

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
<b>ASU 101: The ASU Experience</b>	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115 or MAE 100 with a minimum grade of "C"</li> <li>• Complete MAT 265 with a min grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>*CHM 113 is a prerequisite and does not apply towards degree credit</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 115: General Chemistry with Qualitative Analysis (SQ) OR CHM 116: General Chemistry II * (SQ)</b>	4	<input type="checkbox"/>		Grade of C	
<b># MAE 100: Introduction to Mechanical and Aerospace Engineering OR</b> Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b># MAE 100: Introduction to Mechanical and Aerospace Engineering, or if completed take</b> Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115; MAE 100; MAT 266; PHY 121, 122 with a minimum grade of "C"</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
BME 111: Engineering Perspectives on Biological Systems	3	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b># MAE 212: Engineering Mechanics</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete ENG 102 or 108 or 105; MAE 212; MAT 275; PHY 131, 132 with a minimum grade of "C"</li> <li>• Complete First-Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>MAT 275: Modern Differential Equations</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II Electricity and Magnetism/University Physics Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
MAT 267: Calculus for Engineers III OR MAT 343: Applied Linear Algebra	3	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b># MAE 213: Solid Mechanics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAE 213, 240.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># MAE 240: Thermofluids I</b>	4	<input type="checkbox"/>			
<b># MAE 214: Computer-Aided Engineering I</b>	1	<input type="checkbox"/>			
<b># EEE 202: Circuits I</b>	4	<input type="checkbox"/>			
MAT 267: Calculus for Engineers III, or if completed take MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
<b># MAE 318: Sensors and Controls</b>	5	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• MAE 360 and 362 must be completed for L credit.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required</li> </ul>
<b># MAE 322: Structural Mechanics</b>	4	<input checked="" type="checkbox"/>			
<b># MAE 360: Aerodynamics (L)</b>	4	<input checked="" type="checkbox"/>			
<b># MAE 384: Numerical Methods for Engineers (CS)</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
<b># MAE 313: Aircraft Dynamics and Control</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• MAE 360 and 362 must be completed for L credit.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required</li> </ul>
<b># MAE 344: Fundamentals of Aerospace Design</b>	3	<input checked="" type="checkbox"/>			
<b># MAE 362: High-Speed Aerodynamics (L)</b>	4	<input checked="" type="checkbox"/>			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
<b># MAE 415: Vibration Analysis</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required</li> </ul>
<b># MAE 462: Space Vehicle Dynamics and Control</b>	3	<input checked="" type="checkbox"/>			
<b># MAE 463: Propulsion</b>	3	<input checked="" type="checkbox"/>			
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB):	3	<input checked="" type="checkbox"/>			
<b># Technical Elective:</b>	3	<input checked="" type="checkbox"/>			
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
<b># MAE 400: Engineering Profession (L)</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• If ASU 101 not taken, a 3 hr elective is required</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required</li> </ul>
<b># MAE 468: Aerospace Systems Design</b>	3	<input checked="" type="checkbox"/>			
<b># Technical Elective:</b>	3	<input checked="" type="checkbox"/>			
<b>Elective:</b>	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**

Course Subject and Title (courses in <i>bold/shading</i> are critical)	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGECE: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
<b>ASU 101: The ASU Experience</b>	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115 or SES 100 with a minimum grade of "C"</li> <li>• Complete MAT 265 with a min grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> *CHM 113 is a prerequisite and does not apply towards degree credit **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor. # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>CHM 114: General Chemistry for Engineers(SQ) OR CHM 115: General Chemistry with Qualitative Analysis (SQ) OR CHM 116: General Chemistry II* ( SQ)</b>	4	<input type="checkbox"/>		Grade of C	
<b>#SES 100: Introduction to Exploration OR Social &amp; Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):</b>	3	<input type="checkbox"/>		Grade of C in SES 100	
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>#SES 100: Intro to Mechanical and Aerospace Engineering, if completed take Social &amp; Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115; MAT 266; PHY 121, 122; SES 100 with a minimum grade of "C"</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required."
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>Humanities, Fine Arts &amp; Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):</b>	3	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>#MAE 212: Engineering Mechanics</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete ENG 102 or 108 or 105; MAE 212; MAT 267, 275 with a minimum grade of "C"</li> <li>• Complete First-Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>MAT 275: Modern Differential Equations</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
<b># SES 210: Engineering Systems and Experimental Design</b>	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b># MAE 213: Solid Mechanics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAE 213.</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 214: Computer-Aided Engineering I</b>	1	<input type="checkbox"/>			
<b># MAE 240: Thermofluids I</b>	4	<input type="checkbox"/>			
<b>PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>MAT 343: Applied Linear Algebra</b>	3	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
<b># EEE 202: Circuits I</b>	4	<input type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 384: Numerical Methods for Engineers (CS)</b>	3	<input checked="" type="checkbox"/>			
<b># SES 310: Elec/Mech Engineering Design</b>	3	<input checked="" type="checkbox"/>			
<b>Literacy and Critical Inquiry (L):</b>	3	<input type="checkbox"/>			
<b>Social &amp; Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):</b>	3	<input type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
<b># MAE 318: Sensors and Controls</b>	5	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 345: Structures in a Space Environment</b>	4	<input checked="" type="checkbox"/>			
<b># MAE 362: High-Speed Aerodynamics</b>	4	<input checked="" type="checkbox"/>			
<b># SES 311: Essentials of Astrobiology, Life in the Universe</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
<b># EEE 304: Signals &amp; Systems II</b>	4	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 462: Space Vehicle Dynamics and Control</b>	3	<input checked="" type="checkbox"/>			
<b># MAE 465: Rocket Propulsion</b>	3	<input checked="" type="checkbox"/>			
<b># SES 410: Senior Exploration Project I</b>	3	<input checked="" type="checkbox"/>			
<b>UD Humanities, Fine Arts &amp; Design (HU) OR Social &amp; Behavioral Science (SB):</b>	3	<input checked="" type="checkbox"/>			
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
<b># MAE 400: Engineering Profession (L)</b>	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># SES 411: Senior Exploration Project II</b>	3	<input checked="" type="checkbox"/>			
<b># Aeronautics Elective:</b>	3	<input checked="" type="checkbox"/>			
<b>Elective:</b>	3	<input type="checkbox"/>			
<b>Humanities, Fine Arts &amp; Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H):</b>	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min cum GPA.)	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
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  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete MAT 265 with a minimum grade of "C"</li> <li>Complete 2 of: BME 100 with a minimum grade of "C"; BME 111&amp; 112 with a minimum grade of "C" OR BIO 188; CHM 114 or 116</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> * CHM 113 is a prerequisite and does not apply towards degree credit ** If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.
<b>BME 100: Introduction to Bioengineering OR BME 111/112: Engineering Perspectives on Biological Systems/Laboratory or BIO 188: General Biology II (SQ)</b>	2 or 4	<input type="checkbox"/>		Grade of C in BME 100; BME 111/112	
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II *</b>	4	<input type="checkbox"/>			
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>BME 100: Introduction to Bioengineering OR BME 111/112: Engineering Perspectives on Biological Systems/Laboratory or BIO 188: General Biology II (SQ)</b>	2 or 4	<input type="checkbox"/>		Grade of C in BME 100; BME 111/112	<ul style="list-style-type: none"> <li>Complete BME 100 with a minimum grade of "C"</li> <li>Complete BME 11&amp; 112 with a minimum grade of "C" or BIO 188</li> <li>Complete CHM 114 or 116</li> <li>Complete MAT 266 with a minimum grade of "C"</li> <li>Complete PHY 121/122</li> </ul>
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>BME 235: Physiology for Engineers</b>	4	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete MAT 267 with a minimum grade of "C"; PHY 131, 132</li> <li>Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>PHY 131/132: University Physics Electricity and Magnetism II/Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>			
CHM 231/235: Elementary Organic Chemistry/Laboratory or CHM 233/237: General Organic Chemistry I/Laboratory I	3/1	<input type="checkbox"/>			
CSE 100: Principles of Programming with C++ (CS)	3	<input type="checkbox"/>			
<b>BME 200: Conservation Principles of Bioengineering</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
EEE 202: Circuits I	4	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete BME 200, 235 each with a minimum grade of "C"</li> </ul>
MAE 212: Engineering Mechanics	4	<input type="checkbox"/>			
MAT 275: Modern Differential Equations (MA)	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>BME 200: Conservation Principles of Bioengineering</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
# BME 318: Biomaterials	4	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# BME 350: Signals and Systems for Bioengineering	3	<input checked="" type="checkbox"/>		Grade of C	
# CHM 341: Elementary Physical Chemistry	3	<input checked="" type="checkbox"/>			
# MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>			
# IEE 380: Probability and Statistics for Engineering Problem Solving (CS)	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
# BME 300: Bioengineering Product Design	3	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# BME 331: Bioengineering Transport Phenomena	3	<input checked="" type="checkbox"/>		Grade of C	
# BME 370: Microcomputer Applications in Bioengineering	3	<input checked="" type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
# BME 413: Biomedical Instrumentation(BME 413 & 423 = L)	3	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# BME 417: Biomedical Engineering Capstone Design I (L)	4	<input checked="" type="checkbox"/>		Grade of C	
# BME 423: Biomedical Instrumentation Laboratory	1	<input checked="" type="checkbox"/>		Grade of C	
# BME 434: Applications of Bioengineering OR # BME 416: Biomechanics OR # BME 419: Biocontrol Systems	3	<input checked="" type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# BME 490: Biomedical Engineering Capstone Design II	4	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input checked="" type="checkbox"/>			

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  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
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			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete MAT 265 with a minimum grade of "C"</li> <li>Complete CHM 113</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
#CHE 100: Introduction to Chemical Engineering	2	<input type="checkbox"/>			
CHM 113: General Chemistry I (SQ)	4	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
MAT 265: Calculus for Engineers I	3	<input type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CHE 100; CHM 116</li> <li>Complete MAT 266 and ENG 101 or 107 or 105 with a minimum grade of "C"</li> </ul>
CHM 116: General Chemistry II (SQ)	4	<input type="checkbox"/>			
MAT 266: Calculus for Engineers II	3	<input type="checkbox"/>		Grade of C	
PHY 121/122: University Physics I/ Laboratory I	3/1	<input type="checkbox"/>			
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
# CHE 211: Introduction to Chemical Processing	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CHE 211; PHY 121 &amp; 122</li> <li>Complete ENG 102 or 108 with a minimum grade of "C"</li> <li>2.0 ASU Cumulative GPA required</li> <li>Complete First-Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
MAT 242: Elementary Linear Algebra	2	<input type="checkbox"/>			
MAT 275: Modern Differential Equations (MA)	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H):	3	<input type="checkbox"/>			
200 Level Engineering Elective:	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
#CHE 231: Introduction to Transport I: Fluids	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CHE 231</li> <li>Complete MAT 267 with a minimum grade of "C"</li> <li>2.0 ASU Cumulative GPA required</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
MAT 267: Calculus for Engineers III	3	<input type="checkbox"/>		Grade of C	
# MAE 384: Numerical Methods for Engineers (CS)	3	<input type="checkbox"/>			
PHY 131: University Physics II: Electricity and Magnetism	3	<input type="checkbox"/>			
Social Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H):	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
# CHE 334: Introduction to Transport Phenomena II: Heat and Mass	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# CHE 342: Introduction to Applied Chemical Thermodynamics	3	<input checked="" type="checkbox"/>			
CHM 233: General Organic Chemistry I	3	<input type="checkbox"/>			
CHM 237: General Organic Chemistry Laboratory I	1	<input type="checkbox"/>			
Bioscience Elective:	3	<input type="checkbox"/>			
# Chemistry Content Technical Elective:	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
# CHE 352: Transport Laboratories (L)	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# CHE 433: Modern Separations	3	<input checked="" type="checkbox"/>			
# CHE 442: Introduction to Chemical Reactor Design	3	<input checked="" type="checkbox"/>			
CHM 234: General Organic Chemistry II	3	<input type="checkbox"/>			
IEE 220: Business Industrial Engineering	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
# CHE 432: Principles of Chemical Engineering Design	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# CHE 451: Chemical Engineering Laboratory	3	<input checked="" type="checkbox"/>			
# CHE 461: Process Dynamic Control	3	<input checked="" type="checkbox"/>			
# Chemistry Content Technical Elective:	3	<input checked="" type="checkbox"/>			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H):	3	<input type="checkbox"/>			
# Natural Science or MSE Technical Elective:	3	<input checked="" type="checkbox"/>			
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# CHE 462: Process Design (L)	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# CHE Technical Elective:	3	<input checked="" type="checkbox"/>			
# CHE Technical Elective:	3	<input checked="" type="checkbox"/>			
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB):	3	<input checked="" type="checkbox"/>			
#Natural Science or MSE Technical Elective:	3	<input checked="" type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**



