

# St. Charles Community College — Missouri S&T

## General Engineering Transfer Guide

Effective as of Fall 2020

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&amp;T</u>			
MAT 180	Calculus and Analytical Geometry I	5	MATH 1214	Calculus for Engineers I <small>Grade of C or better is required.</small>	4	
MAT 230	Calculus and Analytical Geometry II	5	MATH 1215	Calculus for Engineers II <small>Grade of C or better is required.</small>	4	
MAT 240	Calculus and Analytical Geometry III	5	MATH 2222	Calculus with Analytic Geometry III <small>Grade of C or better is required.</small>	4	
MAT 250	Differential Equations	3	MATH 3304	Elementary Differential Equations	3	
PHY 250	Engineering Physics I	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4	
PHY 251	Engineering Physics II	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	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 and Computing	1	
ENG 101	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3	
ECO 120 or ECO 110	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
Total Hours		40			Total Hours	35

### 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](http://ugs.mst.edu). Your campus may have additional acceptable options. Consult with your advisor or email [transfer@mst.edu](mailto:transfer@mst.edu) with questions.

## Aerospace Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>	
EGR 104	3	MECH ENG 1720	3
HIS 146 or		HISTORY 1200 or	
HIS 101 or		HISTORY 1300 or	
HIS 102 or	3	HISTORY 1310 or	3
POL 101		POL SCI 1200	
ENG 102 or		ENGLISH 1160 or	
COM 106 or	3	SPMS 1185 or	3
ENG 115		ENGLISH 3560	
CPT 182	3	CS 1971, 1981	3
EGR 220	3	EE 2800	3
EGR 170	3	CIV ENG 2200	3
EGR 210	3	AERO ENG 2360	3
MAT 242	3	MATH 3108	3
LIT 250 or		ENGLISH 1211 or	
LIT 210 or		ENGLISH 1221 or	
LIT 272 or	3	ENGLISH 1231 or	3
LIT 223		ENGLISH 2245 or	
			(or
			)
	3		3
	0		0
	30		30
	40		35
Total Hours	70	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&amp;T</u>	
EGR 104	3	MECH ENG 1720	3
HIS 146*		HISTORY 1200*	
(or HIS 101 or		(or HISTORY 1300 or	
HIS 102)	3	HISTORY 1310)	3
			3
EGR 170	3	CIV ENG 2200	3
EGR 210	3	MECH ENG 2350	3
ENG 102 or		ENGLISH 1160 or	
COM 106 or		SPMS 1185 or	
HSS Elective	3	HSS Elective	3
PHY 125	3	GEOLOGY 1110	3
		(GEO ENG 1150)	
			0
	18		18
	40		35
Total Hours	58	Total Hours*	53

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

## Ceramic Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 240	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I (Not a specific requirement. Will satisfy the advanced chemistry elective requirement.)	4
CHM 116	General Chemistry II and Lab	5	CHEM 1320,1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not an S&T degree requirement; course will transfer as elective credit.	3
ENG 102 or COM 106 or HSS Elective	English Composition II or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	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	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	23		Group 2 Major Requirements	22
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	63		Total Hours*	57

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

## Chemical Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	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 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
CHM 116	General Chemistry II and Lab	5	CHEM 1320,1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not an S&T degree requirement; course will transfer as elective credit.	3
CHM 240 and CHM 241 and CHM 243	Organic Chemistry I and Organic Chemistry II and Organic Chemistry Lab	8	CHEM 2210, 2219 and CHM 2220,2229	Organic Chemistry I and Lab and Organic Chemistry II and Lab	10
CPT 182	Beginning Programming in C++	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
COM 106	Public Speaking	3	SP&MS 1185	Principles of Speech	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	31
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	71		Total Hours*	66

\*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

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	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 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
CHM 116	General Chemistry II and Lab	5	CHEM 1320,1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not an S&T degree requirement; course will transfer as elective credit.	3
CHM 240 and CHM 241 and CHM 243	Organic Chemistry I and Organic Chemistry II and Organic Chemistry Lab	8	CHEM 2210,2219 and CHM 2220,2229	Organic Chemistry I and Lab and Organic Chemistry II and Lab	10
CPT 182	Beginning Programming in C++	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
COM 106	Public Speaking	3	SP&MS 1185	Principles of Speech	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	31
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	71		Total Hours*	66

