

St. Charles Community Colleges — 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.

St. Charles Community Colleges			Semester	Missouri S&T		
MAT 180	Calculus and Analytic Geometry I	5		MATH 1214	Calculus I	Grade of C or better is required. 4
MAT 230	Calculus and Analytic Geometry II	5		MATH 1215	Calculus II	Grade of C or better is required. 4
MAT 240	Calculus and Analytic Geometry III	5		MATH 2222	Calculus 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
EGR 100	Intro 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
		Total Hours	32			Total Hours 27

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

St. Charles Community Colleges		Semester	Missouri S&T			
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3	
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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	
CHM 115	General Chemistry I and Lab	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5	
CPT 182	Beginning Programming in C++	3	CS 1570	Intro to Programming (C++)	3	
EGR 220	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	3	
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
EGR 210	Engineering Mechanics-Dynamics	3	AERO ENG 2360	Dynamics	3	
MAT 242	Introductory Linear Algebra	3	MATH 3108	Linear Algebra I <small>Satisfies the Advanced Math/Comp Sci elective requirement.</small>	3	
PHL 160 or BUS 105	Ethics or Business Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3	PHILOS 1130 or PHILOS 3235	How Should I Live? An Introduction to Ethics or Business 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.						
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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		44	Group 2 Major Requirements		44	
Group 1 Core Requirements		32	Group 1 Core Requirements		27	
Total Hours		76			Total Hours*	71
<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

St. Charles Community Colleges			Semester	Missouri S&T	
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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
CHM 115	General Chemistry I and Lab	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	
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	2
PHY 125	Intro to Physical Geology	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.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <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.					
HIS 146*	Western Civ: Modern European Heritage* <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
PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	PHIL 1105 or PHIL 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		26
Group 1 Core Requirements		32	Group 1 Core Requirements		27
Total Hours		64			Total Hours*
<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

St. Charles Community Colleges		Semester	Missouri S&T		
COM 106	Public Speaking	3	SP&MS 1185	Principles of Speech	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 116	General Chemistry II and Lab	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	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* CHM 2220 and 2229 apply to the degree as a Track Elective. BIO SCI 1113, 1219 or BIO SCI 2223 are also Track Elective options.	8
CPT 135 or CPT 185 or CPT 189 or CPT 182*	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3) or Beginning Programming in C++*	3	CS 1500 or CS 1570*	Computational Problem Solving or Intro to Programming (C++)* *Course will be substituted for CS 1500.	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre *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 or THEATRE 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 or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 3 hours.					
HIS 145 or HIS 146* or GEO 110 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
Humanities, Arts, and Social Sciences					
ENGLISH 3560 required.					
ENG 115	Technical Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.					
Group 2 Major Requirements					
Group 1 Core Requirements					
Total Hours					
68					
Maximum Free Electives					
Group 2 Major Requirements					
Group 1 Core Requirements					
Total Hours*					
61					
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

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Biomedical Engineering-Biomaterials Group 2 Major Requirements

St. Charles Community Colleges			Semester	Missouri S&T	
COM 106	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 116	General Chemistry II and Lab	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
CHM 240 and CHM 241 and CHM 243	Organic Chemistry I and Organic Chemistry II and Organic Chemistry Lab	8	CHEM 2210, 2219* and CHEM 2220, 2229*	Organic Chemistry I and Lab* and Organic Chemistry II and Lab* *CHEM 2219 and 2229 Labs apply to the degree as Track Electives (non-engineering).	8
BIO 150	General Biology: Cells to Organisms	5	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
CPT 135 or CPT 185 or CPT 189 or CPT 182*	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3) or Beginning Programming in C++*	3	CS 1500 or CS 1570*	Computational Problem Solving or Intro to Programming (C++)* *Course will be substituted for CS 1500.	3
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 220	Electrical Circuits	3	ELEC ENG 2100*	Circuits I* *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100. Applies to the degree as a Track Elective (Engineering).	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre *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 or THEATRE 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 or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 3 hours from.					
HIS 145 or HIS 146* or GEO 110 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
Humanities, Arts, and Social Sciences ENGLISH 3560 required.					
ENG 115	Technical Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0		Maximum Free Electives	0
Group 2 Major Requirements		47		Group 2 Major Requirements	44
Group 1 Core Requirements		32		Group 1 Core Requirements	27
Total Hours		79			Total Hours* 71
*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

