

St. Charles Community College — Missouri S&T
General Engineering Transfer Guide
 Effective as of Fall 2017

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

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.

<u>St. Charles Community College</u>			<u>Semester</u>	<u>Missouri S&T</u>			
MAT 180	Calculus and Analytical Geometry I	5	MATH 1214	Calculus for Engineers I	Grade of C or better is required.	4	
MAT 230	Calculus and Analytical Geometry II	5	MATH 1215	Calculus for Engineers II	Grade of C or better is required.	4	
MAT 240	Calculus and Analytical Geometry III	5	MATH 2222	Calculus with Analytic Geometry III	Grade of C or better is required.	4	
MAT 250	Differential Equations	3	MATH 3304	Elementary Differential Equations		3	
PHY 250	Engineering Physics I	5	PHYSICS 1135	Engineering Physics I	Grade of C or better is required.	4	
PHY 251	Engineering Physics II	5	PHYSICS 2135	Engineering Physics II	Grade of C or better is required.	4	
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab		5	
EGR 100	Introduction to Engineering	1	FR ENG 1100	Study and Careers in Engineering		1	
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl		3	
ENG 101	English Composition I	3	ENGLISH 1120	Exposition and Argumentation		3	
ECO 120 or	Principles of Microeconomics or	3	ECON 1100 or	Principles of Microeconomics or		3	
ECO 110	Principles of Macroeconomics		ECON 1200	Principles of Macroeconomics		3	
Total Hours			43	Total Hours			38

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
Ceramic Engineering
Chemical Engineering
Chemical Engineering/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.

Humanities/Social Science (HSS) Electives: HSS electives may include any history, economics, political science, sociology, psychology, philosophy, fine art, literature, or foreign language. Missouri S&T approved HSS courses are listed at ugs.mst.edu. Your campus may have additional acceptable options. Consult with your advisor or email transfer@mst.edu with questions.

Aerospace Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government
ENG 102 or SPE 101 or ENG 115	English Composition II or Oral Communications or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing
CPT 182 or CPT 186	Beginning Programming in C++ or Object Orient Programming in C++	3	CS 1971, 1981 or CS 1570	Intro to Programming Method and Lab (C++) or Intro to Programming (C++)
EGR 220 EGR 170 EGR 210	Electrical Circuits Engineering Mechanics-Statics Engineering Mechanics-Dynamics	3 3 3	EE 2800 CIV ENG 2200 AERO ENG 2360	Circuit Analysis I Engineering Mechanics-Statics Dynamics
MAT 242 or MATH 215	Introductory Linear Algebra or Probability Theory	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics (Will satisfy the Advanced Math/Comp Sci elective requirement.)
<i>See your advisor for course options.</i>			Literature Elective	
<i>See your advisor for course options.</i>			Ethics Elective	
<i>No free electives applied to the degree.</i>			Maximum Free Electives	
Group 2 Major Requirements		21	Group 2 Major Requirements	
Group 1 Core Requirements		43	Group 1 Core Requirements	
Total Hours		64	Total Hours*	
			65	

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

Architectural Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
HIS 146 or HIS 101 or HIS 102	Western Civilization of Modern Europe or US History to 1877 or US History Since 1877	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877) *HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.
EGR 170 EGR 210	Engineering Mechanics-Statics Engineering Mechanics-Dynamics	3 3	CIV ENG 2200 MECH ENG 2350	Engineering Mechanics-Statics Engineering Mechanics-Dynamics
MAT 215	Probability Theory		STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)
ENG 102 or SPE 101	English Composition II or Oral Communications	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language
PHY 125/127 or PHY 130	Introduction to Physical Geology and Lab or Astronomy	4	GEOLOGY 1111 or PHYSICS 1505	Intro to Physical Geology or Introductory Astronomy (or other chemistry, geology, biology, physics, or astronomy course that is not otherwise required for the degree) Applies to the degree as a basic science elective
<i>No free electives applied to the degree.</i>			Maximum Free Electives	
Group 2 Major Requirements		16	Group 2 Major Requirements	
Group 1 Core Requirements		43	Group 1 Core Requirements	
Total Hours		59	Total Hours*	
			56	