Course Subject and Title (courses in <i>bold/shading</i> are critical)	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116; MAT 265 with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>*CHM 113 is a prerequisite and does not apply toward degree credit.</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>CEE 100: Intro to Civil and Environmental Engineering OR ECN 211/212 (SB): Macroeconomic Principles/ Microeconomic Principles or ECN 201: Economic Issues &amp; Analysis (SB)</b>	2 or 3	<input type="checkbox"/>		Grade of C in CEE 100	
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II* (SQ)</b>	4	<input type="checkbox"/>			
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>CEE 100: Intro to Civil and Environmental Engineering OR ECN 211/212 (SB): Macroeconomic Principles/ Microeconomic Principles or ECN 201: Economic Issues &amp; Analysis (SB)</b>	2 or 3	<input type="checkbox"/>		Grade of C in CEE 100	<ul style="list-style-type: none"> <li>• Complete CEE 100; MAT 242, 266; PHY 121 &amp; 122 each with a minimum grade of "C"</li> </ul>
<b>MAT 242: Elementary Linear Algebra</b>	2	<input type="checkbox"/>		Grade of C	
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>CEE 210: Engineering Mechanics: Statics</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CEE 210; MAT 267, 275, PHY 131 &amp; 132 each with a minimum grade of "C"</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 275: Modern Differential Equations (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II: Electricity and Magnetism/ Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b>CEE 212: Engineering Mechanics: Dynamics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CEE 212</li> <li>• Complete CEE 213 with a minimum grade of "C"</li> </ul>
<b>CEE 213: Introduction to Deformable Solids</b>	3	<input type="checkbox"/>		Grade of C	
EEE 202: Circuits I OR MAE 240: Thermofluids I	4	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G):	3	<input type="checkbox"/>			
Basic Science Elective:	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
#CEE 384: Numerical Methods for Engineers (CS) Select 3 # CEE 300: Engineering Business Practice (L) (3 hrs) # CEE 321: Structural Analysis and Design (4 hrs) # CEE 341: Fluid Mechanics for Civil Engineers (4 hrs) # CEE 351: Geotechnical Engineering (4 hrs) # CEE 353: Civil Engineering Materials (3 hrs) # CEE 361: Introduction to Environmental Engineering (4 hrs) # CEE 372: Transportation Engineering (4 hrs)	3  10 or 12	<input checked="" type="checkbox"/>      <input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
Select remaining 4 # CEE 300: Engineering Business Practice(L) (3 hrs) # CEE 321: Structural Analysis and Design (4 hrs) # CEE 341: Fluid Mechanics for Civil Engineers (4 hrs) # CEE 351: Geotechnical Engineering (4 hrs) # CEE 353: Civil Engineering Materials (3 hrs) # CEE 361: Introduction to Environmental Engineering (4 hrs) # CEE 372: Transportation Engineering (4 hrs)	14 or 16	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
#CEE 400 Earth Systems Engineering and Management (HU, H) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G)	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Technical Elective and Design Elective requirements: Complete a total of 2 design electives and 4 technical electives during Term 7 and Term 8. See Advisor for guidance in selection.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.</li> </ul>
# Technical Elective	3	<input checked="" type="checkbox"/>			
# Technical Elective	3	<input checked="" type="checkbox"/>			
# Design Elective or # Technical Elective	3	<input checked="" type="checkbox"/>			
# Design Elective or # Technical Elective	3	<input checked="" type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# CEE 400: Earth Systems Engineering and Management (HU, H) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G) if CEE 400 completed	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Technical Elective and Design Elective requirements: Complete a total of 2 design electives and 4 technical electives during Term 7 and Term 8. See Advisor for guidance in selection.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.</li> </ul>
# CEE 486: Integrated Civil Engineering Design (L)	4	<input checked="" type="checkbox"/>			
# Technical Elective or # Design Elective	3	<input checked="" type="checkbox"/>			
# Technical Elective or # Design Elective	3	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C) or Global Awareness (G)	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.30 Min. CUM GPA in CEE 3XX, 2.30 min CUM GPA in CEE 4XX)	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CHM 114 or 116; MAT 265 with a minimum grade of "C"</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>*CHM 113 is a prerequisite and does not apply toward degree credit.</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>CEE 100: Intro to Civil and Environmental Engineering OR ECN 211/212 (SB): Macroeconomic Principles/ Microeconomic Principles or ECN 201: Economic Issues &amp; Analysis (SB)</b>	2 or 3	<input type="checkbox"/>		Grade of C in CEE 100	
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II* (SQ)</b>	4	<input type="checkbox"/>			
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>CEE 100: Intro to Civil and Environmental Engineering OR ECN 211/212 (SB): Macroeconomic Principles/ Microeconomic Principles or ECN 201: Economic Issues &amp; Analysis (SB)</b>	2 or 3	<input type="checkbox"/>		Grade of C in CEE 100	<ul style="list-style-type: none"> <li>Complete CEE 100; MAT 242, 266; PHY 121 &amp; 122 each with a minimum grade of "C"</li> </ul>
<b>MAT 242: Elementary Linear Algebra</b>	2	<input type="checkbox"/>		Grade of C	
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>CEE 210: Engineering Mechanics: Statics</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CEE 210; MAT 267, 275, PHY 131 &amp; 132 each with a minimum grade of "C"</li> <li>Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 275: Modern Differential Equations (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II: Electricity and Magnetism/ Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b>CEE 212: Engineering Mechanics: Dynamics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CEE 212</li> <li>Complete CEE 213 with a minimum grade of "C"</li> </ul>
<b>CEE 213: Introduction to Deformable Solids</b>	3	<input type="checkbox"/>		Grade of C	
EEE 202: Circuits I	4	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB), AND Cultural Diversity in the US (C) or Global Awareness (G):	3	<input type="checkbox"/>			
Basic Science Elective:	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
# CEE 384: Numerical Methods for Engineers (CS)	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
Select 3					
# CEE 300: Engineering Business Practice (L) (3 hrs)					
# CEE 321: Structural Analysis and Design (4 hrs)					
# CEE 341: Fluid Mechanics for Civil Engineers (4 hrs)					
# CEE 351: Geotechnical Engineering (4 hrs)					
# CEE 353: Civil Engineering Materials (3 hrs)					
# CEE 361: Introduction to Environmental Engineering (4 hrs)	10 or 12	<input checked="" type="checkbox"/>			
# CEE 372: Transportation Engineering (4 hrs)		<input checked="" type="checkbox"/>			
IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
Select remaining 4					# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
# CEE 300: Engineering Business Practice(L) (3 hrs)					
# CEE 321: Structural Analysis and Design (4 hrs)					
# CEE 341: Fluid Mechanics for Civil Engineers (4 hrs)					
# CEE 351: Geotechnical Engineering (4 hrs)					
# CEE 353: Civil Engineering Materials (3 hrs)					
# CEE 361: Introduction to Environmental Engineering (4 hrs)	14 or 16	<input checked="" type="checkbox"/>			
# CEE 372: Transportation Engineering (4 hrs)		<input checked="" type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
Select 4					# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
# CEE 281: Surveying (3 hrs)					
# CEE 412: Pavement Analysis and Design (3 hrs) OR # CEE 483: Highway Materials, Construction and Quality (3 hrs)					
# CEE 420: Steel Structures (3 hrs) OR # CEE 421: Concrete Structures (3 hrs)					
# CEE 452: Foundation (3 hrs)					
# CEE 481: Civil Engineering Project (3 hrs)					
# Approved technical elective (3 hrs)	12	<input checked="" type="checkbox"/>			
#CEE 400: Earth Systems Engineering and Management (HU, H) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G)	3	<input checked="" type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
Select remaining 2 # CEE 281: Surveying (3 hrs) # CEE 412: Pavement Analysis and Design (3 hrs) OR # CEE 483: Highway Materials, Construction and Quality (3 hrs) # CEE 420: Steel Structures (3 hrs) OR # CEE 421: Concrete Structures (3 hrs) # CEE 452: Foundation (3 hrs) # CEE 481: Civil Engineering Project (3 hrs) # Approved technical elective (3 hrs)	6	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
#CEE 400: Earth Systems Engineering and Management (HU, H) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G) if CEE 400 completed	3	<input type="checkbox"/>			
# CEE 486: Integrated Civil Engineering Design (L)	4	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C) or Global Awareness (G)	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.30 Min. CUM GPA in CEE 3XX, 2.30 min CUM GPA in CEE 4XX)	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes	
<b>TERM ONE: 0 15 CREDIT HOURS</b>						
ASU 101: The ASU Experience	1	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>Complete CHM 114 or 116; MAT 265 with a minimum grade of "C"</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> *CHM 113 is a prerequisite and does not apply toward degree credit. **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.
<b>CEE 100: Intro to Civil and Environmental Engineering OR ECN 211/212 (SB): Macroeconomic Principles/ Microeconomic Principles or ECN 201: Economic Issues &amp; Analysis (SB)</b>	2 or 3	<input type="checkbox"/>		Grade of C in CEE 100		
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II* (SQ)</b>	4	<input type="checkbox"/>				
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C		
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C		
<b>TERM TWO: 16 30 CREDIT HOURS</b>						
<b>CEE 100: Intro to Civil and Environmental Engineering OR ECN 211/212 (SB): Macroeconomic Principles/ Microeconomic Principles or ECN 201: Economic Issues &amp; Analysis (SB)</b>	2 or 3	<input type="checkbox"/>		Grade of C in CEE 100	<ul style="list-style-type: none"> <li>Complete CEE 100; MAT 242, 266; PHY 121 &amp; 122 each with a minimum grade of "C"</li> </ul>	
<b>MAT 242: Elementary Linear Algebra</b>	2	<input type="checkbox"/>		Grade of C		
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C		
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C		
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C		
<b>TERM THREE: 31 45 CREDIT HOURS</b>						
<b>CEE 210: Engineering Mechanics: Statics</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CEE 210; MAT 267, 275, PHY 131 &amp; 132 each with a minimum grade of "C"</li> <li>Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>	
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C		
<b>MAT 275: Modern Differential Equations (MA)</b>	3	<input type="checkbox"/>		Grade of C		
<b>PHY 131/132: University Physics II: Electricity and Magnetism/ Laboratory II</b>	3/1	<input type="checkbox"/>		Grade of C		
<b>TERM FOUR: 46 60 CREDIT HOURS</b>						
<b>CEE 212: Engineering Mechanics: Dynamics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CEE 212</li> <li>Complete CEE 213 with a minimum grade of "C"</li> </ul>	
<b>CEE 213: Introduction to Deformable Solids</b>	3	<input type="checkbox"/>		Grade of C		
MAE 240: Thermofluids I	4	<input type="checkbox"/>				
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB), AND Cultural Diversity in the US (C) or Global Awareness (G):	3	<input type="checkbox"/>				
Basic Science Elective	3	<input type="checkbox"/>				
<b>TERM FIVE: 61 75 CREDIT HOURS</b>						
# CEE 384: Numerical Methods for Engineers (CS)	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.	
Select 3						
# CEE 300: Engineering Business Practice (L) (3 hrs)						
# CEE 321: Structural Analysis and Design (4 hrs)						
# CEE 341: Fluid Mechanics for Civil Engineers (4 hrs)						
# CEE 351: Geotechnical Engineering (4 hrs)						
# CEE 353: Civil Engineering Materials (3 hrs)	10					
# CEE 361: Introduction to Environmental Engineering (4 hrs)	or					
# CEE 372: Transportation Engineering (4 hrs)	12	<input checked="" type="checkbox"/>				
IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>				
<b>TERM SIX: 76 90 CREDIT HOURS</b>						
Select remaining 4					# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.	
# CEE 300: Engineering Business Practice(L) (3 hrs)						
# CEE 321: Structural Analysis and Design (4 hrs)						
# CEE 341: Fluid Mechanics for Civil Engineers (4 hrs)						
# CEE 351: Geotechnical Engineering (4 hrs)						
# CEE 353: Civil Engineering Materials (3 hrs)	14					
# CEE 361: Introduction to Environmental Engineering (4 hrs)	or					
# CEE 372: Transportation Engineering (4 hrs)	16	<input checked="" type="checkbox"/>				
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>						
Select 4 Design/Technical Electives					# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.	
# CEE 440: Engineering Hydrology (3 hrs)						
# CEE 441: Water Resource Hydrology (3 hrs)						
# CEE 462: Unit Ops in Environmental Engineering (3 hrs)						
# CEE 466: San System Design (3 hrs)						
# CEE 467: Environmental Microbiology (3 hrs)						
# Approved Technical Elective (3 hrs)	12	<input checked="" type="checkbox"/>				
# CEE 400: Earth Systems Engineering and Management (HU, H) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G)	3	<input checked="" type="checkbox"/>				