\*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

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 102 or COM 106 or ENG 115	English Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
PHY 125	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental 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
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	61		Total Hours*	56

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

## Computer Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 106	Public Speaking	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 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
EGR 170 and EGR 210 and (BOTH of the courses above or ONE of the courses below.) OR CHEM 240	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR Organic Chemistry I (3)	3-4	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR CHEM 2210	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR Organic Chemistry I (4)	3-4
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
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	62

\*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

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
COM 106	Public Speaking	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 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
EGR 170 and EGR 210 and (BOTH of the courses above or ONE of the courses below.) OR CHEM 240	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR Organic Chemistry I (3)	3-4	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR CHEM 2210	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR Organic Chemistry I (4)	3-4
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
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	70		Total Hours*	65

\*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>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
PSY 101	Introduction to Psychology	3	PSYCH 1101	General Psychology	3
HIS 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
ENG 102 or COM 106 or ENG 115	English Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CPT 182	Beginning Programming in C++	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
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
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	70		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

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 102 or COM 106 or ENG 115	English Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 146 or HIS 101 or HIS 102	Western Civ: Modern European Heritage 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	3
PHY 125	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 116	General Chemistry II and Lab	5	CHEM 1320,1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not an S&T degree requirement; course will transfer as elective credit.	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
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	28
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	69		Total Hours*	63

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

## Geological Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 102 or COM 106 or ENG 115	English Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
PHY 125	Intro to Physical Geology	3	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental 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
BIO 105 or CHM 116 or CHM 240	Essentials of Biology (3) or General Chemistry II (5) or Organic Chemistry I (3)	3-5	BIO SCI 1113 or CHEM 1320 or CHEM 2210	General Biology (3) or General Chemistry II (3) or Organic Chemistry I (4) <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3-4
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	62

\*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&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
ENG 102 or COM 106 or ENG 115	English Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CPT 182	Beginning Programming in C++	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
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 2360	Dynamics	3
MAT 242	Introductory Linear Algebra	3	MATH 3108	Linear Algebra I <small>(Will satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3
LIT 250 or LIT 210 or LIT 272 or LIT 223	English Literature Before 1800 or American Literature From 1620-1865 or World Lit-Ancient World thru Renaissance or African American Literature <small>(or other literature elective)</small>	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231 or ENGLISH 2245 or	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature I or African American Literature <small>(or other literature elective)</small>	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	70		Total Hours*	65

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

## Metallurgical Engineering Group 2 Major Requirements

<u>St. Charles Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 102 or COM 106 or ENG 115	English Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 116	General Chemistry II and Lab	5	CHEM 1320,1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not an S&T degree requirement; course will transfer as elective credit.	3
CHM 240 or EGR 220	Organic Chemistry I or Electrical Circuits	3	CHEM 2210 or EE 2800	Organic Chemistry I or Electrical Circuits <small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement</small>	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	5		Maximum Free Electives	5
	Group 2 Major Requirements	31		Group 2 Major Requirements	29
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	71		Total Hours*	64

\*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&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	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 146 or HIS 101 or HIS 102 or POL 101	Western Civ: Modern European Heritage or US History to 1877 or US History Since 1877 or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History Since 1877 or American Government	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
PHY 125	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	64		Total Hours*	59

\*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&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or	
ENG 115	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIS 146 or	Western Civ: Modern European Heritage or		HISTORY 1200 or	Modern Western Civilization or	
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 or	
HIS 102 or	US History Since 1877 or	3	HISTORY 1310 or	American History Since 1877 or	3
POL 101	American Government		POL SCI 1200	American Government	
MAT 242	Introductory Linear Algebra	3	MATH 3108	Linear Algebra	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	6		Maximum Free Electives	6
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	62

\*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&amp;T</u>		
EGR 104	Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 102 or	English Composition II or		ENGLISH 1160 or	Writing and Research or	
ENG 115	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIS 146 or	Western Civ: Modern European Heritage or		HISTORY 1200 or	Modern Western Civilization or	
HIS 101 or	US History to 1877 or		HISTORY 1300 or	American History to 1877 or	
HIS 102 or	US History Since 1877 or	3	HISTORY 1310 or	American History Since 1877 or	3
POL 101	American Government		POL SCI 1200	American Government	
PHY 125	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental 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
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	3		Maximum Free Electives	0
	Group 2 Major Requirements	27		Group 2 Major Requirements	24
	Group 1 Core Requirements	40		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	59

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