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

Ceramic Engineering Group 2 Major Requirements

Ceramic Engineering Group 2 Major Requirements			
	<u>St. Charles Community College</u>	<u>Semester</u>	<u>Missouri S&T</u>
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200
CHM 240, 243	Organic Chemistry I	5	CHEM 2210/2219
CHM 116	General Chemistry II and Lab	5	CHEM 1320
MAT 215	Probability Theory	3	STAT 3115
ENG 102 or SPE 101	English Composition II or Oral Communications	3	ENGLISH 1160 or SPMS 1185 or HSS Elective
	<i>See your advisor for course options.</i>		
	<i>No free electives applied to the degree.</i>		
	Group 2 Major Requirements	22	Group 2 Major Requirements
	Group 1 Core Requirements	43	Group 1 Core Requirements
	Total Hours	65	Total Hours*
			61

*S&T advisor permission is required to transfer more than 65 credits toward the S&T Ceramic Engineering degree.

Chemical Engineering Group 2 Major Requirements

Chemical Engineering Group 2 Major Requirements			
	<u>St. Charles Community College</u>	<u>Semester</u>	<u>Missouri S&T</u>
EN 102 or ENG 115	English Composition II or Technical Communications	3	ENGLISH 1160 or ENGLISH 3560
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200
CHM 116	General Chemistry II and Lab	5	CHEM 1320
CHM 240	Organic Chemistry I	3	CHEM 2210
CHM 241	Organic Chemistry II	5	CHEM 2220
CPT 182 or CPT 186	Beginning Programming in C++ or Object Orient Programming in C++	3	CS 1971, 1981 or CS 1570
MAT 215	Probability Theory		STAT 3115
	<i>See your advisor for course options.</i>		
	<i>See your advisor for course options.</i>		
	<i>No free electives applied to the degree.</i>		
	Group 2 Major Requirements	22	Group 2 Major Requirements
	Group 1 Core Requirements	43	Group 1 Core Requirements
	Total Hours	65	Total Hours*
			67

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

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements			
	<u>St. Charles Community College</u>	<u>Semester</u>	<u>Missouri S&T</u>
EN 102 or ENG 115	English Composition II or Technical Communications	3	ENGLISH 1160 or ENGLISH 3560
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200
CHM 116	General Chemistry II and Lab	5	CHEM 1320
CHM 240	Organic Chemistry I	3	CHEM 2210
CHM 241	Organic Chemistry II	5	CHEM 2220
CPT 182 or CPT 186	Beginning Programming in C++ or Object Orient Programming in C++	3	CS 1971, 1981 or CS 1570
MAT 215	Probability Theory	3	STAT 3115
	<i>See your advisor for course options.</i>		
	<i>See your advisor for course options.</i>		
	<i>No free electives applied to the degree.</i>		
	Group 2 Major Requirements	25	Group 2 Major Requirements
	Group 1 Core Requirements	43	Group 1 Core Requirements
	Total Hours	68	Total Hours*
			67

*S&T advisor permission is required to transfer more than 71 credits toward the S&T Chemical/Biochemical Engineering degree.

Civil Engineering Group 2 Major Requirements

St. Charles Community College		Semester	Missouri S&T		
ENG 102 or SPE 101 or ENG 115	English Composition II or Oral Communications or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
PHY 125/127	Introduction to Physical Geology and Lab	4	GEO 1111/GE 1150	Intro to Physical Geology	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>No free electives applied to the degree.</i>			Maximum Free Electives		0
Group 2 Major Requirements		19	Group 2 Major Requirements		21
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		62	Total Hours*		59

*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

St. Charles Community College		Semester	Missouri S&T		
SPE 101	Oral Communications	3	SPMS 1185	Public Speaking	3
ENG 102 or ENG 115	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CPT 186	Object Oriented Programming in C++	3	CS 1570	Intro to Programming (C++)	4
EGR 170 and EGR 210	Engineering Mechanics-Statics and Engineering Mechanics- Dynamics	6	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics and Engineering Mechanics-Dynamics (Both courses combined will satisfy a required engineering science elective.)	6
EGR 220	Electrical Circuits	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MAT 242	Introductory Linear Algebra	3	MATH 3108	Linear Algebra (Will satisfy a required math elective.)	3
MAT 215	Probability Statistics	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3117.)	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Maximum Free Electives		3
Group 2 Major Requirements		27	Group 2 Major Requirements		34
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		70	Total Hours*		72