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
Select remaining 2 Design/Technical Electives # CEE 440: Engineering Hydrology (3 hrs) # CEE 441: Water Resource Hydrology (3 hrs) # CEE 462: Unit Ops in Environmental Engineering (3 hrs) # CEE 466: San System Design (3 hrs) # CEE 467: Environmental Microbiology (3 hrs) # Approved Technical Elective (3 hrs)	6	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.30 required in all CEE 3XX courses, a minimum cumulative GPA of 2.30 required in all CEE 4XX courses.
# CEE 400: Earth Systems Engineering and Management (HU, H) OR Social & Behavioral Science (SB) AND Cultural Diversity in the US (C) or Global Awareness (G) if CEE 400 completed	3	<input type="checkbox"/>			
# CEE 486: Integrated Civil Engineering Design (L)	4	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C) or Global Awareness (G)	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.30 Min. CUM GPA in CEE 3XX, 2.30 min CUM GPA in CEE 4XX)	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CSE 100 or 110; MAT 265 each with a minimum grade of "C"</li> <li>General Elective: cannot include CSE, MAT, PHY, BIO, CHM or other Science course</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 100: Principles of Programming with C++ (CS) OR # CSE 110: Principles of Programming with Java (CS)	3	<input type="checkbox"/>		Grade of C	
MAT 265: Calculus for Engineers I (MA)	3	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
General Elective	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
# CSE 120: Digital Design Fundamentals	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CSE 120, 205; MAT 266 each with a minimum grade of "C"</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 205: Concepts of Computer Science & Data Structures (CS)	3	<input type="checkbox"/>		Grade of C	
MAT 266: Calculus for Engineers II	3	<input type="checkbox"/>		Grade of C	
BIO 187: General Biology I (SQ) or BIO 188: General Biology II (SQ)	4	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
General Elective	3	<input type="checkbox"/>			
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
# CSE 230: Computer Organization and Assembly Language Programming	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CSE 230; MAT 243, 267 each with a minimum grade of "C"</li> <li>Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li>See Advisor for approved Laboratory Science sequence courses</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
MAT 243: Discrete Mathematical Structures	3	<input type="checkbox"/>		Grade of C	
MAT 267: Calculus for Engineers III	3	<input type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (H) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
Laboratory Science I (SQ)	4	<input type="checkbox"/>			
General Elective	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
#CSE 240: Introduction to Programming Languages	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete CSE 240 with a minimum grade of "C"</li> <li>See Advisor for approved Laboratory Science sequence courses</li> <li>General Elective: cannot include CSE, MAT, PHY, BIO, CHM or other Science course</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>			
Laboratory Science II (SQ)	4	<input type="checkbox"/>			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
General Elective	3	<input type="checkbox"/>			
General Elective	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
# IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 301: Computing Ethics	1	<input checked="" type="checkbox"/>		Grade of C	
# CSE 310: Data Structures and Algorithms	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 360: Introduction to Software Engineering	3	<input checked="" type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
General Elective	3	<input type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
# CSE 340: Principles of Programming Languages	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>See Advisor for approved list of Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 355: Introduction to Theoretical Computer Science	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
Computer Science Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			
General Elective	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
# CSE 430: Operating Systems	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>See Advisor for approved list of Computer Science Electives</li> <li>General Elective: cannot include CSE, MAT, PHY, BIO, CHM or other Science course</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 485: Computer Science Capstone Project I (L)	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
General Elective	1	<input type="checkbox"/>			
General Elective	1	<input type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# CSE 486: Computer Science Capstone Project II (L)	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>See Advisor for approved list of Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 4** Computer Science Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# Computer Science Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**



Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGECE: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CSE 100 or 110, 101; MAT 265 each with a minimum grade of “C”</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># CSE 100: Principles of Programming with C++ (CS) OR</b> <b># CSE 110: Principles of Programming with Java (CS)</b>	3	<input type="checkbox"/>		Grade of C	
<b># CSE 101: Introduction to Engineering Design</b>	2	<input type="checkbox"/>		Grade of C	
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b># CSE 120: Digital Design Fundamentals</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CSE 120, 205; MAT 266 each with a minimum grade of “C”</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># CSE 205: Concepts of Computer Science &amp; Data Structures (CS)</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
BIO 187: General Biology I (SQ) OR BIO 188: General Biology Laboratory II (SQ)	4	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b># CSE 230: Computer Organization and Assembly Language Programming</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CSE 230; MAT 243, 267 each with a minimum grade of “C”</li> <li>• Complete First-Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>MAT 243: Discrete Mathematical Structures</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
PHY 121/122: University Physics I/Laboratory I (SQ)	3/1	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b># CSE 220: Programming for Computer Engineering</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CSE 220 with a minimum grade of “C”</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
MAT 275: Modern Differential Equations	3	<input type="checkbox"/>			
PHY 131/132: University Physics II Electricity and Magnetism/Laboratory II (SQ)	3/1	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
# EEE 202: Circuits I	4	<input type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>			
# CSE 301: Computing Ethics	1	<input checked="" type="checkbox"/>		Grade of C	
# CSE 310: Data Structures and Algorithms	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 360: Introduction to Software Engineering	3	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
# EEE 334: Circuits II	4	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 320: Design and Synthesis of Digital Hardware	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 325: Embedded Micro Systems	3	<input checked="" type="checkbox"/>		Grade of C	
# MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
# CSE 423: Systems Capstone Project I (L)	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• See Advisor for approved list of CSE Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 430: Operating Systems	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# CSE 420: Computer Architecture I	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• See Advisor for approved list of CSE Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# CSE 424: Systems Capstone Project II (L)	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE 434: Computer Networks	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
# CSE Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
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  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CIM 105 with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>• **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>CIM 105: Intro to Concrete Industry</b>	1	<input type="checkbox"/>		Grade of C	
MAT 265: Calculus for Engineers I (MA)	3	<input type="checkbox"/>		Grade of C	
PHY 111/113: General Physics I/ Laboratory I (SQ)	3/1	<input type="checkbox"/>		Grade of C	
CON 101: Construction and Culture: A Built Environment (HU, G, H)	3	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>CIM 106: Concrete Fundamentals</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CIM 106 with a minimum grade of "C"; COM 225; ECN 211; STP 226.</li> </ul>
<b>COM 225: Public Speaking (L)</b>	3	<input type="checkbox"/>			
<b>ECN 211: Macroeconomic Principles (SB)</b>	3	<input type="checkbox"/>			
<b>STP 226: Elements of Statistics (CS)</b>	3	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>CIM 205: Concrete Construction Methods</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CIM 205; ENG 102 or 105 or 108 with a minimum grade of "C"; CON 221, ECN 212</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>CON 221 Applied Statics</b>	3	<input type="checkbox"/>			
CON 243: Heavy Construction Equipment, Methods, Materials	3	<input type="checkbox"/>			
CON 251: Microcomputer Applications for Construction	3	<input type="checkbox"/>			
<b>ECN 212: Microeconomic Principles (SB)</b>	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b>CIM 206: Application of Concrete in Construction</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CIM 206 with a minimum grade of "C"</li> </ul>
CON 223: Strength of Materials	3	<input type="checkbox"/>			
CON 241: Surveying	3	<input type="checkbox"/>			
CON 252: Building Construction Methods, Materials, Equipment	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C)	3	<input type="checkbox"/>			
<b>TERM SUMMER 2<sup>nd</sup> Year: 1 CREDIT HOUR</b>					
CON 296: Field Internship	1	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
CIM 305: Management of Concrete Products: Ordering and Delivering	3	<input checked="" type="checkbox"/>		Grade of C	
CON 383: Construction Estimating	4	<input checked="" type="checkbox"/>		Grade of C	
CON 389: Construction Cost Accounting and Control (CS)	3	<input checked="" type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) or Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			
Natural Science: Quantitative (SQ) or General (SG)	4	<input type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
CIM 306: Management of Concrete Products: Production Facilities	3	<input checked="" type="checkbox"/>		Grade of C	
CON 371: Construction Safety	3	<input checked="" type="checkbox"/>		Grade of C	
CON 450: Geotechnical Applications for Construction	4	<input checked="" type="checkbox"/>		Grade of C	
LES 305: Legal, Ethical, Regulatory Issues in Business	3	<input checked="" type="checkbox"/>			
<b>TERM SUMMER 3<sup>rd</sup> Year: 1 CREDIT HOUR</b>					
CON 484: Internship	1	<input type="checkbox"/>		Grade of C	
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
CIM 405: Concrete Problems: Diagnosis, Prevention, Dispute	3	<input checked="" type="checkbox"/>		Grade of C	
CIM 4**	2	<input checked="" type="checkbox"/>		Grade of C	
CON 453: Construction Project Management I	3	<input checked="" type="checkbox"/>		Grade of C	
CON 495: Construction Planning and Scheduling	4	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
CIM 406: Concrete Industry Management	2	<input checked="" type="checkbox"/>		Grade of C	
CIM 420: Senior Concrete Laboratory	3	<input checked="" type="checkbox"/>		Grade of C	
CON 424: Structural Design	3	<input checked="" type="checkbox"/>		Grade of C	
CON 455: Construction Project Management II	4	<input checked="" type="checkbox"/>		Grade of C	
CON 496: Construction Contract Administration (L)	3	<input checked="" type="checkbox"/>		Grade of C	

