

## Southwestern Illinois College — Missouri S&T

### General Engineering

Transfer Guide Effective as of Fall 2025

Complete Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice.

Students are not required to complete all courses on this guide before transferring to Missouri S&T.

### Group 1 - Core Requirements: All Majors Take All Courses

Engineering students take all Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice. Math prerequisites: While they are not part of Missouri S&T engineering degree requirements, algebra and trigonometry skills are critical to success in calculus. To prepare for entry into calculus, students should follow math placement testing and advising recommendations at their college.

Southwestern Illinois College		Semester	Missouri S&T		
MATH 203 and MATH 204	Analytical Geometry and Calculus I and Analytical Geometry and Calculus II <small>Both SWIC MATH 203 and 204 are required to receive credit for both MATH 1214 and 1215</small>	10	MATH 1214 and MATH 1215	Calculus for Engineers I and Calculus for Engineering II <small>Grade of C or better is required.</small>	8
MATH 205	Analytical Geometry and Calculus III	4	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4
MATH 290	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHYS 204 and PHYS 205 and PHYS 206	Physics - Mechanics and Physics - Heat, Electricity, & Magnetism and Physics - Light & Modern Physics <small>All SWIC PHYS 204, 205, and 206 are required to receive credit for both S&amp;T PHYSICS 1135 and 2135.</small>	12	PHYSICS 1135 and PHYSICS 2135	Engineering Physics I and Engineering Physics II <small>Grade of C or better is required.</small>	8
ENG 101	Rhetoric and Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
		Total Hours			Total Hours
		32			26

### Group 2 - Major Requirements: Take All Courses for Major of Choice

Engineering students take all Group 1 - Core Requirements (above) and Group 2 - Major Requirements for chosen major from list below. See course requirements on following pages.

**Aerospace Engineering**  
**Architectural Engineering**  
**Biomedical Engineering/Biomanufacturing or Biomaterials**  
**Ceramic Engineering**  
**Chemical Engineering and Biochemistry Emphasis**  
**Civil Engineering**  
**Computer Engineering**  
**Electrical Engineering**

**Engineering Management**  
**Environmental Engineering**  
**Geological Engineering**  
**Mechanical Engineering**  
**Metallurgical Engineering**  
**Mining Engineering**  
**Nuclear Engineering**  
**Petroleum Engineering**

Engineering Major Requirements are detailed on the following pages.

**Free Electives:** Some programs allow Free Electives as indicated within each major. Free Electives should be selected in consultation with your advisor and may not include remedial/deficiency courses, algebra, trigonometry, pre-calculus, or extra credits in required courses.

This transfer guide is published by Missouri University of Science and Technology and is in effect as of Fall 2025.  
Further information or updates are available from Missouri S&T Transfer Admissions at [transfer@mst.edu](mailto:transfer@mst.edu), [transfer@mst.edu](mailto:transfer@mst.edu), or 800-522-0938.

## Aerospace Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T		
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 105	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I	3		CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 271	Electrical Circuits	3		ELEC ENG 2800	Electrical Circuits	3
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids	3		CIV ENG 2210	Mechanics of Materials	3
MATH 292	Linear Algebra	3		MATH 3108	Linear Algebra I <small>Satisfies the Advanced Math/Comp Sci elective requirement.</small>	3
PHIL 152	Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3		PHILOS 1130	How Should I Live? An Introduction to Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6		HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3		HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0		Maximum Free Electives		0
Group 2 Major Requirements		41		Group 2 Major Requirements		41
Group 1 Core Requirements		32		Group 1 Core Requirements		26
Total Hours		73		Total Hours*		67
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Aerospace Engineering degree.</small>						

## Architectural Engineering Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T			
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 105	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5	
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3	
ENGR 251	Surveying	3	CIV ENG 2401	Fundamentals of Surveying	3	
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include HISTORY 1200.						
HIST 102*	World Civilization II* <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1200*	Modern Western Civilization* <small>*Satisfies the State of Missouri Government requirement.</small>	3	
PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		36	Group 2 Major Requirements		34	
Group 1 Core Requirements		32	Group 1 Core Requirements		26	
Total Hours		68			Total Hours*	60
<small>*S&amp;T advisor permission is required to transfer more than 69 credits toward the S&amp;T Architectural Engineering degree.</small>						

## Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T		
COMM 151	Fundamentals of Public Speaking	3	SP&MS 1185 Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 105	General Chemistry I	5	CHEM 1310, 1319 General Chemistry I and Lab	5	
CHEM 106	General Chemistry II	5	CHEM 1320, 1510* General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3	
CHEM 201	Organic Chemistry I	5	CHEM 2210, 2219 Organic Chemistry I and Lab	4	
CHEM 202 or BIOL 101 or BIOL 270	Organic Chemistry II (5) or Principles of Biology I (5) or Genetics (4)	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 2223 Organic Chemistry II and Lab or General Biology and Lab or General Genetics Applies to degree as Track Elective.	4	
BIOL 157	Human Anatomy and Physiology	5	BIO SCI 3333, 3359 Anatomy and Physiology I and Lab	4	
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	CS 1500 or CS 1971,1981* Computational Problem Solving or Intro to Programming Methodology and Lab* C++ *Will be substituted for CS 1500.	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include PHILOS 3223.					
PHIL 156	Biomedical Ethics	3	PHILOS 3223 Bioethics	3	
HIST 101 or HIST 102* or GEOG 152 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
No free electives applied to the degree.		0	Maximum Free Electives	0	
Group 2 Major Requirements		42	Group 2 Major Requirements	38	
Group 1 Core Requirements		32	Group 1 Core Requirements	26	
Total Hours		74	Total Hours*	64	
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

\*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T	
COMM 151	Fundamentals of Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHEM 201	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).	4
CHEM 202	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II and Lab* CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).	4
BIOL 101	Principles of Biology I	5	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIOL 157	Human Anatomy and Physiology	5	BIO SCI 3333, 3359	Human Anatomy and Physiology I and Lab	4
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 271	Electrical Circuits	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100. Applies to the degree as a Track Elective (Engineering).	4
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include PHILOS 3223.					
PHIL 156	Biomedical Ethics	3	PHILOS 3223	Bioethics	3
HIST 101 or HIST 102* or GEOG 152 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		54	Group 2 Major Requirements		49
Group 1 Core Requirements		32	Group 1 Core Requirements		26
Total Hours		86			Total Hours* 75
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.					

## Ceramic Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHEM 201	Organic Chemistry I	5	CHEM 2210, 2219	Organic Chemistry I (3) and Lab* (1) <small>CHEM 2210 will satisfy the advanced chemistry elective requirement. CHEM 2219 is not an S&amp;T degree requirement, will transfer as general elective credit.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		39	Group 2 Major Requirements		35
Group 1 Core Requirements		32	Group 1 Core Requirements		26
Total Hours		71			Total Hours*
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Ceramic Engineering degree.</small>					

<div> <div>Chemical Engineering or</div> <div>Chemical Engineering - Biochemical Engineering Emphasis</div> <div>Group 2 Major Requirements</div> </div>					
Southwestern Illinois College		Semester	Missouri S&T		
COMM 151	Fundamentals of Public Speaking	3	SP&MS 1185	Principles of Speech	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHEM 201	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2210 is a degree requirement. CHEM 2219 applies to the degree as 1 of 9 required science elective credits. See note below.	4
CHEM 202 or BIOL 250	Organic Chemistry II (5) or Microbiology (4) Select up to 8 hours from these options. Up to 8 hours will apply to the science elective requirement. Additional hours will transfer as general elective credit.	9	CHEM 2220 or BIO SCI 3313, 3319	Organic Chemistry II (3) or Microbiology and Lab (5) Will partially satisfy the 9-hour science elective requirement. Select up to 8 hours from these options.	8
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	CS 1500 or CS 1971, 1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++ *Will be substituted for CS 1500.	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
No free electives applied to the degree.		0	Maximum Free Electives		
Group 2 Major Requirements		42	Group 2 Major Requirements		
Group 1 Core Requirements		32	Group 1 Core Requirements		
Total Hours		74	Total Hours*		
			64		
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Chemical Engineering degree.</small>					

## Civil Engineering Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T			
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 264	Analytical Mechanic- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3	
ENGR 251	Surveying	3	CIV ENG 2401	Fundamentals of Surveying	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		39	Group 2 Major Requirements		37	
Group 1 Core Requirements		32	Group 1 Core Requirements		26	
Total Hours		71			Total Hours*	63
<small>*S&amp;T advisor permission is required to transfer more than 69 credits toward the S&amp;T Civil Engineering degree.</small>						

## Computer Engineering Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T		
COMM 151	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* *Will be substituted for COMP SCI 1500.	3
ENGR 263 or ENGR 264 or CHEM 201 or BIOL 270	Analytical Mechanics-Statics (3) or Analytical Mechanics-Dynamics (3) or Organic Chemistry I (5) or General Genetics (4)	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3) or General Genetics (3) Satisfies a required engineering/science elective.	3
ENGR 271	Electrical Circuits	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.	4
MATH 292	Linear Algebra	3	MATH 3108	Linear Algebra Satisfies a required math elective.	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	38		Group 2 Major Requirements	39
	Group 1 Core Requirements	32		Group 1 Core Requirements	26
	Total Hours	70		Total Hours*	65
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.					

\*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.

## Electrical Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T	
COMM 151	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) <small>*Will be substituted for CS 1500.</small>	3
ENGR 263 or ENGR 264 or CHEM 201 or BIOL 270	Analytical Mechanics-Statics (3) or Analytical Mechanics-Dynamics (3) or Organic Chemistry I (5) or General Genetics (4)	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3) or General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
ENGR 271	Electrical Circuits	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) <small>*A passing grade on the Missouri S&amp;T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.</small>	4
MATH 292	Linear Algebra	3	MATH 3108	Linear Algebra	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	41		Group 2 Major Requirements	42
	Group 1 Core Requirements	32		Group 1 Core Requirements	26
	Total Hours	73		Total Hours*	68
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Electrical Engineering degree.</small>					

\*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.

