

Missouri Southern State University — 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.

Missouri Southern State University		Semester	Missouri S&T	
MATH 0150	Calculus with Analytic Geometry I	5	MATH 1214	Calculus I Grade of C or better is required.
MATH 0250	Calculus with Analytic Geometry II	5	MATH 1215	Calculus II Grade of C or better is required.
MATH 0260	Calculus with Analytic Geometry III	5	MATH 2222	Calculus III Grade of C or better is required.
MATH 0322	Differential Equations	3	MATH 3304	Elementary Differential Equations
PHYS 0275 and PHYS 0295	General Physics I and General Physics II Grade of C or better is required in both courses. The combination of MSSU PHYS 0275 and 0295 is equivalent to the combination of Missouri S&T PHYSICS 1135 and 2135. Both courses are required to receive full transfer credit.	10	PHYSICS 1135 and PHYSICS 2135	Engineering Physics I and Engineering Physics II Grade of C or better is required in both courses. The combination of MSSU PHYS 0275 and 0295 is equivalent to the combination of Missouri S&T PHYSICS 1135 and 2135. Both courses are required to receive full transfer credit.
ENG 0101	College Composition I	3	ENGLISH 1120	Exposition and Argumentation
		Total Hours	Total Hours	
		31		
			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, transfer@mst.edu, or 800-522-0938.

Aerospace Engineering Group 2 Major Requirements

Missouri Southern State University			Semester	Missouri S&T	
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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
CHEM 0151	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CIS 0110	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 0351	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Satisfies the Advanced Math/Comp Sci elective requirement.</small>	3
PHIL 01212	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. *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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		32	Group 2 Major Requirements		32
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		63			Total Hours* 58
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.</small>					

Architectural Engineering Group 2 Major Requirements

Missouri Southern State University		Semester	Missouri S&T		
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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
CHEM 0151	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
			CIV ENG 2200	Engineering Mechanics-Statics	3
GEOL 0120 or GEOL 0211	Intro to Geology (3) or Fundamentals of Earth and Space Science (4)	3	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.					
ENG 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0140*	Western Civilization since 1500* <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 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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 PSYCH 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	23		Group 2 Major Requirements	26
	Group 1 Core Requirements	31		Group 1 Core Requirements	26
	Total Hours	54		Total Hours*	52
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.</small>					

Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

Missouri Southern State University		Semester	Missouri S&T		
COM 0100	Oral Communications	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 0152	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 0301	Organic Chemistry I	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHEM 0302 or	Organic Chemistry II (5) or		CHEM 2220, 2229 or	Organic Chemistry II and Lab or	
BIO 0101 or	General Biology (4) or	4	BIO SCI 1113, 1219 or	General Biology and Lab or	4
BIO 0231	General and Medical Microbiology (5)		BIO SCI 2223	General Genetics Applies to degree as Track Elective.	
BIO 0121	Human Anatomy and Physiology I	4	BIO SCI 3333, 3339	Anatomy and Physiology I and Lab	4
CIS 0210 or	Programming II or		COMP SCI 1500 or	Computational Problem Solving (3) or	
CIS 0350 or	Data Structures or	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*(C++) (3) *Will be substituted for COMP SCI 1500.	3
CIS 0110*	Programming I*				
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 0271 or	British Literature: Medieval - 18th Century or		ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 0272 or	British Literature: 18th Century - Present or		ENGLISH 1212 or	British Literature II: 1800 to Present	
ENG 0281 or	American Literature: Beginning - 19th Century or		ENGLISH 1221 or	American Literature: 1600 to 1865 or	
ENG 0282 or	American Literature: 19th Century - Present or		ENGLISH 1222 or	American Literature: 1865 to Present or	
ENG 0261	World Literature: Ancient - 16th Century or	6	ENGLISH 1231 or	World Literature I: Beginnings to the Renaissance or	6
HIST 0110* or	United States History 1492-1877* or		HISTORY 1300* or	American History to 1877* or	
HIST 0120* or	United States History 1877 to Present* or		HISTORY 1310* or	American History Since 1877* or	
ART 0110 or	Art Appreciation or		ART 1180 or	Art Appreciation or	
MUS 0110	Music Appreciation		MUSIC 1150	Music Understanding and Appreciation	
*Satisfies the State of Missouri government requirement.					
Behavioral and Social Sciences					
Select 3 hours.					
HIST 0130 or	Western Civilization to 1500 or		HISTORY 1100 or	Early Western Civilization or	
HIST 0140* or	Western Civilization since 1500* or		HISTORY 1200* or	Modern Western Civilization* or	
GEOG 0110 or	World Regional Geography or		HISTORY 2110 or	World Regional Geography or	
PSC 0120* or	American Government* or	3	POL SCI 1200* or	American Government* or	3
PSYC 0100 or	General Psychology or		PSYCH 1101 or	General Psychology or	
ECON 0202 or	Principles of Economics (Micro) or		ECON 1100 or	Principles of Microeconomics or	
ECON 0201 or	Principles of Economics (Macro) or		ECON 1200 or	Principles of Macroeconomics or	
Foreign Language	Elementary or Intermediate Foreign Language		Foreign Language	Elementary or Intermediate Foreign Language	
*Satisfies the State of Missouri government requirement.					
Humanities, Arts, and Social Sciences					
ENGLISH 3560 required.					
ENG 0313	Technical Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.					
		0	Maximum Free Electives		0
Group 2 Major Requirements		41	Group 2 Major Requirements		38
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		72			Total Hours*
*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