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  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
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  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
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- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes	
<b>TERM ONE: 0 15 CREDIT HOURS</b>						
ASU 101: The ASU Experience	1	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>• Complete MAT 265; PHY 111, 113 each with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>• **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C		
<b>PHY 111/113: General Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C		
CON 101: Construction and Culture: A Built Environment (HU, G, H)	3	<input type="checkbox"/>				
CON 194: Special Topics: Introduction to Construction	2	<input type="checkbox"/>				
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C		
<b>TERM TWO: 16 30 CREDIT HOURS</b>						
<b>COM 225: Public Speaking (L)</b>	3	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>• Complete COM 225, CON 252</li> </ul>
<b>CON 252: Building Construction Methods, Materials, Equipment</b>	3	<input type="checkbox"/>				
ECN 211: Macroeconomic Principles (SB)	3	<input type="checkbox"/>				
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C		
<b>TERM THREE: 31 45 CREDIT HOURS</b>						
<b>CON 221: Applied Statics</b>	3	<input type="checkbox"/>		Grade of C		<ul style="list-style-type: none"> <li>• Complete CON 221, 243 with a minimum grade of "C"; CON 251; ECN 212; ENG 102 or 108 or 105 with a minimum grade of "C"; STP 226.</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>CON 243: Heavy Construction Equipment, Methods, Materials</b>	3	<input type="checkbox"/>		Grade of C		
<b>CON 251: Microcomputer Applications for Construction</b>	3	<input type="checkbox"/>				
ECN 212: Microeconomic Principles (SB)	3	<input type="checkbox"/>				
STP 226: Elements of Statistics (CS)	3	<input type="checkbox"/>				
<b>TERM FOUR: 46 60 CREDIT HOURS</b>						
<b>CON 223: Strength of Materials</b>	3	<input type="checkbox"/>		Grade of C		<ul style="list-style-type: none"> <li>• Complete CON 223 with a minimum grade of "C"</li> </ul>
CON 241: Surveying	3	<input type="checkbox"/>				
CON 273: Electrical Construction Fundamental and Project Management	3	<input type="checkbox"/>				
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C)	3	<input type="checkbox"/>				
Science Quantitative (SQ) or Science General (SG)	4	<input type="checkbox"/>				
<b>TERM SUMMER 2<sup>nd</sup> Year: 1 CREDIT HOUR</b>						
CON 296: Field Internship	1	<input type="checkbox"/>				
<b>TERM FIVE: 61 75 CREDIT HOURS</b>						
CON 310: Testing and Materials for Construction	3	<input checked="" type="checkbox"/>		Grade of C		<ul style="list-style-type: none"> <li>• Complete CON 223 with a minimum grade of "C"</li> </ul>
CON 345: Mechanical Systems	4	<input checked="" type="checkbox"/>		Grade of C		
CON 371: Construction Safety	3	<input checked="" type="checkbox"/>		Grade of C		
CON 383: Construction Estimating	4	<input checked="" type="checkbox"/>		Grade of C		
Select 1 CON 472: Development Feasibility Reports (3 hrs) CON 483: Advanced Building Estimating (3 hrs) REA 380: Real Estate Fundamentals (3 hrs) Upper division Elective	3	<input checked="" type="checkbox"/>		Grade of C in CON courses		
<b>TERM SIX: 76 90 CREDIT HOURS</b>						
CON 389: Construction Cost Accounting and Control (CS)	3	<input checked="" type="checkbox"/>		Grade of C		<ul style="list-style-type: none"> <li>• Complete CON 223 with a minimum grade of "C"</li> </ul>
LES 305: Legal, Ethical, Regulatory Issues in Business	3	<input checked="" type="checkbox"/>				
Humanities, Fine Arts & Design (HU) or Social & Behavioral Science (SB)	3	<input type="checkbox"/>				
Upper division Elective	3	<input checked="" type="checkbox"/>				
Select 1 additional course from: CON 472: Development Feasibility Reports (3 hrs) CON 483: Advanced Building Estimating (3 hrs) REA 380: Real Estate Fundamentals (3 hrs) Upper division Elective: (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses		
<b>TERM SUMMER 3<sup>rd</sup> Year: 1 CREDIT HOUR</b>						
CON 484: Internship	1	<input checked="" type="checkbox"/>		Grade of C		

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
CON 450: Geotechnical Applications for Construction	4	<input checked="" type="checkbox"/>		Grade of C	
CON 453: Construction Project Management I	3	<input checked="" type="checkbox"/>		Grade of C	
CON 495: Construction Planning and Scheduling (L)	4	<input checked="" type="checkbox"/>		Grade of C	
Select 1 additional course from: CON 472: Development Feasibility Reports (3 hrs) CON 483: Advanced Building Estimating (3 hrs) REA 380: Real Estate Fundamentals (3 hrs) Upper division Elective (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses	
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
CON 424: Structural Design	3	<input checked="" type="checkbox"/>		Grade of C	
CON 455: Construction Project Management II	4	<input checked="" type="checkbox"/>		Grade of C	
CON 496: Construction Contract Administration (L)	3	<input checked="" type="checkbox"/>		Grade of C	
Select remaining course from: CON 472: Development Feasibility Reports (3 hrs) CON 483: Advanced Building Estimating (3 hrs) REA 380: Real Estate Fundamentals (3 hrs) UD Elective (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses	

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAT 265; PHY 111, 113 each with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>• **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 111/113: General Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
CON 101: Construction and Culture: A Built Environment (HU, G, H)	3	<input type="checkbox"/>			
CON 194: Special Topics: Introduction to Construction	2	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>COM 225: Public Speaking (L)</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete COM 225, CON 252</li> </ul>
<b>CON 252: Building Construction Methods, Materials, Equipment</b>	3	<input type="checkbox"/>			
ECN 211: Macroeconomic Principles (SB)	3	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>CON 221: Applied Statics</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CON 221, 243 with a minimum grade of "C"; CON 251; ECN 212; ENG 102 or 108 or 105 with a minimum grade of "C"; STP 226.</li> <li>• Complete First-Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>CON 243: Heavy Construction Equipment, Methods, Materials</b>	3	<input type="checkbox"/>		Grade of C	
<b>CON 251: Microcomputer Applications for Construction</b>	3	<input type="checkbox"/>			
<b>ECN 212: Microeconomic Principles (SB)</b>	3	<input type="checkbox"/>			
<b>STP 226: Elements of Statistics (CS)</b>	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b>CON 223: Strength of Materials</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CON 223 with a minimum grade of "C"</li> </ul>
CON 241: Surveying	3	<input type="checkbox"/>			
CON 273: Electrical Construction Fundamental and Project Management	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C)	3	<input type="checkbox"/>			
Science: Quantitative (SQ) or Science General (SG)	4	<input type="checkbox"/>			
<b>TERM SUMMER 2<sup>nd</sup> Year: 1 CREDIT HOUR</b>					
CON 296: Field Internship	1	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
CON 310: Testing and Materials for Construction	3	<input checked="" type="checkbox"/>		Grade of C	
CON 345: Mechanical Systems	4	<input checked="" type="checkbox"/>		Grade of C	
CON 371: Construction Safety	3	<input checked="" type="checkbox"/>		Grade of C	
CON 383: Construction Estimating	4	<input checked="" type="checkbox"/>		Grade of C	
Select 1: CON 394: Special Topics: Advanced Heavy Equipment Operations (3 hrs) CON 394: Special Topics: Environmental Aspects of Heavy Construction (3 hrs) CON 486: Heavy Construction Estimating (3 hrs) CON 494: Special Topics: Heavy Construction Earthworks (3 hrs) CON 494: Special Topics: Heavy Construction Project Management (3 hrs):	3	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
CON 389: Construction Cost Accounting and Control (CS)	3	<input checked="" type="checkbox"/>		Grade of C	
LES 305: Legal, Ethical, Regulatory Issues in Business	3	<input checked="" type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>		Grade of C	
Select 2 additional: CON 394: Special Topics: Advanced Heavy Equipment Operations (3 hrs) CON 394: Special Topics: Environmental Aspects of Heavy Construction (3 hrs) CON 486: Heavy Construction Estimating (3 hrs) CON 494: Special Topics: Heavy Construction Earthworks (3 hrs) CON 494: Special Topics: Heavy Construction Project Management (3 hrs):	6	<input checked="" type="checkbox"/>		Grade of C	

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM SUMMER 3<sup>rd</sup> Year: 1 CREDIT HOUR</b>					
CON 484: Internship	1	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
CON 450: Geotechnical Applications for Construction	4	<input checked="" type="checkbox"/>		Grade of C	
CON 453: Construction Project Management I	3	<input checked="" type="checkbox"/>		Grade of C	
CON 495: Construction Planning and Scheduling	4	<input checked="" type="checkbox"/>		Grade of C	
Select 1 additional: CON 394: Special Topics: Advanced Heavy Equipment Operations (3 hrs) CON 394: Special Topics: Environmental Aspects of Heavy Construction (3 hrs) CON 486: Heavy Construction Estimating (3 hrs) CON 494: Special Topics: Heavy Construction Earthworks (3 hrs) CON 494: Special Topics: Heavy Construction Project Management (3 hrs):	3	<input checked="" type="checkbox"/>		Grade of C	
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
CON 424: Structural Design	3	<input checked="" type="checkbox"/>		Grade of C	
CON 455: Construction Project Management II	4	<input checked="" type="checkbox"/>		Grade of C	
CON 496: Construction Contract Administration (L)	3	<input checked="" type="checkbox"/>		Grade of C	
Select remaining course: CON 394: Special Topics: Advanced Heavy Equipment Operations (3 hrs) CON 394: Special Topics: Environmental Aspects of Heavy Construction (3 hrs) CON 486: Heavy Construction Estimating (3 hrs) CON 494: Special Topics: Heavy Construction Earthworks (3 hrs) CON 494: Special Topics: Heavy Construction Project Management (3 hrs):	3	<input checked="" type="checkbox"/>		Grade of C	

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**



Course Subject and Title (courses in <i>bold/shading</i> are critical)	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes	
<b>TERM ONE: 0 15 CREDIT HOURS</b>						
ASU 101: The ASU Experience	1	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>• Complete MAT 265; PHY 111, 113 with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>• **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C		
<b>PHY 111/113: General Physics I/Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C		
CON 101: Construction and Culture: A Built Environment (HU, G, H)	3	<input type="checkbox"/>				
CON 194: Special Topics: Introduction to Construction	2	<input type="checkbox"/>				
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C		
<b>TERM TWO: 16 30 CREDIT HOURS</b>						
<b>COM 225: Public Speaking (L)</b>	3	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>• Complete COM 225, CON 252.</li> </ul>
<b>CON 252: Building Construction Methods, Materials, Equipment</b>	3	<input type="checkbox"/>				
ECN 211: Macroeconomic Principles (SB)	3	<input type="checkbox"/>				
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C		
<b>TERM THREE: 31 45 CREDIT HOURS</b>						
<b>CON 221: Applied Statics</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CON 221, 243 with a minimum grade of "C"; CON 251; ECN 212; ENG 102 or 108 or 105 with a minimum grade of "C"; STP 226</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>	
<b>CON 243: Heavy Construction Equipment, Methods, Materials</b>	3	<input type="checkbox"/>		Grade of C		
<b>CON 251: Microcomputer Applications for Construction</b>	3	<input type="checkbox"/>				
<b>ECN 212: Microeconomic Principles (SB)</b>	3	<input type="checkbox"/>				
<b>STP 226: Elements of Statistics (CS)</b>	3	<input type="checkbox"/>				
<b>TERM FOUR: 46 60 CREDIT HOURS</b>						
<b>CON 223: Strength of Materials</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CON 223 with a minimum grade of "C".</li> </ul>	
CON 241: Surveying	3	<input type="checkbox"/>				
CON 273: Electrical Construction Fundamental and Project Management	3	<input type="checkbox"/>				
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C)	3	<input type="checkbox"/>				
Science Quantitative (SQ) or Science General (SG)	4	<input type="checkbox"/>				
<b>TERM SUMMER 2<sup>nd</sup> Year: 1 CREDIT HOUR</b>						
CON 296: Field Internship	1	<input type="checkbox"/>				
<b>TERM FIVE: 61 75 CREDIT HOURS</b>						
CON 310: Testing and Materials for Construction	3	<input checked="" type="checkbox"/>		Grade of C		
CON 345: Mechanical Systems	4	<input checked="" type="checkbox"/>		Grade of C		
CON 371: Construction Safety	3	<input checked="" type="checkbox"/>		Grade of C		
CON 383: Construction Estimating	4	<input checked="" type="checkbox"/>		Grade of C		
Select 1 CON 377: Residential Construction Production Procedures (3 hrs) CON 477: Residential Construction Business Practices (3 hrs) MKT 395: Essentials of Advertising and Marketing Communication (3 hrs) REA 380: Real Estate Fundamentals (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses		
<b>TERM SIX: 76 90 CREDIT HOURS</b>						
CON 389: Construction Cost Accounting and Control (CS)	3	<input checked="" type="checkbox"/>		Grade of C		
LES 305: Legal, Ethical, Regulatory Issues in Business	3	<input checked="" type="checkbox"/>		Grade of C		
Select 1 additional course from: CON 377: Residential Construction Production Procedures (3 hrs) CON 477: Residential Construction Business Practices (3 hrs) MKT 395: Essentials of Advertising and Marketing Communication (3 hrs) REA 380: Real Estate Fundamentals (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses		
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input type="checkbox"/>				
Upper division Elective	3	<input checked="" type="checkbox"/>				
<b>TERM SUMMER 3<sup>rd</sup> Year: 1 CREDIT HOUR</b>						
CON 484: Internship	1	<input checked="" type="checkbox"/>		Grade of C		

