

## Civil Engineering - Curriculum

### Students Entering 2014 to Current

#### FRESHMAN YEAR

GEEN 100 Fundamentals Engineering	2
Math 131 Calculus I**	4
CHEM 106 Chem VI **	3
CHEM 116 Chem VI Lab	1
GEEN 111 College of Engineering Colloquium I	1
ENGL 100 English Composition I	3
CAEE 101 Graphics in CAEE	2

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ENGL 101 English Composition II	3
Math 132 Calculus II**	4
Social Science Elective	3
PHYS 241 Physics I**	3
PHYS 251 Physics I Lab	1
CAEE 121 CAEE Colloquium	1

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#### SOPHOMORE YEAR

Math 231 Calculus III**	4
CAEE 231 Mechanics I - Statics**	3
PHYS 242 Gen Physics II**	3
African American Studies	3
CIEN 212 Introduction to Environmental Eng.	2
PHYS 252 Gen Physics Lab	1
CAEE 230 Statics Lab	1

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Math 431 Differential Equations**	3
MEEN 241 Thermodynamics**	3
Humanities Elective	3
CIEN 281 Land CAD	1
CAEE 232 Solid Mechanics**	3
CAEE 240 Numerical Methods and Mat Lab	3

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#### JUNIOR YEAR

CAEE 362 Engin Fluids and Hydraulics	3
CAEE 325 Structural Analysis	3
CAEE 204 Fundamental of Survey	3
CAEE 335 Construction Material Lab	1
CIEN 350 Transportation Engineering	3
CAEE 363 Eng Fluid Mech & Hydraul Lab	1
CAEE 330 Const. Materials & Methods	3
CAEE 401 FE Topics Review	0

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CIEN 320 Geotechnical I	3
CAEE 304 Engineering Statistics	3
CAEE 364 Eng. Hydrology	3
CAEE 430 Structural Design in Steel	3
CIEN 310 Environmental Engineering	3
CIEN 311 Env. Eng. Lab	1
CIEN 321 Geotech. Eng. Lab	1

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#### SENIOR YEAR

CIEN 483 CE System Design	1
CAEE 436 Reinforced Concrete Design	3
CAEE 450 Project Management	3
CIEN 410 Environmental Engineering Design	3
Global Studies Elective	3
CIEN 420 Geotechnical Engineering II	3

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CIEN 484- CE Sys Design II (Capstone)	2
CAEE 334 Eng Mech II Dynamics**	2
Science Elective	3
CIEN 450 Transportation Eng. Design	3
CIEN Design Elective***	3
CIEN 401 FE review	1

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Total Credits

128

\*\* Minimum "C" required

\*\*\*CIEN 460, CAEE 481

## Civil Engineering - Curriculum

### Students Entering 2012 and 2013

#### FRESHMAN YEAR

GEEN 100 Fundamentals Engineering	2
Math 131 Calculus I**	4
CHEM 106 Chem IV **	3
CHEM 116 Chem Lab	1
GEEN 111 College of Eng. Colloquium I	1
ENGL 100 English Composition I	3
CAEE 101 Graphics in CAEE	2

16

GEEN 161 Computer Applications**	2
ENGL 101 English Composition II	3
Math 132 Calculus II**	4
Social Science Electives	3
PHYS 241 Physics I**	3
PHYS 251 Physics I Lab	1
CAEE 121 CAEE Colloquium	1

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#### SOPHOMORE YEAR

Math 231 Calculus III**	4
CAEE 231 Mechanics I - Statics**	3
PHYS 242 Gen Physics II**	3
African American Studies	3
CIEN 212 Introductions to Environ. Eng.	2
PHYS 252 Gen Physics Lab	1

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Math 431 Differential Equations**	3
MEEN 241 Thermodynamics**	3
Humanity Electives	3
CIEN 281 Land CAD	1
CAEE 232 Solid Mechanics**	3
CAEE 240 Numerical Methods	2

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#### JUNIOR YEAR

CAEE 362 Eng. Fluids and Hydraulics	3
CAEE 325 Structural Analysis	3
CAEE 204 Fundamental of Survey	3
CAEE 335 Construction Material Lab	1
CIEN 350 Transportation Engineering	3
CAEE 363 Eng Fluid Mech & Hydraul Lab	1
CAEE 330 Const. Materials & Methods	3
CAEE 401 FE Topics Review	0