St. Charles Community Colleges		Semester	Missouri S&T		
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 116	General Chemistry II and Lab	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
CHM 240	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I <small>Satisfies the advanced chemistry elective requirement.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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		37	Group 2 Major Requirements		35
Group 1 Core Requirements		32	Group 1 Core Requirements		27
Total Hours		69			Total Hours*
*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

St. Charles Community Colleges			Semester	Missouri S&T	
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 106	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 116	General Chemistry II and Lab	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
CHM 240 and CHM 241 and CHM 243	Organic Chemistry I and Organic Chemistry II and Organic Chemistry Lab	8	CHEM 2210, 2219 and CHEM 2220,2229	Organic Chemistry I and Lab and Organic Chemistry II and Lab CHEM 2210 is a degree requirement. CHEM 2219 and 2220 will partially satisfy the 9-credit-hour science elective requirement (below). CHEM 2229 transfers as general elective credit.	8
CHEM 222 or BIO 246	Quantitative Analysis or Microbiology	4	CHEM 2510 or BIO SCI 3313, 3319	Analytical Chemistry (4) or Microbiology and Lab (5) Will satisfy science elective requirement. Select from these options and CHEM 2219 and 2220 (above) to total 9 hours..	5
CPT 135 or CPT 185 or CPT 189 or CPT 182*	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3) or Beginning Programming in C++*	3	CS 1500 or CS 1570*	Computational Problem Solving or Intro to Programming (C++)* *Course 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.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre *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 or THEATRE 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 or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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 ENGLISH 3560 required.					
ENG 115	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	45
Group 1 Core Requirements		32		Group 1 Core Requirements	27
Total Hours		78			Total Hours*
				*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

St. Charles Community Colleges			Semester	Missouri S&T		
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3	
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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	
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
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	2	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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		35	Group 2 Major Requirements		34	
Group 1 Core Requirements		32	Group 1 Core Requirements		27	
Total Hours		67			Total Hours*	61
*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 Colleges			Semester	Missouri S&T	
COM 106	Public Speaking	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CPT 135 or CPT 185 or CPT 189	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3)	3	CS 1500	Computational Problem Solving	3
CPT 182	Beginning Programming in C++	3	COMP SCI 1570	Intro to Programming (C++)	3
CPT 281	Intro to Data Structures with C++	3	COMP SCI 1575	Data Structures	3
EGR 170 or EGR 210 or CHEM 240	Engineering Mechanics-Statics or Engineering Mechanics-Dynamics or Organic Chemistry I	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3) Satisfies a required engineering/science elective.	3
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 ELEC ENG 2100.	3
MAT 242	Introductory 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.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre *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 or THEATRE 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 or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIS 145 or HIS 146* or GEO 110 or PHIL 101 or PHIL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
ENG 102 or ENG 115	English 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	44		Group 2 Major Requirements	44
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	76		Total Hours*	71
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.					

