

## Cottey 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.

Cottey College			Semester	Missouri S&T		
MAT 210	Calculus I	4		MATH 1214	Calculus I Grade of C or better is required.	4
MAT 220	Calculus II	4		MATH 1215	Calculus II Grade of C or better is required.	4
PHY 205	General Physics I and Lab	4		PHYSICS 1135	Engineering Physics I Grade of C or better is required.	4
PHY 206	General Physics II and Lab	4		PHYSICS 2135	Engineering Physics II Grade of C or better is required.	4
FWS 101	First-Year Writing Seminar	3		ENGLISH 1120	Exposition and Argumentation	3
		Total Hours	19			Total Hours 19

### 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

Cotley College		Semester	Missouri S&T			
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5	
MATH 260 or MATH 320	Linear Algebra or Probability and Statistics	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics <small>Satisfies the Advanced Math/Comp Sci elective requirement.</small>	3	
PHI 205	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.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or <b>US History to 1877*</b> or <b>US History Since 1877*</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 <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 <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	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or <b>World History Since 1500*</b> or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or <b>United States Government*</b> or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> or World Regional Geography or 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>	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	
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0	
Group 2 Major Requirements		28	Group 2 Major Requirements		29	
Group 1 Core Requirements		19	Group 1 Core Requirements		19	
Total Hours		47			Total Hours*	48
<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

<u>Cottey College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHE 210, 211	General Chemistry 1 and Lab	4	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
STAT 320	Probability and Statistics	3	Engineering Statistics* <small>*Will be substituted for STAT 3113.</small>	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.				
ENG 201 or ENG 202 or NG 205 or ENG 206 or <b>HIS 111*</b> or <b>HIS 112*</b> or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or <b>US History to 1877*</b> or <b>US History Since 1877*</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 <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> or ART 1180 or MUSIC 1150	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines to include HISTORY 1200.				
<b>HIS 132*</b>	<b>World History Since 1500*</b> <small>*Satisfies the State of Missouri Government requirement.</small>	3	<b>HISTORY 1200*</b>	3
PHI 101 or PHI 200 or <b>POL 101*</b> or PSY 101 or ECO 202 or ECO 201 or Foreign Language	Intro to Philosophy or Logic and Critical Thinking or <b>United States Government*</b> or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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	3
<b>No free electives applied to the degree.</b>				
	Group 2 Major Requirements	22	Maximum Free Electives	0
	Group 1 Core Requirements	19	Group 2 Major Requirements	23
	Total Hours	41	Group 1 Core Requirements	19
			Total Hours*	42

\*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.

## Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

Cotter College		Semester	Missouri S&T			
SPE 101	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHE 212, 213	General Chemistry II (3) and Lab (1)	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3	
BIO 101	Introductory Biology with Lab (4)	4	BIO SCI 1113, 1219	General Biology and Lab Applies to degree as Track Elective.	4	
BIO 211 and BIO 212	Human Anatomy and Physiology 1 (4) and Human Anatomy and Physiology 2 (4) Both courses are required to receive full transfer credit.	8	BIO SCI 3333, 3339* and BIO SCI 3343*, 3349*	Anatomy and Physiology I and Lab* and Anatomy and Physiology II* and Lab* The combination of Cotter BIO 211 and 212 is equivalent to the combination of S&T BIO SCI 3333, 3339, 3343, and 3349. *BIO SCI 3333 is a degree requirement. BIO SCI 3339, 3343, and 3349 transfer as general elective credit.	3	
CSC 212	Data Structures	3	COMP SCI 1500	Computational Problem Solving	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 3 hours Behavioral and Social Sciences. *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.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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 3 hours.						
HIS 131 or HIS 132* or ENV 125 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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	
Humanities, Arts, and Social Sciences ENGLISH 3560 required.						
WRI 292	Professional Writing	3	ENGLISH 3560	Technical Writing	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		38	Group 2 Major Requirements		33	
Group 1 Core Requirements		19	Group 1 Core Requirements		19	
Total Hours		57			Total Hours*	52
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.						