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CIEN 320 Geotechnical I	3
CAEE 304 Engineering Statistics	3
CAEE 364 Eng. Hydrology	3
CAEE 430 Structural Design in Steel	3
CIEN 310 Environmental Engineering	3
CIEN 311 Env. Eng. Lab	1
CIEN 321 Geotech. Eng. Lab	1

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#### SENIOR YEAR

CIEN 498 CE System Design	1
CAEE 436 Reinforced Concrete Design	3
CAEE 481 Construction Engineering	3
CIEN 410 Environ. Engineering Design	3
Humanity Electives	3
CIEN Design Elective***	3

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CIEN 499-CE Sys Design II (Capstone)	2
CAEE 334 Eng Mech II Dynamics**	2
Science Electives	3
CIEN 450 Transportation Eng. Design	3
CIEN 420 Geotechnical Engineering II	3
CIEN 401 FE review	1

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\*\*\* CIEN 460, CAEE 482

Total Credits      128

## Civil Engineering - Curriculum

### Students Entering 2010 and 2011

GEEN 100 Fundamentals Engineering		2
Math 131 Calculus I**		4
CHEM 106 Chem IV ++		3
CHEM 116 Chem Lab ++		1
UNST 100 University Experience		1
UNST 110 Critical Writing		3
CAAE 101 Graphics in CAAE		2
GEEN 110 Colloquium		0
		16

GEEN 161 Computer Applications		2
UNST 130 Analytical Reasoning		3
Math 132 Calculus II**		4
UNST 120 Contemporary World		3
PHYS 241 Physics I**		3
PHYS 251 Physics I Lab		1
GEEN 120 Colloquium		0

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Math 231 Calculus III**		4
CAAE 331 Mechanics I - Statics**		3
UNST Cluster Theme/CIEN 212		3
PHYS 242 Gen Physics II++		3
PHYS 252 Gen Physics Lab++		1
UNST Cluster Theme Elective/ BIOL100		3

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Math 431 Differential Equations**		3
UNST Cluster Theme Elect.		3
CAAE 334 Eng Mech II Dynamics++		3
CAAE 332 Solid Mechanics**		3
INEN 360 Engineering Economics**		2
UNST 140 The African American Experience		3

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CAAE 362 Engin Fluids and Hydraulics		3
CAAE 404 Engineering Statistics		3
CAAE 204 Fund. of Survey		3
CAAE 335 Construction Material Lab		1
CIEN 350 Transportation Engineering		3
CAAE 363 Eng Fluid Mech & Hydraul Lab++		1
CAAE 330 Const. Materials & Methods		3
CAAE 401 FE Topics Review		0

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CIEN 320 Geotechnical I		3
CAAE 325 Structural Analysis		3
CAAE 364 Eng. Hydrology		3
CAAE 530 Structural Design		3
CIEN 310 Environmental Engineering		3
CIEN 311 Env. Eng. Lab		1
CIEN 321 Geotech. Eng. Lab		1
CAAE 401 FE Topics Review		0

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CIEN 598 CE System Design		1
CAAE 280 LandCAD		1
CAAE 480 Construction Engineering		3
CIEN 510 Environmental Engineering Design		3
UNST Cluster Theme Elective/must be approved		3
CAAE 536 Reinforced Concrete Design		3

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CIEN 599-CE Sys Design II (Capstone)		2
CIEN Design Elective****		3
MEEN 441 Thermodynamics		3
CIEN 550 Transportation Eng. Design		3
CIEN 520 Geotechnical Engineering II		3

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Total Credits

##

\*\*\*BIOE 424, CAAE 550, CAAE??? LEED

## Civil Engineering - Curriculum

### Students Entering 2006 through 2009

CAAE 100 Fund.of CAE++/GEEN 100	2
Math 131 Calculus++	4
CHEM 106 Chem IV ++	3
CHEM 116 Chem Lab ++	1
UNST 100 University Experience	1
UNST 110 Critical Writing	3
CIEN 101 Intro to CE & Prob Solving	1
<b>15</b>	