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
CON 450: Geotechnical Applications for Construction	4	<input checked="" type="checkbox"/>		Grade of C	
CON 453: Construction Project Management I	3	<input checked="" type="checkbox"/>		Grade of C	
CON 495: Construction Planning and Scheduling	4	<input checked="" type="checkbox"/>		Grade of C	
Select 1 additional course from: CON 377: Residential Construction Production Procedures (3 hrs) CON 477: Residential Construction Business Practices (3 hrs) MKT 395: Essentials of Advertising and Marketing Communication (3 hrs) REA 380: Real Estate Fundamentals (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses	
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
CON 424: Structural Design	3	<input checked="" type="checkbox"/>		Grade of C	
CON 455: Construction Project Management II	4	<input checked="" type="checkbox"/>		Grade of C	
CON 496: Construction Contract Administration (L)	3	<input checked="" type="checkbox"/>		Grade of C	
Select remaining course from: CON 377: Residential Construction Production Procedures (3 hrs) CON 477: Residential Construction Business Practices (3 hrs) MKT 395: Essentials of Advertising and Marketing Communication (3 hrs) REA 380: Real Estate Fundamentals (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON courses	

**Graduation Requirements Summary:**

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**General University Requirements: Legend**

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  - Literacy and Critical Inquiry (L)
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  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAT 265; PHY 111, 113 each with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 111/113: General Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
CON 101: Construction and Culture: A Built Environment (HU, G, H)	3	<input type="checkbox"/>			
CON 194: Special Topics: Introduction to Construction	2	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>COM 225: Public Speaking (L)</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete COM 225, CON 252</li> </ul>
<b>CON 252: Building Construction Methods, Materials, Equipment</b>	3	<input type="checkbox"/>			
ECN 211: Macroeconomic Principles (SB)	3	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>CON 221: Applied Statics</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CON 221, 243 with a minimum grade of "C"; CON 251; ECN 212; ENG 102 or 108 or 105 with a minimum grade of "C"; STP 226</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
<b>CON 243: Heavy Construction Equipment, Methods, Materials</b>	3	<input type="checkbox"/>		Grade of C	
<b>CON 251: Microcomputer Applications for Construction</b>	3	<input type="checkbox"/>			
ECN 212: Microeconomic Principles (SB)	3	<input type="checkbox"/>			
STP 226: Elements of Statistics (CS)	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b>CON 223: Strength of Materials</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete CON 223 with a minimum grade of "C"</li> </ul>
CON 241: Surveying	3	<input type="checkbox"/>			
CON 273: Electrical Construction Fundamental and Project Management	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C)	3	<input type="checkbox"/>			
Science Quantitative (SQ) or Science General (SG)	4	<input type="checkbox"/>			
<b>TERM SUMMER 2<sup>nd</sup> Year: 1 CREDIT HOUR</b>					
CON 296: Field Internship	1	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
CON 310: Testing and Materials for Construction	3	<input checked="" type="checkbox"/>		Grade of C	
CON 345: Mechanical Systems	4	<input checked="" type="checkbox"/>		Grade of C	
CON 371: Construction Safety	3	<input checked="" type="checkbox"/>		Grade of C	
CON 383: Construction Estimating	4	<input checked="" type="checkbox"/>		Grade of C	
Select 1 CON 468: Mechanical and Electrical Estimating (3 hrs) CON 471: Mechanical and Electrical Project (3 hrs) CON 494: Special Topics: Cleanroom Construction (3 hrs) Upper division elective (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON Courses	
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
CON 389: Construction Cost Accounting and Control (CS)	3	<input checked="" type="checkbox"/>		Grade of C	
LES 305: Legal, Ethical, Regulatory Issues in Business	3	<input checked="" type="checkbox"/>		Grade of C	
Select 1 additional course from: CON 468: Mechanical and Electrical Estimating (3 hrs) CON 471: Mechanical and Electrical Project (3 hrs) CON 494: Special Topics: Cleanroom Construction (3 hrs) Upper division elective (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON Courses	
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			
Upper division elective	3	<input checked="" type="checkbox"/>			
<b>TERM SUMMER 3<sup>rd</sup> Year: 1 CREDIT HOUR</b>					
CON 484: Internship	1	<input checked="" type="checkbox"/>		Grade of C	

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
CON 450: Geotechnical Applications for Construction	4	<input checked="" type="checkbox"/>		Grade of C	
CON 453: Construction Project Management I	3	<input checked="" type="checkbox"/>		Grade of C	
CON 495: Construction Planning and Scheduling	4	<input checked="" type="checkbox"/>		Grade of C	
Select 1 additional course from: CON 468: Mechanical and Electrical Estimating (3 hrs) CON 471: Mechanical and Electrical Project (3 hrs) CON 494: Special Topics: Cleanroom Construction (3 hrs) Upper division elective (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON Courses	
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
CON 424: Structural Design	3	<input checked="" type="checkbox"/>		Grade of C	
CON 455: Construction Project Management II	4	<input checked="" type="checkbox"/>		Grade of C	
CON 496: Construction Contract Administration	3	<input checked="" type="checkbox"/>		Grade of C	
Select remaining course from: CON 468: Mechanical and Electrical Estimating (3 hrs) CON 471: Mechanical and Electrical Project (3 hrs) CON 494: Special Topics: Cleanroom Construction (3 hrs) Upper division elective (3 hrs)	3	<input checked="" type="checkbox"/>		Grade of C in CON Courses	

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Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

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  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
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  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
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**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes	
<b>TERM ONE: 0 15 CREDIT HOURS</b>						
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• <b>Complete MAT 265 with a minimum grade of C.</b></li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>* CHM 113 is a prerequisite and does not apply towards degree credit</li> <li>**If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II * (SQ)	4	<input type="checkbox"/>				
# CSE 100: Principles of Programming with C++ (CS) OR # EEE 120: Digital Design Fundamentals	3	<input type="checkbox"/>				
# <b>EEE 101: Introduction to Engineering Design</b> OR BME 111: Engineering Perspectives on Biological Systems	2 or 3	<input type="checkbox"/>				
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C		
ENG 101 and 102: First-Year Composition OR ENG 107 and 108: English for Foreign Students OR ENG 105: Advanced First-Year Composition **	3	<input type="checkbox"/>		Grade of C		
<b>TERM TWO: 16 30 CREDIT HOURS</b>						
# CSE 100: Principles of Programming with C++ (CS) OR # EEE 120: Digital Design Fundamentals	3	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>• <b>Complete EEE 101</b></li> <li>• <b>Complete MAT 266; PHY 121 &amp; 122 each with a minimum grade of "C"</b></li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# <b>EEE 101: Introduction to Engineering Design</b> OR BME 111: Engineering Perspectives on Biological Systems	2 or 3	<input type="checkbox"/>				
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C		
<b>PHY 121/122: University Physics I/Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C		
ENG 101 and 102: First-Year Composition OR ENG 107 and 108: English for Foreign Students OR ENG 105: Advanced First-Year Composition **	3	<input type="checkbox"/>		Grade of C		
<b>TERM THREE: 31 45 CREDIT HOURS</b>						
# <b>EEE 202: Circuits I</b>	4	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• <b>Complete EEE 202; MAT 267, 274 or 275 and PHY 131, 132 with a minimum grade of "C"</b></li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C		
<b>MAT 274: Elementary Differential Equations (MA) OR MAT 275: Modern Differential Equations (MA)</b>	3	<input type="checkbox"/>		Grade of C		
PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory II (SQ)	3/1	<input type="checkbox"/>		Grade of C		
<b>TERM FOUR: 46 60 CREDIT HOURS</b>						
# <b>EEE 203: Signals and Systems I</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• <b>Complete EEE 203 and EEE 241</b></li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
# <b>EEE 241: Fundamentals of Electromagnetics</b>	3	<input type="checkbox"/>				
MAT 342: Linear Algebra (MA) OR MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>		Grade of C		
PHY 241: University Physics III	3	<input type="checkbox"/>		Grade of C		
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>				
<b>TERM FIVE: 61 75 CREDIT HOURS</b>						
# <b>EEE 334: Circuits II</b>	4	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• Area Pathway Courses: (choose 4) EEE 304, 333, 335, 341, 352, 360. Area Pathway courses are prerequisites for Technical Electives. See Advisor for guidance in selection.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
# <b>EEE 350: Random Signal Analysis</b>	3	<input checked="" type="checkbox"/>				
# <b>EEE 230: Computer Organization and Assembly Language Programming</b>	3	<input type="checkbox"/>				
# Area Pathway Course	4	<input checked="" type="checkbox"/>				
<b>TERM SIX: 76 90 CREDIT HOURS</b>						
ECN 211/212 (SB): Macroeconomic Principles/Microeconomic Principles or ECN 201: Economic Issues & Analysis (SB)	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Area Pathway Courses: (choose 4) EEE 304, 333, 335, 341, 352, 360. Area Pathway courses are prerequisites for Technical Electives. See Advisor for guidance in selection.</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
# Area Pathway Course	4	<input checked="" type="checkbox"/>				
# Area Pathway Course	4	<input checked="" type="checkbox"/>				
# Area Pathway Course	4	<input checked="" type="checkbox"/>				
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>						
# <b>EEE 488: Senior Design Laboratory I (L)</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• See Degree Audit Reporting System (DARS) for approved list of Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>				
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>				
# Technical Elective	3	<input checked="" type="checkbox"/>				
# Technical Elective	3	<input checked="" type="checkbox"/>				
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>						
# <b>EEE 489: Senior Design Laboratory II (L)</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• See Degree Audit Reporting System (DARS) for approved list of Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>	
# Technical Elective	3	<input checked="" type="checkbox"/>				
# Technical Elective	3	<input checked="" type="checkbox"/>				
# Technical Elective	3	<input checked="" type="checkbox"/>				
UD Humanities, Fine Arts & Design (HU) OR Social Behavioral & Science (SB)	3	<input checked="" type="checkbox"/>				