*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

St. Charles Community College		Semester	Missouri S&T		
SPE 101	Oral Communications	3	SPMS 1185	Public Speaking	3
ENG 102 or ENG 115	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CPT 186	Object Oriented Programming in C++	3	CS 1570	Intro to Programming (C++)	4
EGR 170 & EGR 210	Engineering Mechanics-Statics & Engineering Mechanics- Dynamics	6	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics and Engineering Mechanics-Dynamics (Both courses combined will satisfy a required engineering science elective.)	6
EGR 220	Electrical Circuits	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MAT 242	Introductory Linear Algebra	3	MATH 3108	Linear Algebra	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3117.)	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Maximum Free Electives		3
Group 2 Major Requirements		27	Group 2 Major Requirements		34
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		70	Total Hours*		72

*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

St. Charles Community College		Semester	Missouri S&T		
PSY 101	Introduction to Psychology	3	PSYCH 1101	General Psychology	3
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 or	
HIS 102 or	US History Since 1877 or		HISTORY 1310 or	American History since 1877 or	
HIS 146 or	Western Civilization of Modern Europe or	3	HISTORY 1200 or	Modern Western Civilization or	3
POL 101	American Government		POL SCI 1200	American Government	
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or	
SPE 101 or	Oral Communications or	3	SPMS 1185 or	Principles of Speech or	3
ENG 115	Technical Writing		ENGLISH 3560	Technical Writing	
EGR 220	Electrical Circuits	3	EE 2800	Circuit Analysis I	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Maximum Free Electives		3
Group 2 Major Requirements		21	Group 2 Major Requirements		27
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		64	Total Hours*		65

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

Environmental Engineering Group 2 Major Requirements

St. Charles Community College		Semester	Missouri S&T		
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or	
SPE 101 or	Oral Communications or	3	SPMS 1185 or	Public Speaking or	3
ENG 115	Technical Writing		ENGLISH 3560	Technical Writing	
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 (preferred) or	
HIS 102 or	US History Since 1877 or	3	HISTORY 1310 or	American History since 1877 (preferred) or	3
HIS 146	Western Civilization of Modern Europe		HISTORY 1200	Modern Western Civilization	
PHY 125/127	Introduction to Physical Geology and Lab	4	GEO 1111/GE 1150	Intro to Physical Geology	3
CHM 116	General Chemistry II and Lab	5	CHEM 1320	General Chemistry II	3
BIO 105	Essentials of Biology	3	BIO SCI 1113	General Biology	4
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>No free electives applied to the degree.</i>			Maximum Free Electives		0
Group 2 Major Requirements		27	Group 2 Major Requirements		28
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		70	Total Hours*		66

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

Geological Engineering Group 2 Major Requirements

St. Charles Community College		Semester	Missouri S&T		
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or	
SPE 101 or	Oral Communications or	3	SPMS 1185 or	Public Speaking or	3
ENG 115	Technical Writing		ENGLISH 3560	Technical Writing	
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 or	
HIS 102 or	US History Since 1877 or		HISTORY 1310 or	American History since 1877 or	
HIS 146 or	Western Civilization of Modern Europe or	3	HISTORY 1200 or	Modern Western Civilization or	3
POL 101	American Government		POL SCI 1200	American Government	
PHY 125	Introduction to Physical Geology	3	GEO 1110/GE 1150	Physical and Environmental Geology	3
PHY 127	Introduction to Physical Geology Lab	1	GEO 1119/GE 1119	Physical and Environmental Geology Lab	1
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
BIO 105 or	Essentials of Biology or		BIO SCI 1113 or	General Biology or	
CHM 116 or	General Chemistry II and lab or	5	CHEM 1320 or	General Chemistry II or	
CHM 240	Organic Chemistry		CHEM 2210	Organic Chemistry I	
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>No free electives applied to the degree.</i>			Maximum Free Electives		0
Group 2 Major Requirements		21	Group 2 Major Requirements		22
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		64	Total Hours*		60