CIEN 102 Prof Issues & Prob in CE	1
GEEN 120 Colloquium	0
MATH 132 Calculus II++	4
PHYS 241 Physics I++	3
PHYS 251 Physics Lab++	1
UNST 130 Analytical Reasoning	3
UNST 140 The African American Experience	3
UNST 120 Contemporary World	3
<b>18</b>	

MATH 231 Calculus III++	4
CAAE 331 Eng Mech Statics	3
UNST Cluster Theme/CIEN 212	3
UNST Cluster Theme/UNST 221	3
CAAE 204 Fund of Surveying	3
<b>16</b>	

MATH 431 Differential Equations++	3
PHYS 242 Gen Physics II++	3
PHYS 252 Gen Physics Lab++	1
CAAE 102 Comp Apps /GEEN 161	2
UNST Cluster Theme Elective*/Aren 112	3
CAAE 332 Solid Mechanics	3
UNST 280 Graphics & CAD in CE	3
CAAE 202 Sophomore Colloquium	0
<b>18</b>	

CAAE 325 Structural Analysis	3
CAAE 340 Numerical Methods	3
CIEN 330 Construction Materials	3
CIEN 335 Construction Mat. Lab	1
CIEN 350 Transportation Engineering	3
CIEN 366 Hydraulics & Hydrology++	3
CAAE 363 Eng Fluid Mech & Hydraul Lab++	1
<b>17</b>	

CIEN 310 Environmental Engineering	3
CIEN 311 Env. Eng. Lab	1
CAAE 530 Structural Design in Steel	3
UNST Cluster Theme Elective*/EASC 201	3
CIEN 320 Geotechnical I	3
CIEN 321 Geotech. Eng. Lab	1
CIEN 560 Water Res.Eng. Dsgn/ BIOE 424	3
CAAE 302 Junior Colloquium	0
<b>17</b>	

CIEN 598 CE System Design	1
MEEN 441 Thermodynamics ++	3
CAAE 500 Gen Eng Topics	1
CIEN 520 Geotech Eng Design	3
CAAE 530 Reinforced Concrete Design	3
CAAE 334 Eng Mech II Dynamics++	2
CIEN 404 Stats Reliab & Decision Theory	2
<b>15</b>	

CIEN 599-CE Sys Design II (Capstone)	2
CIEN 510 Env Eng Design	3
CAAE 501 Eng. Topics Review	0
CIEN 550 Transportation Eng. Design	3
CIEN 500 CE Topics Review	1
CAAE 400 Geospatial Data Concepts & App	3
<b>12</b>	

\* Elective must be approved by Director  
 ++ Minimum "C" grade required  
 Date Printed 3/19/2014

**Total Credits 128**

REQUIRES A PRE-REQUISITE

## Architecture Engineering - Curriculum

### Students Entering 2014 to Current

#### FRESHMAN YEAR

GEEN 100 Fundamentals Engineering	2
Math 131 Calculus I ++	4
CHEM 106 Chem VI ++	3
CHEM 116 Chem Lab	1
GEEN 111 Colloquium Student Success	1
English Composition I	3
CAEE 101 Graphics in CAEE	2

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English Composition II	3
Math 132 Calculus II ++	4
Social Science Elective	3
PHYS 241 Physics I ++	3
PHYS 251 Physics I Lab	1
GEEN 121 Colloquium Student Success	1

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#### SOPHOMORE YEAR

Math 231 Calculus III ++	4
CAEE 231 Mechanics I - Statics ++	3
PHYS 242 Gen Physics II ++	3
African American Elective	3
AREN 112 Architectural History	3
PHYS 252 Gen Physics Lab	1
CAEE 230 Statics Lab	1

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Math 431 Differential Equations ++	3
MEEN 241 Thermodynamics ++	3
<i>AREN 215 BIM &amp; Intro to Bldg Systems</i>	<b>2</b>
ECEN 240 Electrical Circuits	3
CAEE 232 Solid Mechanics ++	3
<i>CAEE 240 Numerical Methods &amp; Mat Lab</i>	<b>3</b>