## Engineering Management Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T		
COMM 151	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 271	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines to include PSYCH 1101.					
PSYC 151	General Psychology	3	PSYCH 1101	General Psychology Required	3
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
Humanities, Arts, and Social Sciences					
Select 3 hours.					
ENG 102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
No free electives applied to the degree.		0	Electives	Maximum Free Electives	0
Group 2 Major Requirements		38	Group 2 Major Requirements		37
Group 1 Core Requirements		32	Group 1 Core Requirements		26
Total Hours		70	Total Hours*		61
*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.					

\*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.

Environmental Engineering Group 2 Major Requirements					
Southwestern Illinois College		Semester	Missouri S&T		
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
BIOL 101	Principles of Biology I	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*The lab is not a degree requirement, transfers as general elective credit.</small>	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or <b>US History to 1865*</b> or <b>US History, 1865 to Present*</b> or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines to include HISTORY 1200					
<b>HIST 102*</b>	<b>World Civilization II*</b> <small>*Satisfies the State of Missouri government requirement.</small>	3	<b>HISTORY 1200*</b>	<b>Modern Western Civilization*</b> <small>*Satisfies the State of Missouri government requirement.</small>	3
PHIL 150 or PHIL 151 or <b>POLS 150*</b> or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	Intro to Philosophy or Introductory Logic or <b>Intro to American Government*</b> or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
<i>No free electives applied to the degree.</i> Group 2 Major Requirements Group 1 Core Requirements Total Hours		0 42 32 74	Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours*		0 37 26 63
<small>*S&amp;T advisor permission is required to transfer more than 69 credits toward the S&amp;T Environmental Engineering degree.</small>					

## Geological Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T		
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
MATH 171 or MATH 210 or CIS 250	Computer Science I - JAVA (4) or Computer Programming for Engineers (3) or C++ Programming I (3)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab (C++)	3	
ES 102	Physical Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3	
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		36	Group 2 Major Requirements		34	
Group 1 Core Requirements		32	Group 1 Core Requirements		26	
Total Hours		68			Total Hours*	60
*S&T advisor permission is required to transfer more than 65 credits toward the S&T Geological Engineering degree.						

## Mechanical Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T	
CAD 100	Print Reading for Tech Trades	3	MECH ENG 1761	Intro to Computer Aided Design	1
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 105	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 271	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
MATH 292	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Satisfies the Advanced Math/Statistics elective requirement.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		41	Group 2 Major Requirements		39
Group 1 Core Requirements		32	Group 1 Core Requirements		26
Total Hours		73			Total Hours*
					65
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.					

## Metallurgical Engineering Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T			
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3	
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 106	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3	
CHEM 201 or ENGR 271	Organic Chemistry I (5) or Electrical Circuits (3)	5	CHEM 2210 or EE 2800	Organic Chemistry I (3) or Electrical Circuits (3) <small>Not specifically required for the degree but will satisfy out-of-department technical elective requirement</small>	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
Maximum Free Electives		3	Maximum Free Electives		3	
Group 2 Major Requirements		42	Group 2 Major Requirements		38	
Group 1 Core Requirements		32	Group 1 Core Requirements		26	
Total Hours		74			Total Hours*	64
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Metallurgical Engineering degree.</small>						

## Mining Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T		
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i>	3	
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3	
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation  *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation  *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language  *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language  *Satisfies the State of Missouri government requirement.	6	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		33	Group 2 Major Requirements		31	
Group 1 Core Requirements		32	Group 1 Core Requirements		26	
Total Hours		65			Total Hours*	57
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.						

## Nuclear Engineering Group 2 Major Requirements

Southwestern Illinois College		Semester	Missouri S&T			
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3	
MATH 292	Linear Algebra	3	MATH 3108	Linear Algebra I	3	
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3	
ENGR 271	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
ECON 202 or ECON 201	Principles of Economics II (Micro) or Principles of Economics I (Macro)	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
Maximum Free Electives		0	Maximum Free Electives		0	
Group 2 Major Requirements		38	Group 2 Major Requirements		38	
Group 1 Core Requirements		32	Group 1 Core Requirements		26	
Total Hours		70			Total Hours*	64
<small>*S&amp;T advisor permission is required to transfer more than 69 credits toward the S&amp;T Nuclear Engineering degree.</small>						

## Petroleum Engineering Group 2 Major Requirements

Southwestern Illinois College			Semester	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i>	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 171	Computer Science I - JAVA (4)	3	COMP SCI 1500	Computational Problem Solving	3
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		39	Group 2 Major Requirements		37
Group 1 Core Requirements		32	Group 1 Core Requirements		26
Total Hours		71			Total Hours*
					63
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.					