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

**Major Map: Electrical Engineering  
(Electric Power and Energy Systems) –  
Bachelor of Science in Engineering (B.S.E.)  
Ira A. Fulton School of Engineering, Tempe Campus  
Catalog Year: 2008-2009**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAT 265 with a minimum grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> * CHM 113 is a prerequisite and does not apply towards degree credit **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor. # Designates Major course: A minimum cumulative GPA of 2.0 required.
CHM 114: General Chemistry for Engineers OR CHM 116: General Chemistry II *	4	<input type="checkbox"/>			
# CSE 100: Principles of Programming with C++ (CS) OR # EEE 120: Digital Design Fundamentals	3	<input type="checkbox"/>			
# EEE 101: Introduction to Engineering Design OR BME 111: Engineering Perspectives on Biological Systems	2 or 3	<input type="checkbox"/>			
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
# CSE 100: Principles of Programming with C++ (CS) OR # EEE 120: Digital Design Fundamentals	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete EEE 101</li> <li>• Complete MAT 266; PHY 121 &amp; 122 each with a minimum grade of "C"</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
# EEE 101: Introduction to Engineering Design OR BME 111: Engineering Perspectives on Biological Systems	2 or 3	<input type="checkbox"/>			
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
# EEE 202: Circuits I	4	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete EEE 202; MAT 267, 274 or 275 and PHY 131, 132 with a minimum grade of "C"</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 274: Elementary Differential Equations (MA) OR MAT 275: Modern Differential Equations (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
# EEE 203: Signals and Systems I	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete EEE 203 and EEE 241</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
# EEE 241: Fundamentals of Electromagnetics	3	<input type="checkbox"/>			
MAT 342: Linear Algebra OR MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>		Grade of C	
PHY 241: University Physics III	3	<input type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
# EEE 230: Computer Organization and Assembly Language Programming	3	<input type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# EEE 334: Circuits II	4	<input checked="" type="checkbox"/>			
# EEE 350: Random Signal Analysis	3	<input checked="" type="checkbox"/>			
# EEE 360: Energy Systems and Power Electronics	4	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
ECN 211/212 (SB): Macroeconomic Principles/Microeconomic Principles or ECN 201: Economic Issues & Analysis (SB)	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Area Pathway Courses: (choose 3) EEE 304, 333, 335, 341, 352. Area Pathway courses are prerequisites for Technical Electives. See Advisor for guidance in selection.</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
# Area Pathway Course	4	<input checked="" type="checkbox"/>			
# Area Pathway Course	4	<input checked="" type="checkbox"/>			
# Area Pathway Course	4	<input checked="" type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
# EEE 488: Senior Design Laboratory I (L)	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
Select 2					
# EEE 460: Nuclear Concepts for the 21 <sup>st</sup> Century (3 hrs)					
# EEE 463: Electrical Power Plant (3 hrs)					
# EEE 470: Electric Power Devices (3 hrs)					
# EEE 471: Power System Analysis (3 hrs)					
# EEE 473: Electrical Machinery (3 hrs)					
# EEE 498: Pro-Seminar (Power Elec.) (3 hrs)					
# EEE 498: Pro-Seminar (Solar Energy) (3 hrs)	6	<input checked="" type="checkbox"/>			
GCU 364: Energy in the Global Arena (SB, G)	3	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), or Historical Awareness (H)	3	<input type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# EEE 489: Senior Design Laboratory II (L)	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• See Degree Audit Reporting System (DARS) for approved list of Technical Electives</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
Select 1 not previously selected:					
# EEE 460: Nuclear Concepts for the 21 <sup>st</sup> Century (3 hrs)					
# EEE 463: Electrical Power Plant (3 hrs)					
# EEE 470: Electric Power Devices (3 hrs)					
# EEE 471: Power System Analysis (3 hrs)					
# EEE 473: Electrical Machinery (3 hrs)					
# EEE 498: Pro-Seminar (Power Elec.) (3 hrs)	3	<input checked="" type="checkbox"/>			
# EEE 498: Pro-Seminar (Solar Energy) (3 hrs)	3	<input checked="" type="checkbox"/>			
# Technical Elective	3	<input checked="" type="checkbox"/>			
# Technical Elective	3	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input type="checkbox"/>			

# Designates Major Course: A minimum cumulative GPA of 2.0 required.

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**



**Major Map: Engineering Special Studies  
(Pre-medical Engineering) –  
Bachelor of Science in Engineering (B.S.E.)  
Ira A. Fulton School of Engineering, Tempe Campus  
Catalog Year: 2008-2009**

Course Subject and Title (courses in bold/shading are critical)	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	Additional Critical Requirement Notes	
			Transfer Course/Grade	Minimum Grade if Required			
<b>TERM ONE: 0 15 CREDIT HOURS</b>							
ASU 101: The ASU Experience	1	<input type="checkbox"/>				<ul style="list-style-type: none"> <li>Complete BME 100 with a minimum grade of "C" or BIO 188</li> <li>Complete MAT 265 with a minimum grade of "C"</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>** If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>	
<b>BME 100: Introduction to Bioengineering OR BIO 188: General Biology II (CS)</b>	2 or 4	<input type="checkbox"/>		Grade of C in BME 100			
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C			
CHM 113: General Chemistry I (SQ)	4	<input type="checkbox"/>					
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C			
<b>TERM TWO: 16 30 CREDIT HOURS</b>							
<b>BME 100: Introduction to Bioengineering OR BIO 188: General Biology II (SQ)</b>	2 or 4	<input type="checkbox"/>		Grade of C in BME 100	<ul style="list-style-type: none"> <li>Complete BIO 188; BME 100 with a minimum grade of "C"; CHM 116; MAT 266 with a minimum grade of "C"; PHY 121 &amp; 122</li> </ul>		
CHM 116: General Chemistry II (SQ)	4	<input type="checkbox"/>					
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C			
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>					
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C			
<b>TERM THREE: 31 45 CREDIT HOURS</b>							
<b>BME 235: Physiology for Engineers</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete PHY 131 &amp; 132</li> <li>Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>		
<b>PHY 131/132: University Physics II Electricity and Magnetism/Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>					
CHM 233/237: General Organic Chemistry I/Laboratory I	3/1	<input type="checkbox"/>					
CSE 100: Principles of Programming with C++ (CS)	3	<input type="checkbox"/>					
<b>TERM FOUR: 46 60 CREDIT HOURS</b>							
<b>BME 200: Conservation Principles in Bioengineering</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete BME 200, 235 each with a minimum grade of "C"</li> </ul>		
EEE 202: Circuits I	4	<input type="checkbox"/>					
MAE 212: Engineering Mechanics	4	<input type="checkbox"/>					
MAT 275: Modern Differential Equations (MA)	3	<input type="checkbox"/>					
CHM 234/238: General Organic Chemistry II/Laboratory II OR Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	4 or 3	<input type="checkbox"/>					
<b>TERM FIVE: 61 75 CREDIT HOURS</b>							
# BME 318: Biomaterials	4	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.		
# BME 350: Signals and Systems for Bioengineering	3	<input checked="" type="checkbox"/>		Grade of C			
# CHM 341: Elementary Physical Chemistry	3	<input checked="" type="checkbox"/>					
# MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>					
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>					
<b>TERM SIX: 76 90 CREDIT HOURS</b>							
# BME 300: Bioengineering Product Design	3	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.		
# BME 331: Bioengineering Transport Phenomena	3	<input checked="" type="checkbox"/>		Grade of C			
# BME 370: Microcomputer Applications in Bioengineering	3	<input checked="" type="checkbox"/>		Grade of C			
CHM 234/238: General Organic Chemistry II/Laboratory II OR Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H) if CHM 234/238 completed	4 or 3	<input type="checkbox"/>					
# IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input type="checkbox"/>					
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>							
# BME 413: Biomedical Instrumentation (BME 413 + 423 = L)	3	<input checked="" type="checkbox"/>		Grade of C	# Designates Major Course: A minimum cumulative GPA of 2.0 required.		
# BME 417: Biomedical Engineering Capstone Design I (L)	4	<input checked="" type="checkbox"/>		Grade of C			
# BME 423: Biomedical Instrumentation Laboratory	1	<input checked="" type="checkbox"/>		Grade of C			
# BME 434: Applications of Bioengineering OR # BME 416: Biomechanics OR # BME 419: Biocontrol Systems	3	<input checked="" type="checkbox"/>		Grade of C			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>					
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>							
# BME 490: Biomedical Engineering Capstone Design II	4	<input checked="" type="checkbox"/>		Grade of C		# Designates Major Course: A minimum cumulative GPA of 2.0 required.	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input checked="" type="checkbox"/>					
# Technical Elective	1	<input checked="" type="checkbox"/>		Grade of C			
UD Humanities, Fine Arts & Design (HU) OR Social Behavioral Science (SB)	3	<input checked="" type="checkbox"/>					