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#### JUNIOR YEAR

CAEE 362 Engin Fluids and Hydraulics	3
CAEE 363 Eng Fluid Mech & Hydraul Lab	1
AREN 382 Architectural Design	<b>3</b>
CAEE 330 Const. Materials & Methods	3
CAEE 335 Construction Material Lab	1
AREN 348 Fundamentals of Illumination/Power	3
AREN 344 Lighting and Power Lab	1
CAEE 401 FE Topics Review	0

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<i>AREN 387 Integrated Building Design</i>	<b>3</b>
AREN 315 Advanced BIM	1
CAEE 304 Engineering Statistics	3
CAEE 325 Structural Analysis	3
AREN 364 HVAC Principles and Systems	2
AREN 363 HVAC Principles and Sys./Lab	1
AREN 342 Heat Transfer and Applied Therm.	3
	0

16

#### SENIOR YEAR

<i>AREN 480 Senior Project I</i>	<b>2</b>
CAEE 430 Structural Design in Steel	3
CAEE 450 Construction Project Management	3
<i>AREN 462 HVAC &amp; Hydronic System Design</i>	3
Global Studies Elective	3
Humanities Elective	3

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<i>AREN 481 Senior Project II</i>	1
CAEE 334 Eng Mech II Dynamics ++	2
AREN 467 Electrical Syst & Smart Bldgs	2
CAEE 482 Construction Engineering II	<b>3</b>
AREN Engineering Design Elective ***	3
Science Elective	3

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++ Minimum "C" required

\*\*\* CAEE 436, and CAEE 460

Total Credits

128

## Architecture Engineering - Curriculum

### Students Entering 2012 and 2013

#### FRESHMAN YEAR

GEEN 100 Fundamentals Engineering	2
Math 131 Calculus	4
CHEM 106 Chem IV**	3
CHEM 116 Chem Lab	1
GEEN 111 College of Eng. Colloquium I	1
ENGL 100 English Composition I	3
CAEE 101 Graphics in CAEE	2

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GEEN 161 Computer Applications**	2
ENGL 101 English Composition II	3
Math 132 Calculus II**	4
Humanity Electives	3
CAEE 481 Construction Engineering	3
PHYS 251 Physics I Lab	1
CAEE 121 CAEE Colloquium II	1

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#### SOPHOMORE YEAR

Math 231 Calculus III**	4
CAEE 231 Mechanics I - Statics**	3
PHYS 242 Gen Physics II**	3
PHYS 252 Gen Physics Lab	1
African American Studies	3
AREN 215 BIM and Advanced CAD	2

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Math 431 Differential Equations**	3
MEEN 241 Thermodynamics**	3
AREN 112 Architectural History	3
ECEN 340 Electrical Circuits**	3
CAEE 232 Solid Mechanics**	3
CAEE 240 Numerical Methods	2

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#### JUNIOR YEAR

CAEE 362 Engin Fluids and Hydraulics**	3
AREN 382 Architectural Design I	3
AREN 343 Heat Transfer & Appd. Therm.	3
AREN 348 Fund. of Illumination/Power	3
AREN 344 Lighting and Power Lab	1
CAEE 330 Const. Materials & Methods	3
CAEE 335 Construction Material Lab	1
CAEE 401 FE Topics Review	0

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AREN 383 Architectural Design II	3
CAEE 304 Engineering Statistics	3
CAEE 325 Structural Analysis	3
CAEE 430 Structural Design in Steel	3
AREN 364 HVAC Principles and Systems	2
AREN 363 HVAC Principles and Sys./Lab	1

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#### SENIOR YEAR

AREN 485 Senior Project I (Capstone)	3
Humanity Electives	3
CAEE 481 Construction Engineering	3
AREN 498 HVAC Design and Plumbing	3
Global Studies Elective	3
CAEE 363 Eng Fluid Mech & Hydraulics Lab	1

16

AREN 486 Senior Project II (Capstone)	3
AREN Engineering Design Electives +++	3
CAEE 334 Eng Mech II Dynamics**	2
Science Elective	3
CAEE 482 Construction Engineering II	3

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\*\*\*CAEE 450, CAEE 436, AREN 472

