CS 307	SOFTWARE DESIGN ENGINEERING or OBJECT ORIENT/PROG C++	3
CPE 323 & CPE 325	INTRO TO EMBEDDED COMPUTER SYS and EMBEDDED SYSTEMS LAB	4
CPE 399	CPE MENTORING II	0
ISE 390	PROB ENGR STATISTICS I	3
Fine Arts/Humanities/Social Behavioral Science		3

Term Semester Hours: 16

Spring

CPE 455	SECURE SOFTWARE DEVELOPMENT	3
CPE 434 & CPE 435	OPERATING SYSTEMS and OPERATING SYSTEMS LABORATORY	4
CPE 348	INTRO TO COMPUTER NETWORKS	3
CBS Elective I		3
Fine Arts/Humanities/Social Behavioral Science		3
Term Semester Hours:		16

Year 4**Fall**

CS 465	NETWORK SECURITY	3
CPE 457	SOFTWARE REVERSE ENGINEERING	3
IS 450	CYBERSECURITY MANAGEMENT	3
CPE 449	INTRO TO CYBERSECURITY ENGINRG	3
CPE 488	CYBERSECURITY ENG CAPSTONE I	3
Term Semester Hours:		15

Spring

CPE 498	CYBERSECURITY CAPSTONE	3
CPE 459	SYSTEMS SECURITY	3
CS 480	MOBILE DIGITAL FORENSICS	3
CBS Elective II		3
Term Semester Hours:		12
Total Semester Hours:		124