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

Mechanical Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 or
HIS 102 or	US History Since 1877 or		HISTORY 1310 or	American History since 1877 or
HIS 146 or	Western Civilization of Modern Europe or	3	HISTORY 1200 or	Modern Western Civilization or
POL 101	American Government		POL SCI 1200	American Government
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or
SPE 101 or	Oral Communications or	3	SPMS 1185 or	Principles of Speech or
ENG 115	Technical Writing		ENGLISH 3560	Technical Writing
CPT 182 or	Beginning Programming in C++ or		CS 1971, 1981 or	Intro to Programming Method and Lab (C++) or
CPT 186	Object Orient Programming in C++	3	CS 1570	Intro to Programming (C++)
EGR 220	Electrical Circuits	3	EE 2800	Circuit Analysis I
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2360	Dynamics
MAT 242 or	Introductory Linear Algebra or		MATH 3108 or	Linear Algebra I or
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics <small>(Will satisfy the Advanced Math/Comp Sci elective requirement.)</small>
<i>See your advisor for course options.</i>			Literature Elective	
<i>No free electives applied to the degree.</i>			Humanities/Social Science Elective	
Group 2 Major Requirements			Maximum Free Electives	
Group 1 Core Requirements			Group 2 Major Requirements	
Total Hours			Group 1 Core Requirements	
55			Total Hours*	
			18	
			38	
			56	

*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

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or
SPE 101 or	Oral Communications or	3	SPMS 1185 or	Public Speaking or
ENG 115	Technical Writing		ENGLISH 3560	Technical Writing
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 or
HIS 102 or	US History Since 1877 or		HISTORY 1310 or	American History since 1877 or
HIS 146 or	Western Civilization of Modern Europe or	3	HISTORY 1200 or	Modern Western Civilization or
POL 101	American Government		POL SCI 1200	American Government
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics
CHM 116	General Chemistry II and Lab	5	CHEM 1320	General Chemistry II
CHM 240 or	Organic Chemistry I or		CHEM 2210 or	Organic Chemistry I or
EGR 220	Electrical Circuits	3	EE 2800	Electrical Circuits <small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement</small>
<i>See your advisor for course options.</i>			Humanities/Social Science Elective	
<i>See your advisor for course options.</i>			Humanities/Social Science Elective	
<i>See your advisor for course options.</i>			Maximum Free Electives	
Group 2 Major Requirements			Group 2 Major Requirements	
Group 1 Core Requirements			Group 1 Core Requirements	
Total Hours			Total Hours*	
63			29	
			38	
			67	

*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>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 102 or ENG 115	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200*	Engineering Mechanics-Statics	3
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2350*	Engineering Mechanics-Dynamics	3
*The combination of CIV ENG 2200 and MECH ENG 2350 will be substituted for MECH ENG 2340. The Combination of CIV ENG 22000 and 2210 and MECH ENG 2350 will be substituted for MI ENG 3812					
PHY 125/127	Introduction to Physical Geology and Lab	4	GEO 1111/GE 1150	Intro to Physical Geology	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	19		Group 2 Major Requirements	24
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	62		Total Hours*	62

*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

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 102 or ENG 115	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CPT 182 or CPT 186	Beginning Programming in C++ or Object Orient Programming in C++	3	CS 1971, 1981 or CS 1570	Intro to Programming Method and Lab (C++) or Intro to Programming (C++)	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Maximum Free Electives	6
	Group 2 Major Requirements	15		Group 2 Major Requirements	27
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	58		Total Hours*	65

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

Petroleum Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 102 or ENG 115	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 101 or HIS 102 or HIS 146 or POL 101	US History to 1877 or US History Since 1877 or Western Civilization of Modern Europe or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
PHY 125	Introduction to Physical Geology	3	GEO 1110/GE 1150	Physical and Environmental Geology	3
PHY 127	Introduction to Physical Geology Lab	1	GEO ENG 1119	Physical and Environmental Geology Lab	1
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 210	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
MAT 215	Probability Theory	3	STAT 3115	Engineering Statistics	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	13		Group 2 Major Requirements	19
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	56		Total Hours*	57

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