Total Credits

128

## Architecture Engineering - Curriculum

### Students Entering 2010 and 2011

GEEN 100 Fundamentals Engineering		2
Math 131 Calculus I**		4
CHEM 106 Chem IV ++		3
CHEM 116 Chem Lab ++		1
UNST 100 University Experience		1
UNST 110 Critical Writing		3
CAAE 101 Graphics in CAAE		2
GEEN 110 Colloquium		0
		16

GEEN 161 Computer Applications		2
UNST 130 Analytical Reasoning		3
Math 132 Calculus II**		4
UNST 120 Contemporary World		3
PHYS 241 Physics I**		3
PHYS 251 Physics I Lab		1
GEEN 120 Colloquium		0
		16

Math 231 Calculus III**		4
CAAE 331 Mechanics I - Statics**		3
UNST Cluster Theme/CIEN 212		3
PHYS 242 Gen Physics II++		3
PHYS 252 Gen Physics Lab++		1
UNST Cluster Theme Elective/BIOL 100		3
		17

Math 431 Differential Equations**		3
UNST Cluster Theme Elect. /AREN 112		3
CAAE 334 Eng Mech II Dynamics++		3
CAAE 332 Solid Mechanics**		3
INEN 360 Engineering Economics**		2
UNST 140 The African American Experience		3
CAAE 280 CAD in CAAE		1
		17

MEEN 441 Thermodynamics		3
AREN 382 Architectural Design I		3
CAAE 362 Engin Fluids and Hydraulics		3
CAAE 335 Construction Material Lab		1
AREN 448 Fund. of Illumination/Power		3
AREN 444 Lighting/Power Lab		1
CAAE 330 Const. Materials & Methods		3
CAAE401 FE Topics Review		0
		17

AREN 483 Architectural Design II		3
CAAE 404 Engineering Statistics		3
CAAE 325 Structural Analysis		3
CAAE 530 Structural Design		3
AREN 364 HVAC Principles/Systems		3
AREN 363 HVAC Principles/Systems Lab		1
CAAE401 FE Topics Review		0
		16

AREN 585 Senior Project I		3
AREN Engineering Design Elective^		3
CAAE 480 Construction Engineering		3
UNST Cluster Theme Elective		3
Technical Elective#		3
		15

AREN 586 Senior Project II (Capstone)		3
CAAE 425 Advanced CAD		2
CAAE 550 Project Management		3
AREN Engineering Design Elective^		3
ELEN 440 Electrical Circuits		3
		14

Total Credits 128

^ CAAE 536, CAAE??? LEED, CAAE 482

# AREN 221 / CAAE 204

## Architecture Engineering - Curriculum

### Students Entering 2006 through 2009

CAAE 100 Fund. of CAAE**GEEN 100	2
CAAE 101 Graphics in CAAE	2
Math 131 Calculus**	4
UNST 100 University Experience	1
UNST 120 The Contemporary World	3
GEEN 110 Freshman Colloquium	0
UNST 110 Critical Writing	3

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MATH 231 Calculus III**	4
PHYS 251 Physics II**	3
PHYS 252 Physics II Lab	1
AREN 231 Materials & Methods of Cons.	3
Technical Elective	3
CAAE 331 Mechanics/Statics**	3

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UNST Cluster Theme Elective/UNST 212	3
AREN 382 Architectural Design I	3
CAAE 325 Structural Analysis	3
CAAE 325 Structural Analysis Lab	1
AREN 448 Fund. Of Illumination/Power	3
AREN 444 Lighting/Power Lab	1
ELEN 440 Electrical Circuits**	3

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AREN 585 Senior Project I	3
CAAE 362 Eng. Fluids & Hydraulics**	3
CAAE 363 Eng. Fluids & Hydraulics Lab	1
UNST Cluster Theme Elective/HIST 435	3
AREN OPTION BLOCK	3
MEEN 441 ThermodynamicsII	3
CAAE 500 Gen. Eng. Topics Review	1

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CAAE 102 Computer App/GEEN 161	2
UNST 130 Analytical Reasoning	3
MATH 132 Calculus II**	4
UNST 140 The African American Experience	3
PHYS 241 Physics I**	3
PHYS 251 Physics Lab	1
GEEN 120 Colloquium	0