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

Cotter College		Semester	Missouri S&T			
SPE 101	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHE 212, 213	General Chemistry II (3) and Lab (1)	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3	
BIO 101	Introductory Biology with Lab (4)	4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4	
BIO 211 and BIO 212	Human Anatomy and Physiology 1 (4) and Human Anatomy and Physiology 2 (4) Both courses are required to receive full transfer credit.	8	BIO SCI 3333, 3339* and BIO SCI 3343*, 3349*	Anatomy and Physiology I and Lab* and Anatomy and Physiology II* and Lab* The combination of Cotter BIO 211 and 212 is equivalent to the combination of S&T BIO SCI 3333, 3339, 3343, and 3349. *BIO SCI 3333 is a degree requirement. BIO SCI 3339, 3343, and 3349 transfer as general elective credit.	3	
CSC 212	Data Structures	3	COMP SCI 1500	Computational Problem Solving	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 3 hours Behavioral and Social Sciences.  *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.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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 3 hours.						
HIS 131 or HIS 132* or ENV 125 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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	
Humanities, Arts, and Social Sciences ENGLISH 3560 required.						
WRI 292	Professional Writing	3	ENGLISH 3560	Technical Writing	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		38	Group 2 Major Requirements		33	
Group 1 Core Requirements		19	Group 1 Core Requirements		19	
Total Hours		57			Total Hours*	52
*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

<u>Cotter College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHE 212	General Chemistry 2	4	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
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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
<b>Humanities, Arts, and Social Sciences</b> 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
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		26	Group 2 Major Requirements		26
Group 1 Core Requirements		19	Group 1 Core Requirements		19
Total Hours		45	Total Hours*		45
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Ceramic Engineering degree.</small>					

## Chemical Engineering or Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Cottey College</u>			<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPE 101	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHE 212, 213	General Chemistry II (3) and Lab (1)	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2)	3	
CSC 212	Data Structures	3	COMP SCI 1500	Computational Problem Solving	3	
STAT 320	Probability and Statistics	3	STAT 3115*	Engineering Statistics*	3	
*Will be substituted for STAT 3113.						
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>						
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>						
<b>Humanities and Fine Arts</b>						
Select 6 hours from at least two specific disciplines.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 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 American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation	6	
*Satisfies the State of Missouri government requirement.						
<b>Behavioral and Social Sciences</b>						
Select 6 hours from at least two specific disciplines.						
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language	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	6	
*Satisfies the State of Missouri government requirement.						
<b>Humanities, Arts, and Social Sciences</b>						
ENGLISH 3560 required.						
WRI 292	Professional Writing	3	ENGLISH 3560	Technical Writing	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		32	Group 2 Major Requirements		32	
Group 1 Core Requirements		19	Group 1 Core Requirements		19	
Total Hours		51	Total Hours*		51	
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.						

## Civil Engineering Group 2 Major Requirements

<u>Cottey College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
STAT 320	Probability and Statistics	3	STAT 3115*	Engineering Statistics*	3
*Will be substituted for STAT 3113.					
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or <b>US History to 1877*</b> or <b>US History Since 1877*</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 <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 <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.					
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or <b>World History Since 1500*</b> or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or <b>United States Government*</b> or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> or World Regional Geography or 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>	6
<b>Humanities, Arts, and Social Sciences</b> 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
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		25	Group 2 Major Requirements		26
Group 1 Core Requirements		19	Group 1 Core Requirements		19
Total Hours		44	Total Hours*		45
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.					