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

Electrical Engineering Group 2 Major Requirements

St. Charles Community Colleges			Semester	Missouri S&T	
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 106	Public Speaking	3	SPMS 1185	Principles of Speech	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CPT 135 or CPT 185 or CPT 189	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3)	3	CS 1500	Computational Problem Solving	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	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) Three hours will apply to the engineering science elective requirement; any additional hours will apply to degree totals as general elective credit.	3
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 ELEC ENG 2100.	4
MAT 242	Introductory 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.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre *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 or THEATRE 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 or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 102 or ENG 115	English 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	41		Group 2 Major Requirements	45
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	73		Total Hours*	72
				*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

St. Charles Community Colleges		Semester	Missouri S&T		
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 106	Public Speaking	3	SPMS 1185	Principles of Speech	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CPT 182	Beginning Programming in C++	3	CS 1570	Intro to Programming (C++)	3
BUS 201	Principles of Management	3	ENG MGT 2110	Managing Engineering and Technology	3
BUS 204	Total Quality Operations Management	3	ENG MGT 3310	Operations and Production Management	3
EGR 220	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	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	2
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include					
6 hours Humanities and Fine Arts from at least two specific disciplines and					
6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 250 or	English Literature Before 1800 or	6	ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	6
LIT 260 or	English Literature After 1800 or		ENGLISH 1212 or	British Literature II: 1800 to Present	
LIT 210 or	American Literature From Beginnings-1865 or		ENGLISH 1221 or	American Literature: 1600 to 1865 or	
LIT 220 or	American Literature From 1865-Present or		ENGLISH 1222 or	American Literature: 1865 to Present or	
LIT 272 or	World Literature-Ancient World thru Renaissance or		ENGLISH 1231 or	World Literature I: Beginnings to the Renaissance 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		HISTORY 1310* or	American History Since 1877* or	
ART 1001 or	Art Appreciation or		ART 1180 or	Art Appreciation or	
MUS 111 or	Music Appreciation or		MUSIC 1150 or	Music Understanding and Appreciation or	
THE 122	Intro to the Theatre	THEATRE 1150	Theatre for Social Change		
*Satisfies the State of Missouri government requirement.					
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines to include PSYCH 1101.					
PSY 101	Introduction to Psychology	3	PSYCH 1101	General Psychology Required	3
HIS 145 or	Western Civilizations Ancient and Medieval or	3	HISTORY 1100 or	Early Western Civilization or	3
HIS 146* or	Western Civilizations Modern European* or		HISTORY 1200* or	Modern Western Civilization* or	
GEO 110 or	Geography for Educators or		HISTORY 2110 or	World Regional Geography or	
PHL 101 or	Intro to Philosophy or		PHIL 1105 or	Self and World: Intro to Philosophy or	
PHL 102 or	Intro to Logic or		PHIL 1115 or	Logic and Reasoning: An Introduction or	
POL 101* or	American Government* or		POL SCI 1200* or	American Government*or	
ECO 120 or	Principles of Microeconomics or		ECON 1100 or	Principles of Microeconomics or	
ECO 110 or	Principles of Macroeconomics 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					
Select 3 hours.					
ENG 102 or	English Composition II or	3	ENGLISH 1160 or	Writing and Research or	3
ENG 115	Technical Writing		ENGLISH 3560	Technical Writing	
No free electives applied to the degree.		0	Electives	Maximum Free Electives	0
Group 2 Major Requirements		44		Group 2 Major Requirements	43
Group 1 Core Requirements		32		Group 1 Core Requirements	27
Total Hours		76			Total Hours*
*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

St. Charles Community Colleges			Semester	Missouri S&T	
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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
PHY 125	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 116	General Chemistry II and Lab	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 105	Essentials of Biology	3	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
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	2
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <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					
HIS 146*	Western Civ: Modern European Heritage* <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
PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	PHIL 1105 or PHIL 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		40	Group 2 Major Requirements		37
Group 1 Core Requirements		32	Group 1 Core Requirements		27
Total Hours		72			Total Hours* 64
<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

