

Civil Engineering, BSCE - Structural Concentration

To obtain a Bachelor of Science degree in Civil 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 SUR: ANCIENT-MEDIEVAL	
ARH 101	ARH SUR: 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 241	LITERATURE WITHOUT BORDERS	
EH 242	MYTHOLOGY	
EH 243	PROTEST LITERATURE	
EH 244	HEROES &/OR MONSTERS	
EH 245	LOVE &/OR ROMANCE	
EH 246	SPECULATIVE REALITIES	
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 WOMENS/GENDER/SEXLTU STU	
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
AES 105	WORLD REGIONAL GEOGRAPHY	
AES 110	PRINCIPLES OF HUMAN GEOGRAPHY	
PY 101	GENERAL PSYCHOLOGY I	
SOC 100	INTRO TO SOCIOLOGY	

SOC 102	ANALYSIS OF SOCIAL PROBLEMS	
SOC 206	MARRIAGE AND FAMILY	
PSC 101	INTRO TO AMERICAN GOVERNMENT	
PSC 102	INTRO TO COMPARATIVE POLITICS	
ECN 142	PRINC OF MACROECONOMICS	
ECN 143	PRINC OF MICROECONOMICS	
GS 200	GLOBAL SYSTEMS AND CULTURES	
Code	Title	Semester Hours
Additional Mathematics and Science		
MA 172	CALCULUS B	4
MA 201	CALCULUS C	4
MA 238	APPL DIFFERENTIAL EQUATIONS	3
MA 244	INTRO TO LINEAR ALGEBRA	3
PH 112	GEN PHYSICS W/CALC II	3
PH 115	GENERAL PHYSICS LAB II	1
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
Engineering		
FYE 101E	CHARGER SUCCESS - ENGINEERING	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EGR 299	ENGINEERING MENTORING I	0
EGR 399	ENGINEERING MENTORING II	0
Civil Engineering		
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 272	DYNAMICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
CE 372	SOIL MECHANICS & FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB & ENGR STATISTICS I	3
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 484	STEEL DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 498	CIVIL ENGINEERING DESIGN I	1
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Civil Engineering Structural Concentration Electives		
CE 481	STRUCTURAL ANALYSIS II	3

CE 487	BRIDGE DESIGN	3
Total Semester Hours		128

- 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	GENERAL CHEMISTRY I	3
CH 125	GENERAL CHEMISTRY LAB I	1
EGR 101	INTRO COMPUTING ENGINEERS	3
EH 101	COLLEGE WRITING I	3
FYE 101E	CHARGER SUCCESS - ENGINEERING	1

Term Semester Hours: 15

Spring

MA 172	CALCULUS B	4
PH 111	GEN PHYSICS W/CALCULUS I	3
PH 114	GENERAL PHYSICS LAB I	1
EH 102	COLLEGE WRITING II	3
HSBS/HFA See Charger Foundations Areas II and IV		3
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: 17

Year 2

Fall		
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
CE 211	CIVIL ENGINEERING GRAPHICS	2
CE 271	STATICS	3
CE 284 & 284L	SURVEYING and SURVEYING LAB	2

Term Semester Hours: 18

Spring

MA 238	APPL DIFFERENTIAL EQUATIONS	3
BYS 119 & BYS 121	PRINCIPLES OF BIOLOGY and LABORATORY	4
CE 272	DYNAMICS	3
CE 370	MECHANICS OF MATERIALS	3
CE 375	MECHANICS OF MATERIALS LAB	1
EGR 299	ENGINEERING MENTORING I	0
HSBS/HFA See Charger Foundations Areas II and IV		3

Term Semester Hours: 17

Year 3

Fall		
ISE 321	ENGINEERING ECONOMY	3
MAE 341	THERMODYNAMICS I	3
CE 381	STRUCTURAL ANALYSIS I	3
ISE 390	PROB ENGR STATISTICS I	3
EGR 399	ENGINEERING MENTORING II	0
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		15
Spring		
MAE 310	FLUID MECHANICS I	3
CE 321	INTRO TO TRANSPORTATION ENG	3
CE 372	SOIL MECHANICS FOUNDATION	3
CE 373	SOIL MECHANICS LAB	1
CE 380 & 380L	CIVIL ENGINEERING MATERIALS and CE MATERIALS LAB	3
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16
Year 4		
Fall		
CE 422	TRAFFIC ENGINEERING DESIGN	3
CE 449	INTRO ENVIRONMENTAL ENGR	3
CE 481	STRUCTURAL ANALYSIS II	3
CE 484	STEEL DESIGN	3
CE 498	CIVIL ENGINEERING DESIGN I	1
HSBS/HFA See Charger Foundations Areas II and IV		3
Term Semester Hours:		16
Spring		
CE 441	HYDRAULIC ENGINEERING DESIGN	3
CE 483	REINFORCED CONCRETE DESIGN	3
CE 485	FOUNDATION ENGINEERING	3
CE 487	BRIDGE DESIGN	3
CE 499 & 499L	CIVIL ENGINEERING DESIGN II and DESIGN II LABORATORY	2
Term Semester Hours:		14
Total Semester Hours:		128