## Computer Engineering Group 2 Major Requirements

<u>Cotley College</u>			<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPE 101	Fundamentals of Speech	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CSC 212	Data Structures	3	COMP SCI 1200	Discrete Math for Computer Science	3	
MATH 260 or MATH 310	Linear Algebra or Foundations of Mathematics	3	COMP SCI 1500	Computational Problem Solving	3	
			MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics Satisfies a required math elective.	3	
STAT 320	Probability and Statistics	3	STAT 3115*	Engineering Statistics*	3	
*Will be substituted for STAT 3117.						
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>						
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>						
<b>Humanities and Fine Arts</b>						
Select 6 hours from at least two specific disciplines.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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.						
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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	
<b>Humanities, Arts, and Social Sciences</b>						
Select 3 hours.						
WRI 102 or WRI 292	College Writing or Professional Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3	
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3	
	Group 2 Major Requirements	34		Group 2 Major Requirements	38	
	Group 1 Core Requirements	19		Group 1 Core Requirements	19	
	Total Hours	53		Total Hours*	57	
*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

Cotter College			Semester	Missouri S&T	
SPE 101	Fundamentals of Speech	3	SPMS 1185	Principles of Speech	3
			Applies to degree as Gen Ed Communication requirement.		
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CSC 212	Data Structures	3	COMP SCI 1500	Computational Problem Solving	3
MATH 260	Linear Algebra	3	MATH 3108	Linear Algebra	3
STAT 320	Probability and Statistics	3	STAT 3115*	Engineering Statistics*	3
			*Will be substituted for STAT 3117.		
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.					
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 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 American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation	6
*Satisfies the State of Missouri government requirement.					
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language	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	6
*Satisfies the State of Missouri government requirement.					
Humanities, Arts, and Social Sciences					
Select 3 hours.					
WRI 102 or WRI 292	College Writing or Professional Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	37		Group 2 Major Requirements	38
	Group 1 Core Requirements	19		Group 1 Core Requirements	19
	Total Hours	56		Total Hours*	57
*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

<u>Cottey College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
SPE 101	Fundamentals of Speech	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab
STAT 320	Probability and Statistics	3	STAT 3115	Engineering Statistics
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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>				
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.				
ENG 201 or ENG 202 or NG 205 or ENG 206 or <b>HIS 111*</b> or <b>HIS 112*</b> or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or <b>US History to 1877*</b> or <b>US History Since 1877*</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 <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 <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>
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines to include PSYCH 1101.				
PSY 101	General Psychology	3	PSYCH 1101	General Psychology Required
HIS 131 or <b>HIS 132*</b> or ENV 125 or PHI 101 or PHI 200 or <b>POL 101*</b> or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or <b>World History Since 1500*</b> or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or <b>United States Government*</b> or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>
<b>Humanities, Arts, and Social Sciences</b> Select 3 hours.				
WRI 102 or WRI 292	College Writing or Professional Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing
<i>No free electives applied to the degree.</i>		0	Electives	Maximum Free Electives
Group 2 Major Requirements		25	Group 2 Major Requirements	
Group 1 Core Requirements		19	Group 1 Core Requirements	
Total Hours		44	Total Hours*	61

\*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

<u>Cotter College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	5
CHE 212	General Chemistry 2	4	CHEM 1320, 1510*	3
BIO 101	Introductory Biology and Lab	4	BIO SCI 1113, 1219*	3
STAT 320	Probability and Statistics	3	STAT 3115*	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.				
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines to include HISTORY 1200				
HIS 132*	World History Since 1500* <small>*Satisfies the State of Missouri Government requirement.</small>	3	HISTORY 1200*	3
PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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 PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	3
No free electives applied to the degree.		0	Maximum Free Electives	0
Group 2 Major Requirements		30	Group 2 Major Requirements	29
Group 1 Core Requirements		19	Group 1 Core Requirements	19
Total Hours		49	Total Hours*	48
<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

<u>Cottey College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>			
WRI 292	Professional Writing		ENGLISH 3560	Technical Writing Applies to degree as Gen Ed Communication requirement.	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CSC 212	Data Structures	3	COMP SCI 1500	Computational Problem Solving	3	
STAT 320	Probability and Statistics	3	STAT 3115	Engineering Statistics	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.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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.						
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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		25	Group 2 Major Requirements		29	
Group 1 Core Requirements		19	Group 1 Core Requirements		19	
Total Hours		44			Total Hours*	48
*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