16

MATH 431 Differential Equations**	3
CHEM 106 General Chemistry VI**	3
CHEM 116 General Chemistry Lab VI	1
UNST Cluster Theme Elective/ AREN 112	3
UNST Cluster Theme Elective/CIEN 212	3
CAAE 332 Solid Mechanics**	3
CAAE 202 Sophomore Colloquium	0

16

AREN 483 Architectural Design II	3
INEN 260 Engineering Economics**	2
INEN 270 Engineering Statistics**	3
CAAE 530 Structural Design	3
AREN 364 HVAC Principles/Systems	3
AREN 363 HVAC Principles/Systems Lab	1
CAAE 302 Junior Colloquium	0

15

AREN 586 Senior Project II (Capstone)	3
AREN 550 Project Management	3
Math/Science Elective*	3
AREN OPTION BLOCK	3
CAAE 334 Dynamics**	2
CAAE 501 Eng. Topics Review II	0

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Total Credits

127

#### Option Blocks

- Structural Systems
- Building Environmental Systems
- Architectural Design/Urban Planning
- Construction Engineering

\* Elective must be approved by Senior Advisor

\*\* Minimum "C" grade required



# Civil & Architecture Engineering

## GENERAL EDUCATION COURSE LIST

(09 April 2014)

### WRITTEN COMMUNICATION

ENGL 100: Ideas and their Expressions I  
ENGL 101: Ideas and their Expressions II

### MATHEMATICAL, LOGICAL, & ANALYTICAL REASONING

HIST 277: Quantitative History  
MATH 101: Fundamentals of Algebra and Trigonometry I  
MATH 102: Fundamentals of Algebra and Trigonometry II  
MATH 103: College Algebra and Trigonometry for Engineers and Scientists I  
MATH 104: College Algebra and Trigonometry for Engineers and Scientists II  
MATH 110: Pre-Calculus for Engineers and Scientists  
MATH 111: College Algebra and Trigonometry  
MATH 112: Calculus for Non Math Majors  
MATH 123: Discrete Mathematics I  
MATH 131: Calculus I  
MATH 132: Calculus II  
MATH 224: Introduction to Probability and Statistics  
MATH 231: Calculus III  
PHIL 262: Logic

### HUMANITIES & FINE ARTS

ENGL 200: Survey of Humanities I  
ENGL 201: Survey of Humanities II  
ENGL 230: World Literature I  
ENGL 231: World Literature II  
MUSI 216: Music Appreciation  
PHIL 260: Introduction to Philosophy  
PHIL 266: Contemporary Moral Problems  
PHIL 267: Philosophy of Love and Friendship  
PHIL 268: Introduction to Ethics  
SPCH 250: Fundamentals of Speech Communication

### HUMANITIES & FINE ARTS – KNOWLEDGE OF AFRICAN AMERICAN CULTURE & HISTORY

LIBS 202: Introduction to African American Studies  
MUSI 220: History of Black Music in America

### HUMANITIES & FINE ARTS – GLOBAL AWARENESS

PHIL 265: World Religions  
PHIL 315: Business Ethics

### SCIENTIFIC REASONING

BIOL 100: Biological Science  
BIOL 101: Concepts of Biology I  
BIOL 102: Concepts of Biology II  
CHEM 100: Physical Science  
CHEM 104: General Chemistry IV  
CHEM 106: General Chemistry VI  
CHEM 107: General Chemistry VII  
CHEM 110: Physical Science Lab  
CHEM 114: General Chemistry IV Lab  
CHEM 116: General Chemistry VI Lab  
CHEM 117: General Chemistry VII Lab  
EES 234: Weather and Climate Studies  
ENVS 201: The Earth's Environment (PREVIOUSLY EASC 201)  
PHYS 101: Introduction to Astronomy  
PHYS 104: Introduction to Cosmology  
PHYS 105: Physics for Non-Scientists  
PHYS 110: Survey of Physics  
PHYS 111: Survey of Physics Lab  
PHYS 225: College Physics I  
PHYS 226: College Physics II  
PHYS 235: College Physics I Lab  
PHYS 236: College Physics II Lab  
PHYS 241: General Physics I  
PHYS 242: General Physics II  
PHYS 251: General Physics I Lab  
PHYS 252: General Physics II Lab