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

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  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete at least one of: BME 111; CSE 110 (or 100) with a minimum grade of "C"; IEE 100 with a minimum grade of "C"; MAT 265 with a minimum grade of "C"</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>** If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> </ul>
<b>IEE 100: Intro to Engineering Design OR CSE 110: Principles of Programming with Java (or CSE 100: Principles of Programming with C++) (CS)</b>	2 or 3	<input type="checkbox"/>		Grade of C	
<b>BME 111: Engineering Perspectives on Biological Systems</b>	3	<input type="checkbox"/>			
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>IEE 100: Intro to Engineering Design OR CSE 110: Principles of Programming with Java (or CSE 100: Principles of Programming with C++) (CS)</b>	2 or 3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete               <ul style="list-style-type: none"> <li>- CSE 110 (or 100) with a minimum grade of "C", OR PHY 121 &amp; 122 with a minimum grade of "C"</li> <li>- ENG 101 or 107 or 105 with minimum grade of "C"</li> <li>- IEE 100 with a minimum grade of "C"</li> <li>- MAT 265 with a minimum grade of "C"</li> </ul> </li> </ul>
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>			
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>ECN 211: Macroeconomic Principles (SB)</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>Complete CSE 110 (or 100) with a minimum grade of "C", PHY 121 &amp; 122 with a minimum grade of "C"</li> <li>Complete ECN 211; BME 111; MAT 266 with a minimum grade of "C";</li> <li>Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul>
CSE 205: Concepts of Computer Design and Data (CS)	3	<input type="checkbox"/>			
IEE 210: Introduction to Industrial Engineering	2	<input type="checkbox"/>		Grade of C	
MAT 267: Calculus for Engineers III	3	<input type="checkbox"/>			
PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory II (SQ)	3/1	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b>IEE 220: Business/Industrial Engineering</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Complete IEE 220 with a minimum grade of "C"</li> <li>*CHM 113 is a prerequisite and does not apply towards degree credit</li> </ul>
CHM 114: General Chemistry for Engineers OR CHM 116: General Chemistry II *	4	<input type="checkbox"/>			
MAT 242: Elementary Linear Algebra	2	<input type="checkbox"/>			
MAT 275: Modern Differential Equations (MA)	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
IEE 300: Economic Analysis for Engineers	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 305: Information Systems Engineering	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 380: Probability and Statistics for Engineering Problem Solving	3	<input checked="" type="checkbox"/>		Grade of C	
Choose 2: EEE 202: Circuits I (4 hrs) MAE 212: Engineering Mechanics (4 hrs) MSE 250: Structure and Properties of Materials (3 hrs)	7 or 8	<input type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
IEE 385: Engineering Statistics - Probability	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 376: Operational Research Deterministic Technology	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 368: Facilities Analysis and Design (L) OR IEE 369: Work Analysis and Design (L)	3	<input checked="" type="checkbox"/>		Grade of C	
Choose remaining 1: EEE 202: Circuits I (4 hrs) MAE 212: Engineering Mechanics (4 hrs) MSE 250: Structure and Properties of Materials (3 hrs)	3 or 4	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
IEE 470: Stochastic Operations Research	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 474: Quality Control	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 475: Simulating Stochastic Systems	3	<input checked="" type="checkbox"/>		Grade of C	
Career Focused Elective	3	<input checked="" type="checkbox"/>			
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
IEE 461: Production Control	3	<input checked="" type="checkbox"/>		Grade of C	
IEE 490: Project in Design/Development (L)	3	<input checked="" type="checkbox"/>		Grade of C	
IEE Technical Elective	3	<input checked="" type="checkbox"/>		Grade of C	
Career Focused Elective	3	<input checked="" type="checkbox"/>			
Career Focused Elective	3	<input checked="" type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No	Completed AGECE: <input type="checkbox"/> Yes <input type="checkbox"/> No	Additional Critical Requirement Notes
Transfer Course/Grade	Minimum Grade if Required				
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAT 265 with a minimum grade of “C”; CHM 113 or 114; MSE 100.</li> <li>• Minimum CUM ASU 2.0 GPA required</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> <li>• **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor.</li> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 113/116 : General Chemistry I/General Chemistry II (SQ)</b>	4	<input type="checkbox"/>			
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C	
<b># MSE 100: Introduction of Materials Engineering</b>	2	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• MSE 250 must be completed by the end of the 4<sup>th</sup> semester</li> <li>• CHM 116 must be completed for those who took CHM 113</li> <li>• Complete MAT 266 with a minimum grade of “C”; and PHY 121 &amp; 122</li> <li>• Minimum CUM ASU 2.0 GPA required</li> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># MSE 250: Structure and Properties of Materials</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>			
ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students	3	<input type="checkbox"/>		Grade of C	
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete MAT 267 with a minimum grade of “C”; and PHY 131 &amp; 132</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 OR ENG 107 &amp; 108 or ENG 105</li> <li>• Minimum CUM ASU 2.0 GPA required</li> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>PHY 131/132: University Physics II Electricity and Magnetism/Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>			
BME 111: Engineering Perspectives on Biological Systems	3	<input type="checkbox"/>			
#MSE 215: Materials Synthesis	3	<input type="checkbox"/>			
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
MAT 275: Modern Differential Equations (MA)	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Minimum CUM ASU 2.0 GPA required</li> <li>• MSE 250 must be completed with a minimum grade of “C”.</li> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
MAT 343: Applied Linear Algebra	3	<input type="checkbox"/>			
# MSE 211: Introduction to Mechanics of Materials	3	<input type="checkbox"/>			
IEE 220: Business/Industrial Engineering	3	<input type="checkbox"/>			
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
Math or Science Elective	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# MSE 315: Mathematical and Computer Methods in Materials (CS)	3	<input checked="" type="checkbox"/>			
# MSE 330: Thermodynamics of Materials	3	<input checked="" type="checkbox"/>			
# MSE 355: Materials Structure and Microstructure	3	<input checked="" type="checkbox"/>			
# MSE 356: Materials Structure and Microstructure Laboratory	1	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G) or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
# MSE 335: Materials Kinetics and Processing	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# MSE 358: Introduction to Electronic, Magnetic, & Optical Properties	3	<input checked="" type="checkbox"/>			
# MSE 420: Physical Metallurgy	3	<input checked="" type="checkbox"/>			
# MSE 421: Physical Metallurgy Laboratory	1	<input checked="" type="checkbox"/>			
# MSE 450: Introduction to Materials Characterization	3	<input checked="" type="checkbox"/>			
# MSE 451: Introduction to Materials Characterization Laboratory	1	<input checked="" type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
# MSE 440: Mechanical Properties of Solids	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# MSE 470: Polymers and Composites	3	<input checked="" type="checkbox"/>			
# MSE 471: Introduction to Ceramics	3	<input checked="" type="checkbox"/>			
# MSE 482: Materials Engineering Design (L)	3	<input checked="" type="checkbox"/>			
# Advanced Science Elective	3	<input checked="" type="checkbox"/>			
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# MSE 490: Capstone Design Project (L)	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li>• # Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
# MSE Technical Elective	3	<input type="checkbox"/>			
# MSE Technical Elective	3	<input type="checkbox"/>			
# Advanced Science Elective	3	<input checked="" type="checkbox"/>			
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours (120 minimum)	Total Hrs at ASU (30 minimum)	Hrs Resident Credit for Academic Recognition (56 minimum)	Major GPA (2.00 Min.)	Total UD Hrs (45 minimum)	Total Comm. College Hrs. (64 maximum)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115 or MAE 100 with a minimum grade of “C”</li> <li>• Complete MAT 265 with a min grade of “C”</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> *CHM 113 is a prerequisite and does not apply towards degree credit **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor. # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 115: General Chemistry with Qualitative Analysis (SQ) OR CHM 116: General Chemistry II* (SQ)</b>	4	<input type="checkbox"/>		Grade of C	
<b># MAE 100: Intro to Mechanical and Aerospace Engineering OR Humanities, Fine Arts &amp; Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)</b>	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b># MAE 100: Introduction to Mechanical and Aerospace Engineering or, if completed take Humanities, Fine Arts &amp; Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)</b>	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115; MAE 100; MAT 266; PHY 121, 122 with a minimum grade of “C”</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b># MAE 212: Engineering Mechanics</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete ENG 102 or 108 or 105; MAE 212; MAT 275; PHY 131, 132 with a minimum grade of “C”</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>MAT 275: Modern Differential Equations</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory II</b>	3/1	<input type="checkbox"/>		Grade of C	
<b># MAE 214: Computer-Aided Engineering I</b>	1	<input type="checkbox"/>			
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b># MAE 213: Solid Mechanics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAE 213, 240</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 240: Thermofluids I</b>	4	<input type="checkbox"/>			
CHM 231: Elementary Organic Chemistry OR CHM 240: Intro to Physical Chemistry	3	<input type="checkbox"/>		Grade of C	
<b>MAT 343: Applied Linear Algebra</b>	3	<input checked="" type="checkbox"/>		Grade of C	
<b># MSE 250: Structure and Properties of Materials</b>	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
BME 111: Engineering Perspectives on Biological Systems (or dept approved BIO) OR <b># MAE 340: Thermofluids II</b>	3	<input type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
<b># EEE 202: Circuits I</b>	4	<input type="checkbox"/>			
<b># MAE 322: Structural Mechanics</b>	4	<input checked="" type="checkbox"/>			
<b># MAE 323: Computer-Aided Engineering II</b>	2	<input checked="" type="checkbox"/>			
<b># MAE 384: Numerical Methods for Engineers (CS)</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
BME 111: Engineering Perspectives on Biological Systems (or dept approved BIO) or, if completed take <b># MAE 340: Thermofluids II</b>	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
<b># MAE 318: Sensors and Controls</b>	5	<input checked="" type="checkbox"/>			
<b># MAE 342: Principles of Mechanical Design</b>	3	<input checked="" type="checkbox"/>			
<b># Technical Elective OR Social &amp; Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
<b># MAE 488: Mechanical Engineering Design I</b>	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H); or if completed take <b># Technical Elective</b>	3	<input type="checkbox"/>			
Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
<b># Technical Elective</b>	3	<input checked="" type="checkbox"/>			
<b># Technical Elective</b>	3	<input checked="" type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# MAE 400: Engineering Profession (L)	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
# MAE 489: Mechanical Engineering Design II	3	<input checked="" type="checkbox"/>			
# MAE 491: Experimental Mechanical Engineering (L)	3	<input checked="" type="checkbox"/>			
# Technical Elective	3	<input checked="" type="checkbox"/>			
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**



**Major Map: Mechanical Engineering  
(Computational and Mathematical Mechanics) –  
Bachelor of Science in Engineering (B.S.E.)  
Ira A. Fulton School of Engineering, Tempe Campus  
Catalog Year: 2008-2009**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGE: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115 or MAE 100 with a minimum grade of "C"</li> <li>• Complete MAT 265 with a min grade of "C"</li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> *CHM 113 is a prerequisite and does not apply towards degree credit **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor. # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>CHM 114: General Chemistry for Engineers (SQ) OR CHM 115: General Chemistry with Qualitative Analysis (SQ) OR CHM 116: General Chemistry II* (SQ)</b>	4	<input type="checkbox"/>		Grade of C	
<b># MAE 100: Introduction to Mechanical and Aerospace Engineering OR</b>	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	
PHI 103: Principles of Sound Reasoning (HU)	3	<input type="checkbox"/>		Grade of C	
<b>MAT 265: Calculus for Engineers I (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b># MAE 100: Intro to Mechanical and Aerospace Engineering , or if completed take</b>	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	<ul style="list-style-type: none"> <li>• Complete CHM 114 or 116 or 115; MAE 100; MAT 266; PHY 121, 122 with a minimum grade of "C"</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
PHI 103: Principles of Sound Reasoning (HU)	3	<input type="checkbox"/>		Grade of C	
<b>MAT 266: Calculus for Engineers II</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics I/ Laboratory I (SQ)</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b># MAE 212: Engineering Mechanics</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• Complete ENG 102 or 108 or 105; MAT 275; PHY 131, 132; MAE 212 with a minimum grade of "C"</li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b>MAT 275: Modern Differential Equations</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory II (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b># MAE 214: Computer-Aided Engineering I</b>	1	<input type="checkbox"/>			
MAT 267: Calculus for Engineers III	3	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b># MAE 213: Solid Mechanics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• Complete MAE 213, 240.</li> </ul> # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 240: Thermofluids I</b>	4	<input type="checkbox"/>			
<b># CSE 100: Principles of Programming with C++ (CS) OR # CSE 110: Principles of Programming with Java (CS)</b>	3	<input type="checkbox"/>			
MAT 343: Applied Linear Algebra	3	<input checked="" type="checkbox"/>		Grade of C	
<b># MSE 250: Structure and Properties of Materials</b>	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
<b>BME 111: Engineering Perspectives on Biological Systems (or dept approved BIO) OR # MAE 340: Thermofluids II</b>	3	<input type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
<b># EEE 202: Circuits I</b>	4	<input type="checkbox"/>			
<b># MAE 322: Structural Mechanics</b>	4	<input checked="" type="checkbox"/>			
<b># MAE 323: Computer-Aided Engineering II</b>	2	<input checked="" type="checkbox"/>			
<b># MAE 384: Numerical Methods for Engineers (CS)</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
<b>BME 111: Engineering Perspectives on Biological Systems (or dept approved BIO), or if completed take # MAE 340: Thermofluids II</b>	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
<b># MAE 318: Sensors and Controls</b>	5	<input checked="" type="checkbox"/>			
<b># MAE 342: Principles of Mechanical Design</b>	3	<input checked="" type="checkbox"/>			
<b># Technical Elective OR Social &amp; Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)</b>	3	<input checked="" type="checkbox"/>			
<b># Technical Elective</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
<b># MAE 400: Engineering Profession (L) OR # Technical Elective</b>	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
<b># MAE 488: Mechanical Engineering Design I</b>	3	<input checked="" type="checkbox"/>			
<b>Humanities, Fine Arts &amp; Design (HU) AND Cultural Diversity in the US (C), Global Awareness, (G), or Historical Awareness (H)</b>	3	<input type="checkbox"/>			
<b>Social &amp; Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H): OR if completed take # Technical Elective</b>	3	<input type="checkbox"/>			
<b>Technical Elective</b>	3	<input checked="" type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# MAE 400: Engineering Profession, or if completed take # Technical Elective	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required
# MAE 489: Mechanical Engineering Design II	3	<input checked="" type="checkbox"/>			
# MAE 491: Experimental Mechanical Engineering (L)	3	<input checked="" type="checkbox"/>			
# Technical Elective	3	<input type="checkbox"/>			
UD Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input checked="" type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours (120 minimum)	Total Hrs at ASU (30 minimum)	Hrs Resident Credit for Academic Recognition (56 minimum)	Major GPA (2.00 Min.)	Total UD Hrs (45 minimum)	Total Comm. College Hrs. (64 maximum)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