Missouri Southern State University			Semester	Missouri S&T	
COM 0100	Oral Communications	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 0152	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 0301	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 0302	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
BIO 0101	General Biology	4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIO 0121	Human Anatomy and Physiology I	4	BIO SCI 3333, 3339	Human Anatomy and Physiology I and Lab	4
CIS 0210 or CIS 0350 or CIS 0110*	Programming II or Data Structures or Programming I*	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving (3) or Intro to Programming Methodology and Lab* (C++) (3) *Will be substituted for COMP SCI 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 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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 3 hours.					
HIST 0130 or HIST 0140* or GEOG 0110 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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 PSYC 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.					
ENG 0313	Technical Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		46	Group 2 Major Requirements		42
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		77			Total Hours*
					68
*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

Missouri Southern State University			Semester	Missouri S&T	
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 0152	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 0301	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) Satisfies the advanced chemistry elective requirement. *The lab is not a degree requirement, transfers as general elective credit.	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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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		33	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		64	Total Hours*		55
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.					

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

Missouri Southern State University			Semester	Missouri S&T		
COM 0100	Oral Communications	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 0152	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 0301	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 0302 or BIO 0231	Organic Chemistry II or General and Medical Microbiology	8	CHEM 2220 or BIO SCI 3313, 3319	Organic Chemistry II (3) or Microbiology and Lab (5) Applies to the degree as required science elective credits. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab.	8	
CIS 0210 or CIS 0350 or CIS 0110*	Programming II or Data Structures or Programming I*	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 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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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 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 *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and Social Sciences ENGLISH 3560 required.						
ENG 0313	Technical Writing	3	ENGLISH 3560	Technical Writing	3	
No free electives applied to the degree.		0		Maximum Free Electives	0	
Group 2 Major Requirements		44		Group 2 Major Requirements	41	
Group 1 Core Requirements		31		Group 1 Core Requirements	26	
Total Hours		75			Total Hours*	67
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.						

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Civil Engineering Group 2 Major Requirements

Missouri Southern State University		Semester	Missouri S&T	
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	3	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	5
GEOG 0120 or GEOG 0211	Intro to Geology (3) or Fundamentals of Earth and Space Science (4)	3	GEOLOGY 1110 (GEO ENG 1150)	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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.				
HIST 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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	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	3
No free electives applied to the degree.		0	Maximum Free Electives	0
Group 2 Major Requirements		26	Group 2 Major Requirements	26
Group 1 Core Requirements		31	Group 1 Core Requirements	26
Total Hours		57	Total Hours*	52
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.</small>				

Computer Engineering Group 2 Major Requirements

Missouri Southern State University			Semester	Missouri S&T	
COM 0100	Oral Communications	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 0210 or CIS 0350 or CIS 0110*	Programming II or Data Structures or Programming I*	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* <small>*Will be substituted for COMP SCI 1500.</small>	3
CHEM 0301	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) <small>Satisfies a required engineering/science elective. *The lab is not a degree requirement, transfers as general elective credit.</small>	3
MATH 0351 or MATH 0300	Linear Algebra or Fundamentals of Mathematical Thought	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics <small>Satisfies a required math elective.</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.					
ENG 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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 0102 or ENG 0313	College Composition II or Technical 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	37		Group 2 Major Requirements	35
	Group 1 Core Requirements	31		Group 1 Core Requirements	26
	Total Hours	68		Total Hours*	61
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.</small>					

*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

Missouri Southern State University		Semester	Missouri S&T		
COM 0100	Oral Communications	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 0210 or CIS 0350 or CIS 0110*	Programming II or Data Structures or Programming I*	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
CHEM 0301	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) Satisfies a required engineering/science elective. *The lab is not a degree requirement, transfers as general elective credit.	3
MATH 0351	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.					
*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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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 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 *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
ENG 0102 or ENG 0313	College Composition II or Technical 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	40		Group 2 Major Requirements	38
	Group 1 Core Requirements	31		Group 1 Core Requirements	26
	Total Hours	71		Total Hours*	64
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.					