St. Charles Community Colleges		Semester	Missouri S&T			
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3	
ENG 115	Technical Writing	3	ENGLISH 3560	Technical Writing	3	
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CPT 135 or CPT 185 or CPT 189	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3)	3	CS 1500	Computational Problem Solving	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	2	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include						
6 hours Humanities and Fine Arts from at least two specific disciplines and						
6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre	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 or THEATRE 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 or Theatre for Social Change	6	
*Satisfies the State of Missouri government requirement.						
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	6	
*Satisfies the State of Missouri government requirement.						
Humanities, Arts, and Social Sciences						
Select 3 hours.						
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		38	Group 2 Major Requirements		37	
Group 1 Core Requirements		32	Group 1 Core Requirements		27	
Total Hours		70			Total Hours*	64
*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

St. Charles Community Colleges		Semester	Missouri S&T			
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3	
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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	
CHM 115	General Chemistry I and Lab	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5	
CPT 182	Beginning Programming in C++	3	CS 1570	Intro to Programming (C++)	3	
EGR 220	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	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 <small>Satisfies the Advanced Math/Statistics elective requirement.</small>	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		41	Group 2 Major Requirements		41	
Group 1 Core Requirements		32	Group 1 Core Requirements		27	
Total Hours		73			Total Hours*	68
<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

St. Charles Community Colleges			Semester	Missouri S&T		
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3	
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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	
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHM 116	General Chemistry II and Lab	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	
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	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
Maximum Free Electives		3	Maximum Free Electives		3	
Group 2 Major Requirements		40	Group 2 Major Requirements		38	
Group 1 Core Requirements		32	Group 1 Core Requirements		27	
Total Hours		72			Total Hours*	65
<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

St. Charles Community Colleges			Semester	Missouri S&T	
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
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	2
PHY 125	Intro to Physical Geology	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.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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		32	Group 2 Major Requirements		31
Group 1 Core Requirements		32	Group 1 Core Requirements		27
Total Hours		64			Total Hours* 58
<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

St. Charles Community Colleges			Semester	Missouri S&T		
EGR 104	Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3	
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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	
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CPT 182	Beginning Programming in C++	3	CS 1570*	Intro to Programming (C++)* <small>*CS 1570 will be substituted for CS 1971.</small>	3	
MAT 242	Introductory Linear Algebra	3	MATH 3108	Linear Algebra	3	
EGR 170	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
EGR 220	Electrical Circuits	3	ELEC ENG 2800	Electrical Circuits	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre <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 or THEATRE 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 or Theatre for Social Change <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
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	
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to 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 PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
Maximum Free Electives		0	Maximum Free Electives		0	
Group 2 Major Requirements		38	Group 2 Major Requirements		38	
Group 1 Core Requirements		32	Group 1 Core Requirements		27	
Total Hours		70			Total Hours*	
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.</small>						

Petroleum Engineering Group 2 Major Requirements

St. Charles Community Colleges		Semester	Missouri S&T		
ENG 102 or ENG 115 or COM 106	English Composition II or Technical Writing or Public Speaking	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
CHM 115	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CPT 135 or CPT 185 or CPT 189	Computer Science I with Python (4) or Programming in C Sharp (3) or Java Programming (3)	3	COMP SCI 1500	Computational Problem Solving	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	2
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
LIT 250 or LIT 260 or LIT 210 or LIT 220 or LIT 272 or HIS 101* or HIS 102* or ART 1001 or MUS 111 or THE 122	English Literature Before 1800 or English Literature After 1800 or American Literature From Beginnings-1865 or American Literature From 1865-Present or World Literature-Ancient World thru Renaissance or US History to 1877* or US History Since 1877* or Art Appreciation or Music Appreciation or Intro to the Theatre *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 or THEATRE 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 or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIS 145 or HIS 146* or GEO 110 or PHL 101 or PHL 102 or POL 101* or PSY 101 or ECO 120 or ECO 110 or Foreign Language	Western Civilizations Ancient and Medieval or Western Civilizations Modern European* or Geography for Educators or Intro to Philosophy or Intro to Logic or American Government* or Intro to Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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		35	Group 2 Major Requirements		34
Group 1 Core Requirements		32	Group 1 Core Requirements		27
Total Hours		67			Total Hours*
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.					