**Major Map: Mechanical Engineering  
(Energy and Environment) –  
Bachelor of Science in Engineering (B.S.E.)  
Ira A. Fulton School of Engineering, Tempe Campus  
Catalog Year: 2008-2009**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM ONE: 0 15 CREDIT HOURS</b>					
ASU 101: The ASU Experience	1	<input type="checkbox"/>			
<b>CHM 114: General Chemistry for Engineers(SQ) OR CHM 115: General Chemistry with Qualitative Analysis (SQ) OR CHM 116: General Chemistry II* (SQ)</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• <b>Complete CHM 114 or 116 or 115 or MAE 100 with a minimum grade of "C"</b></li> <li>• <b>Complete MAT 265 with a min grade of "C"</b></li> <li>• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>• ASU Math Placement Exam score determines placement in Mathematics course</li> </ul> *CHM 113 is a prerequisite and does not apply towards degree credit **If ENG 105 a 3 hr applicable elective must also be taken prior to graduation. See Advisor. # Designates Major Course: A minimum cumulative GPA of 2.0 required.
<b># MAE 100: Introduction to Mechanical and Aerospace Engineering OR</b> Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness, (G), or Historical Awareness (H)	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	
<b>MAT 265: Calculus for Engineers I</b>	3	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
Social & Behavioral Science (SB) AND Cultural Diversity in the US (C), Global Awareness (G), or Historical Awareness (H)	3	<input type="checkbox"/>			
<b>TERM TWO: 16 30 CREDIT HOURS</b>					
<b># MAE 100: Intro to Mechanical and Aerospace Engineering, or if completed take</b> Humanities, Fine Arts & Design (HU) AND Cultural Diversity in the US (C), Global Awareness, (G), or Historical Awareness (H)	2 or 3	<input type="checkbox"/>		Grade of C in MAE 100	<ul style="list-style-type: none"> <li>• <b>Complete CHM 114 or 116 or 115; MAE 100; MAT 266; PHY 121, 122 with a minimum grade of "C"</b></li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>MAT 266: Calculus for Engineers II</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 121/122: University Physics/ Laboratory I (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition** OR ENG 107 or 108: English for Foreign Students</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM THREE: 31 45 CREDIT HOURS</b>					
<b># MAE 212: Engineering Mechanics</b>	4	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>• <b>Complete ENG 102 or 108 or 105 ; MAT 275; PHY 131, 132; MAE 212 with a minimum grade of "C"</b></li> <li>• Complete First Year Composition requirement: ENG 101 &amp; 102 or ENG 107 &amp; 108 or ENG 105</li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b>MAT 275: Modern Differential Equations (MA)</b>	3	<input type="checkbox"/>		Grade of C	
<b>PHY 131/132: University Physics II Electricity and Magnetism/ Laboratory (SQ)</b>	3/1	<input type="checkbox"/>		Grade of C	
<b># MAE 214: Computer-Aided Engineering I</b>	1	<input type="checkbox"/>			
<b>MAT 267: Calculus for Engineers III</b>	3	<input type="checkbox"/>		Grade of C	
<b>TERM FOUR: 46 60 CREDIT HOURS</b>					
<b># MAE 213: Solid Mechanics</b>	3	<input type="checkbox"/>			<ul style="list-style-type: none"> <li>• <b>Complete MAE 213, 240.</b></li> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># MAE 240: Thermofluids I</b>	4	<input type="checkbox"/>			
<b>CHM 231: Elementary Organic Chemistry</b>	3	<input type="checkbox"/>		Grade of C	
<b>MAT 343: Applied Linear Algebra</b>	3	<input checked="" type="checkbox"/>		Grade of C	
<b># MSE 250: Structure and Properties of Materials</b>	3	<input type="checkbox"/>			
<b>TERM FIVE: 61 75 CREDIT HOURS</b>					
<b>BIO 319 Environmental Science (G) or BIO 320: Fundamentals of Ecology; OR # MAE 340: Thermofluids II</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># EEE 202: Circuits I</b>	4	<input type="checkbox"/>			
<b># MAE 322: Structural Mechanics</b>	4	<input checked="" type="checkbox"/>			
<b># MAE 323: Computer-Aided Engineering II</b>	2	<input checked="" type="checkbox"/>			
<b># MAE 384: Numerical Methods for Engineers (CS)</b>	3	<input checked="" type="checkbox"/>			
<b>TERM SIX: 76 90 CREDIT HOURS</b>					
<b>BIO 319 Environmental Science (G) or BIO 320: Fundamentals of Ecology; OR if completed take # MAE 340: Thermofluids II</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># MAE 318: Sensors and Controls</b>	5	<input checked="" type="checkbox"/>			
<b># MAE 342: Principles of Mechanical Design</b>	3	<input checked="" type="checkbox"/>			
<b>GCU 364: Energy in the Global Arena (SB, G) or PUP 190: Sustainable Cities (HU, G or SB,G); OR # Technical Elective</b>	3	<input type="checkbox"/>			
<b># Technical Elective</b>	3	<input type="checkbox"/>			
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>					
<b># MAE 382: Thermodynamics</b>	3	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># Designates Major Course: A minimum cumulative GPA of 2.0 required.</li> </ul>
<b># MAE 400: Engineering Profession (L) OR # Technical Elective</b>	3	<input checked="" type="checkbox"/>			
<b># MAE 491: Experimental Mechanical Engineering (L) OR # Technical Elective</b>	3	<input checked="" type="checkbox"/>			
<b>GCU 364: Energy in the Global Arena (SB,G) or PUP 190: Sustainable Cities (HU, G or SB,G); OR if completed take # Technical Elective</b>	3	<input checked="" type="checkbox"/>			
<b>GPH 314: Global Change (HU,G) or PHI 310: Environmental Ethics (HU)</b>	3	<input checked="" type="checkbox"/>			

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Transfer Course/Grade	Minimum Grade if Required	Additional Critical Requirement Notes
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>					
# MAE 400: Engineering Profession (L) if completed take # Technical Elective	3	<input checked="" type="checkbox"/>			# Designates Major Course: A minimum cumulative GPA of 2.0 required.
# MAE 446: Energy Systems Design	3	<input checked="" type="checkbox"/>			
# MAE 491: Experimental Mechanical Engineering (L) if completed take # Technical Elective	3	<input checked="" type="checkbox"/>			
# Technical Elective	3	<input checked="" type="checkbox"/>			
Humanities, Fine Arts & Design (HU) OR Social & Behavioral Science (SB)	3	<input type="checkbox"/>			

**Graduation Requirements Summary:**

Total Hours Regular Curriculum (120)	Total Hrs at ASU (30 min)	Hrs Resident Credit for Academic Recognition (56 min)	Major GPA (2.000 Min. CUM GPA )	Total UD Hrs (45 min)	Total Comm. College Hrs. (64 Max)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
  - Mathematical Studies (MA)
  - Computer/Statistics/Quantitative applications (CS)
  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First Year Composition

**Additional Notes:**

Course Subject and Title <i>(courses in bold/shading are critical)</i>	Hrs.	Upper Division	Completed ATP: <input type="checkbox"/> Yes <input type="checkbox"/> No		Completed AGEC: <input type="checkbox"/> Yes <input type="checkbox"/> No	
			Transfer Course/Grade	Minimum Grade if Required	Additional Critical Tracking Notes	
<b>TERM ONE: 0 15 CREDIT HOURS</b>						
ASU 101: The ASU Experience	1	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>ASU 101 is for ASU freshman students only. Not required of transfer students</li> <li>An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses</li> <li>ASU Math Placement Exam score determines placement in Mathematics course</li> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
<b>ENG 101 and 102: First-Year Composition OR ENG 107 and 108: English for Foreign Students OR ENG 105: Advanced First-Year Composition</b>	3	<input type="checkbox"/>		Grade of C		
MAT 142: College Mathematics (MA) or higher	3	<input type="checkbox"/>				
Second Language	4	<input type="checkbox"/>		Grade of C		
<b>JMC 194: Grammar for Journalists</b>	1	<input type="checkbox"/>		Grade of Y		
<b>JMC 110: Principles and History of Journalism (SB) (includes English Grammar Exam)</b>	3	<input type="checkbox"/>		Grade of C		
<b>TERM TWO: 16 30 CREDIT HOURS</b>						
<b>ENG 101 and 102: First-Year Composition OR ENG 107 and 108: English for Foreign Students OR ENG 105: Advanced First-Year Composition</b>	3	<input type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
Statistics (CS)	3	<input type="checkbox"/>				
Second Language	4	<input type="checkbox"/>				
<b>JMC 201: News Reporting and Writing (L)</b>	3	<input type="checkbox"/>		Grade of C		
HST 109: United States to 1865 (HU/SB, H) OR HST 110: United States since 1865 (SB, H)	3	<input type="checkbox"/>				
<b>TERM THREE: 31 45 CREDIT HOURS</b>						
<b>JMC 301: Intermediate Reporting &amp; Writing (Print/PR/Digital) OR JMS 315: Intermediate Reporting &amp; Writing (Broadcast/Digital)</b>	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
HST Elective	3	<input type="checkbox"/>				
Natural Science – Quantitative (SQ)	4	<input type="checkbox"/>				
Second Language	3	<input type="checkbox"/>				
SOC 101: Intro to Sociology (SB)	3	<input type="checkbox"/>				
<b>TERM FOUR: 46 60 CREDIT HOURS</b>						
<b>JMC 313: Introduction to Editing (Print/PR/Digital) OR JMC 345: Videography (Broadcast/Digital)</b>	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
<b>JMC 366: Journalism Ethics and Diversity</b>	3	<input checked="" type="checkbox"/>		Grade of C		
Natural Science (SQ or SG)	4	<input type="checkbox"/>				
Second Language	3	<input type="checkbox"/>				
English Literature (HU)	3	<input type="checkbox"/>				
<b>TERM FIVE: 61 75 CREDIT HOURS</b>						
<b>JMC 425: Online Media</b>	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
Track class ***	3	<input checked="" type="checkbox"/>		Grade of C		
<b>JMC 484: Internship</b>	3	<input checked="" type="checkbox"/>		Grade of C		
PHI 101: Introduction to Philosophy (HU) OR PHI 103: Principles of Sound Reasoning (L or HU) OR PHI 105: Intro to Ethics (HU) OR PHI 305: Ethical Theory (HU) OR PHI 306: Applied Ethics (HU) OR PHI 309: Social and Political Philosophy (HU)	3	<input type="checkbox"/>				
PGS 101: Intro to Psychology (SB)	3	<input type="checkbox"/>				
Area of Specialization	3	<input checked="" type="checkbox"/>		Grade of C		
<b>TERM SIX: 76 90 CREDIT HOURS</b>						
<b>JMC 402: Mass Communication Law (L)</b>	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
POS 110: Government and Politics (SB) OR POS 310: American Government (SB)	3	<input type="checkbox"/>				
ECN 211: Macroeconomic Principles (SB) OR ECN 212: Microeconomic Principles (SB)	3	<input type="checkbox"/>				
Track class ***	3	<input checked="" type="checkbox"/>		Grade of C		
Area of Specialization	3	<input type="checkbox"/>		Grade of C		
<b>TERM SEVEN: 91 105 CREDIT HOURS</b>						
Track class ***	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
Area of Specialization	3	<input checked="" type="checkbox"/>		Grade of C		
Awareness Area – Global (G) or Free Elective	3	<input type="checkbox"/>				
<b>JMC/MCO Elective</b>	3	<input checked="" type="checkbox"/>		Grade of C		
<b>TERM EIGHT: 106 120 CREDIT HOURS</b>						
Track class *** or Upper Division Major elective	3	<input checked="" type="checkbox"/>		Grade of C	<ul style="list-style-type: none"> <li>Minimum 2.50 ASU cumulative GPA</li> </ul>	
Area of Specialization	3	<input checked="" type="checkbox"/>		Grade of C		
<b>JMC 494: Business of Journalism</b>	3	<input checked="" type="checkbox"/>		Grade of C		
Free Elective	3	<input type="checkbox"/>				

\*\*\*Track Classes:

**Broadcast**

JMC 330 AND  
JMC 475 (3-9 hours) OR  
JMC 437 and Broadcast Elective OR  
JMC 494: CNS Broadcast (3-9 hours)

**Print Journalism**

JMC 420 or 440 or 470 AND  
Cronkite News Service (3-9 hrs) OR  
2 Paired journalism/online electives  
(Chosen in cooperation with adviser)

**Public Relations**

JMC 310 AND  
JMC 415 AND  
JMC 417

**Digital Journalism**

JMC 494: Digital Media II AND  
JMC 494: Digital Media Entrepreneurship AND  
JMC 494: Multimedia Reporting OR Knight  
Center Independent Study OR New Media Innovation Lab

**Graduation Requirements Summary:**

Total Hours (120 minimum)	Total Hrs at ASU (30 minimum)	Hrs Resident Credit for Academic Recognition (56 minimum)	Major GPA (2.50 Min.)	Total UD Hrs (45 minimum)	Total Comm. College Hrs. (64 maximum)

**General University Requirements: Legend**

- General Studies Core Requirements:
  - Literacy and Critical Inquiry (L)
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  - Humanities, Fine Arts, and Design (HU)
  - Social and Behavioral Sciences (SB)
  - Natural Science-Quantitative (SQ)
  - Natural Science-General (SG)
- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)
- First-Year Composition

**Additional Notes:**

Students other than first time freshmen may take the English Grammar Exam one time to attempt to test out of JMC 194 Grammar for Journalists  
 Majors must maintain at least a 2.5 ASU cumulative GPA and a 2.5 JMC cumulative GPA to take JMC courses beyond JMC 201  
 Students must complete at least 12 hours of upper division coursework outside the major  
 Students must complete a minimum of 56 hours of ASU coursework to qualify for ASU honors at graduation