*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>Missouri Southern State University</u>		<u>Semester</u>	<u>Missouri S&T</u>
COMM 0100	Oral Communications	3	SPMS 1185
CHEM 0151	General Chemistry I	5	Principles of Speech
CIS 0110	Programming I	3	Applies to degree as Gen Ed Communication requirement.
			General Chemistry I and Lab
			Intro to Programming Method and Lab (C++)
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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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.
Behavioral and Social Sciences			
Select 6 hours from at least two specific disciplines to include PSYCH 1101.			
PSYC 0100	General Psychology	3	PSYCH 1101
			General Psychology Required
HIST 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or Principles of Economics (Micro) or Principles of Economics (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.
Humanities, Arts, and Social Sciences			
Select 3 hours.			
ENG 0102 or ENG 0313	College Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560
			Writing and Research or Technical Writing
	<i>No free electives applied to the degree.</i>	0	Electives
	Group 2 Major Requirements	26	Maximum Free Electives
	Group 1 Core Requirements	31	Group 2 Major Requirements
	Total Hours	57	Group 1 Core Requirements
			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

Missouri Southern State University		Semester	Missouri S&T		
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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
GEO 0120 or GEO 0211	Intro to Geology (3) or Fundamentals of Earth and Space Science (4)	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 0152	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
BIO 0101	General Biology	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
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.					
ENG 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0140*	Western Civilization since 1500* <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 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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 PSYCH 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		32	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		63	Total Hours*		55
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.</small>					

Geological Engineering Group 2 Major Requirements

Missouri Southern State University			Semester	Missouri S&T		
ENG 0313	Technical Writing	3		ENGLISH 3560	Technical Writing	3
CHEM 0151	General Chemistry I	5		CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement. General Chemistry I and Lab	5
CIS 0210 or CIS 0350 or CIS 0110*	Programming II or Data Structures or Programming I*	3		CS 1500 or CS 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3
GEOL 0120 or GEOL 0211	Intro to Geology (3) or Fundamentals of Earth and Space Science (4)	3		GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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		29		Group 2 Major Requirements		29
Group 1 Core Requirements		31		Group 1 Core Requirements		26
Total Hours		60				Total Hours*
						55
						*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

Missouri Southern State University			Semester	Missouri S&T	
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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
CHEM 0151	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CIS 0110	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 0351	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.					
ENG 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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		29	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		60	Total Hours*		55
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.</small>					

Metallurgical Engineering Group 2 Major Requirements

Missouri Southern State University			Semester	Missouri S&T		
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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	
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 0152	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 0301	Organic Chemistry I	5	CHEM 2210	Organic Chemistry I <small>Not specifically required for the degree but satisfies 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. *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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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		36	Group 2 Major Requirements		32	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		67			Total Hours*	58
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.</small>						

Mining Engineering Group 2 Major Requirements

Missouri Southern State University		Semester	Missouri S&T			
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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	
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
GEOLOG 0120 or GEOLOG 0211	Intro to Geology (3) or Fundamentals of Earth and Space Science (4)	3	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.						
ENG 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		23	Group 2 Major Requirements		23	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		54			Total Hours*	49
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.</small>						

Nuclear Engineering Group 2 Major Requirements

Missouri Southern State University		Semester	Missouri S&T		
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 0110	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 0351 or MATH 0300	Linear Algebra or Fundamentals of Mathematical Thought	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics	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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0202 or ECON 0201	Principles of Economics (Micro) or Principles of Economics (Macro)	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
HIST 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or 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		29	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		60			Total Hours*
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.					

*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

Missouri Southern State University		Semester	Missouri S&T			
ENG 0102 or ENG 0313 or COMM 0100	College Composition II or Technical Writing or Oral Communication	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	
CHEM 0151	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CIS 0210 or CIS 0350	Programming II or Data Structures	3	COMP SCI 1500	Computational Problem Solving	3	
GEOL 0120 or GEOL 0211	Intro to Geology (3) or Fundamentals of Earth and Space Science (4)	3	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 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 0271 or ENG 0272 or ENG 0281 or ENG 0282 or ENG 0261 HIST 0110* or HIST 0120* or ART 0110 or MUS 0110	British Literature: Medieval - 18th Century or British Literature: 18th Century - Present or American Literature: Beginning - 19th Century or American Literature: 19th Century - Present or World Literature: Ancient - 16th Century or United States History 1492-1877* or United States History 1877 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 0130 or HIST 0140* or GEOG 0110 or PHIL 0201 or PHIL 0140 or PSC 0120* or PSYC 0100 or ECON 0202 or ECON 0201 or Foreign Language	Western Civilization to 1500 or Western Civilization since 1500* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Government* or General Psychology or Principles of Economics (Micro) or Principles of Economics (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		29	Group 2 Major Requirements		29	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		60			Total Hours*	55
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.</small>						

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