

Columbia College — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2023

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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MATH 215 and MATH 226 and MATH 235	Differential Calculus and Integral Calculus, Part I and Integral Calculus, Part II	9	MATH 1214 and MATH 1215	Calculus for Engineers I and Calculus for Engineers II	8
MATH 300	Multivariate Calculus	3	MATH 2222	Calculus III	4
MATH 370	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHYS 211	Calculus-Based Physics I	5	PHYSICS 1135	Engineering Physics I	4
PHYS 212	Calculus-Based Physics II	5	PHYSICS 2135	Engineering Physics II	4
CHEM 110, 111L	Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
ENGL 111	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ECON 294 or ECON 293	Microeconomics or Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours		36	Total Hours		34

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 art, English and technical communication, etymology, foreign language, music, philosophy, speech and media studies, or theatre. Your campus may have additional acceptable options. Consult with your advisor or email transfer@mst.edu with questions. See Missouri S&T online catalog at <https://catalog.mst.edu/undergraduate/degreeprogramsandcourses/> for more information.

Aerospace Engineering Group 2 Major Requirements

<u>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
ENGL 112 or COMM 110 or ENGL 204	English Composition II or Intro to Speech or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CISS 241	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 303 or MATH 338	Linear Algebra or Mathematical Statistics and Probability	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics or Literature Elective	3
	Literature Elective	3		Ethics Elective	3
	Ethics Elective	3		Engineering, business, bio, social or other ethics approved by advisor.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	52

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 121 (or HIST 122 or HIST 102)	American History to 1877 (or American History since 1877 or Western Civilization II)	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877) <small>*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.</small>	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
GEOL 110	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	48		Total Hours*	46

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
HIST 121 or HIST 122 or HIST 102 or GOVT 112 CHEM 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II Chemistry II	3 3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200 CHEM 1320	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government General Chemistry II
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics (or any statistics course 3000-level or higher. Satisfies statistics elective requirement.)
ENGL 112 or COMM 110 or HSS Elective	English Composition II or Intro to Speech 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
	Humanities/Social Science Elective	3		Humanities/Social Science Elective
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	15		Group 2 Major Requirements
	Group 1 Core Requirements	36		Group 1 Core Requirements
	Total Hours	51		Total Hours*
				49

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
ENGL 204	Technical Writing	3	ENGLISH 3560	Technical Writing
HIST 121 or HIST 122 or HIST 102 or GOVT 112 CHEM 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II Chemistry II	3 3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200 CHEM 1320	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government General Chemistry II
CISS 240 or CISS 242 or CISS 241*	Intro to Programming or Programming II or Programming I*	3	CS 1500 or CS 1971, 1981*	Computational Problem Solving (3) or Intro to Programming Method and Lab (C++)* <small>*will be substituted for CS 1500</small>
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)
COMM 110	Intro to Speech	3	SP&MS 1185	Principles of Speech
	Humanities/Social Science Elective	3		Humanities/Social Science Elective
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	21		Group 2 Major Requirements
	Group 1 Core Requirements	36		Group 1 Core Requirements
	Total Hours	57		Total Hours*
				55

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

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 204	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
CHEM 112	Chemistry II	3	CHEM 1320	General Chemistry II	3
CISS 240 or CISS 242 or CISS 241*	Intro to Programming or Programming II or Programming I*	3	CS 1500 or CS 1971, 1981*	Computational Problem Solving (3) or Intro to Programming Method and Lab (C++)* <small>*will be substituted for CS 1500</small>	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
COMM 110	Intro to Speech	3	SP&MS 1185	Principles of Speech	3
	Humanities/Social Science Elective	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	36		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	55

*S&T advisor permission is required to transfer more than 70 credits toward the S&T Chemical/Biochemical Engineering degree.

Civil Engineering Group 2 Major Requirements

<u>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 112 or COMM 110 or ENGL 204	English Composition II or Intro to Speech or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
GEOL 110	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	51		Total Hours*	49

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COMM 110	Intro to Speech	3	SPMS 1185	Public Speaking	3
ENGL 112 or ENGL 204	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
MATH 225	Discrete Mathematics I	3	CS 1200	Discrete Math for Computer Science	3
CISS 240 or CISS 242	Intro to Programming or Programming II	3	CS 1500	Computational Problem Solving	3
MATH 303 or MATH 380	Linear Algebra or Advanced Calculus I	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics <small>(Will satisfy a required math elective.)</small>	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics <small>(Will be substituted for STAT 3117.)</small>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	61

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COMM 110	Intro to Speech	3	SPMS 1185	Public Speaking	3
ENGL 112 or ENGL 204	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
CISS 240 or CISS 242	Intro to Programming or Programming II	3	CS 1500	Computational Problem Solving	3
MATH 303	Linear Algebra	3	MATH 3108	Linear Algebra	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics <small>(Will be substituted for STAT 3117.)</small>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	58

*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

Engineering Management Group 2 Major Requirements					
<u>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
COMM 110	Intro to Speech	3	SPMS 1185	Principles of Speech	3
ENGL 112 or ENGL 204	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
CISS 241	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	58

*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

Environmental Engineering Group 2 Major Requirements					
<u>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 112 or COMM 110 or ENGL 204	English Composition II or Intro to Speech or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 121 or HIST 122 or HIST 102	American History to 1877 or American History since 1877 or Western Civilization II	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
GEOL 110	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 112	Chemistry II	3	CHEM 1320	General Chemistry II	3
BIOL 110	Principles of Biology	3	BIO SCI 1113	General Biology	4
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
	Humanities/Social Science Elective	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	22
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	56

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 204	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
GEOL 110	Intro to Physical Geology	3	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics <small>Applies to the degree as a required statistics elective.</small>	3
BIOL 110 or CHEM 112	Principles of Biology or Chemistry II	3	BIO SCI 1113 or CHEM 1320 or	General Biology or General Chemistry II or <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	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	36		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	55

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
ENGL 112 or COMM 110 or ENGL 204	English Composition II or Intro to Speech or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CISS 241	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 303 or MATH 338	Linear Algebra or Mathematical Statistics and Probability	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics <small>(Will satisfy the Advanced Math/Computer Science elective requirement.)</small>	3
	Literature Elective	3		Literature Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	52

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 112 or COMM 110 or ENGL 204	English Composition II or Intro to Speech or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics	3
CHEM 112	Chemistry II	3	CHEM 1320	General Chemistry II	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	5		Maximum Free Electives	3
	Group 2 Major Requirements	23		Group 2 Major Requirements	21
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	59		Total Hours*	55

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 112 or ENGL 204	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics	3
GEOL 110	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	52

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 112 or COMM 110 or ENGL 204	English Composition II or Intro to Speech or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
CISS 241	Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 303 or MATH 380	Linear Algebra or Advanced Calculus I	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics <small>(Will satisfy a required math elective.)</small>	3
MATH 338	Mathematical Statistics and Probability	3	STAT 3115	Engineering Statistics	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	6		Maximum Free Electives	6
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	61

*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>Columbia College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 204 or ENGL 112	Technical Writing or English Composition II	3	ENGLISH 3560 or ENGLISH 1160	Technical Writing (preferred) or Writing and Research	3
HIST 121 or HIST 122 or HIST 102 or GOVT 112	American History to 1877 or American History since 1877 or Western Civilization II or American Government II	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
CISS 241	Programming I	3	CS 1972, 1982	Intro to Programming Method and Lab (C++)	3
GEOL 110	Intro to Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	52

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