<u>Cotley College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>
CHE 210, 211	General Chemistry 1 and Lab	4	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>
MATH 260 or MATH 320	Linear Algebra or Probability and Statistics	3	Linear Algebra I or Engineering Statistics <small>Satisfies the Advanced Math/Comp Sci elective requirement.</small>
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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>			
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.			
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or <b>US History to 1877*</b> or <b>US History Since 1877*</b> or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	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 <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>
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.			
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or <b>World History Since 1500*</b> or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or <b>United States Government*</b> or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	Early Western Civilization or <b>Modern Western Civilization*</b> or World Regional Geography or 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>
<b>Humanities, Arts, and Social Sciences</b> 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.
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives
Group 2 Major Requirements		25	Group 2 Major Requirements
Group 1 Core Requirements		19	Group 1 Core Requirements
Total Hours		44	Total Hours*
			45

\*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

Cotley College		Semester	Missouri S&T		
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
MATH 320	Probability and Statistics	3	STAT 3115	Engineering Statistics	3
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHE 212, 213	General Chemistry II (3) and Lab (1)	4	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
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.					
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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.					
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics 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
Maximum Free Electives		3	Maximum Free Electives		3
Group 2 Major Requirements		32	Group 2 Major Requirements		32
Group 1 Core Requirements		19	Group 1 Core Requirements		19
Total Hours		51	Total Hours*		51
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Metallurgical Engineering degree.</small>					

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

## Mining Engineering Group 2 Major Requirements

<u>Cotter College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>
MATH 320	Probability and Statistics	3	STAT 3115 Engineering Statistics
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319 General Chemistry I and Lab
<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.			
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	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 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>
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.			
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States Government* or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	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>
No free electives applied to the degree.		0	Maximum Free Electives
Group 2 Major Requirements		22	Group 2 Major Requirements
Group 1 Core Requirements		19	Group 1 Core Requirements
Total Hours		41	Total Hours*
			42

\*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

Cottey College		Semester	Missouri S&T			
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
MATH 260 or MATH 310	Linear Algebra or Foundations of Mathematics	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics	3	
STAT 320	Probability and Statistics	3	STAT 3115	Engineering Statistics	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.						
ENG 201 or ENG 202 or NG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or US History to 1877* or US History Since 1877* 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 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 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.						
ECO 202 or ECO 201	Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or Foreign Language	World History to 1500 or World History Since 1500* or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or United States 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		28	Group 2 Major Requirements		29	
Group 1 Core Requirements		19	Group 1 Core Requirements		19	
Total Hours		47			Total Hours*	48
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.						

## Petroleum Engineering Group 2 Major Requirements

<u>Cotter College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>
WRI 102 or WRI 292 or SPE 101	College Writing or Professional Writing or Fundamentals of Speech	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>
CHE 210, 211	General Chemistry 1 and Lab	4	CHEM 1310, 1319 General Chemistry I and Lab
CSC 212	Data Structures	3	COMP SCI 1500 Computational Problem Solving
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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>			
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.			
ENG 201 or ENG 202 or ENG 205 or ENG 206 or HIS 111* or HIS 112* or ART 101 or MUS 101	English Literature 1 or English Literature 2 or American Literature 1 or American Literature 2 or <b>US History to 1877*</b> or <b>US History Since 1877*</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 <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 <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>
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.			
HIS 131 or HIS 132* or ENV 125 or PHI 101 or PHI 200 or POL 101* or PSY 101 or ECO 202 or ECO 201 or Foreign Language	World History to 1500 or <b>World History Since 1500*</b> or World Regional Geography or Intro to Philosophy or Logic and Critical Thinking or <b>United States Government*</b> or General Psychology or Principles of Economics II: Microeconomics or Principles of Economics I: Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language  Early Western Civilization or <b>Modern Western Civilization*</b> or World Regional Geography or 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>
<b>Humanities, Arts, and Social Sciences</b> 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.
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives
Group 2 Major Requirements		25	Group 2 Major Requirements
Group 1 Core Requirements		19	Group 1 Core Requirements
Total Hours		44	Total Hours*
			45

\*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.