

Richland College — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2017

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

Group 1 - Core Requirements: All Majors Take All Courses

Engineering students take all Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice. Math prerequisites: While they are not part of Missouri S&T engineering degree requirements, algebra and trigonometry skills are critical to success in calculus. To prepare for entry into calculus, students should follow math placement testing and advising recommendations at their college.

<u>Richland College</u>			<u>Semester</u>	<u>Missouri S&T</u>			
MATH 2413 & MATH 2414	Calculus I and Calculus II	8		MATH 1214 & MATH 1215	Calculus for Engineers I and Calculus II for Engineers <small>Grade of C or better is required.</small>	8	
MATH 2415	Calculus III	4		MATH 2222	Calculus with Analytic Geometry III <small>Grade of C or better is required.</small>	4	
MATH 2420	Differential Equations	4		MATH 3304	Elementary Differential Equations	3	
PHYS 2425	University Physics I	4		PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4	
PHYS 2426	University Physics II	4		PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	4	
CHEM 1411	General Chemistry I	4		CHEM 1310, 1319	General Chemistry I and Lab	5	
ENGR 1201 and ENGR 1304	Intro to Engineering and Graphics	Engineering	5	FR ENG 1100 and MECH ENG 1720	Study and Careers in Engineering and Engineering Design with Computer Appl	4	
ENGL 1301	Composition I	3		ENGLISH 1120	Exposition and Argumentation	3	
ECON 2302 or ECON 2301	Principles of Economics II or Principles of Economics I	3		ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
Total Hours			39				Total Hours 38

Group 2 - Major Requirements: Take All Courses for Major of Choice

Engineering students take all Group 1 - Core Requirements (above) and Group 2 - Major Requirements for chosen major from list below. See course requirements on following pages.

Aerospace Engineering
Architectural Engineering
Ceramic Engineering
Chemical Engineering
Chemical Engineering/Biochemistry Emphasis
Civil Engineering
Computer Engineering
Electrical Engineering

Engineering Management
Environmental Engineering
Geological Engineering
Mechanical Engineering
Metallurgical Engineering
Mining Engineering
Nuclear Engineering
Petroleum Engineering

Engineering Major Requirements are detailed on the following pages.

Free Electives: Some programs allow Free Electives as indicated within each major. Free Electives should be selected in consultation with your advisor and may not include remedial/deficiency courses, algebra, trigonometry, pre-calculus, or extra credits in required courses.

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

Aerospace Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing
ENGR 2307	Fundamentals of Circuit Analysis (for non-EE majors)	3	EE 2800	Circuit Analysis I
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials
MATH 2418 or EGR 2300	Linear Algebra or Applied Linear Algebra	4 3	MATH 3108	Linear Algebra I (Will satisfy the Advanced Math/Comp Sci elective requirement.)
<i>See your advisor for course options.</i>				Literature Elective
<i>See your advisor for course options.</i>				Ethics Elective
<i>No free electives applied to the degree.</i>				Maximum Free Electives
Group 2 Major Requirements		15	Group 2 Major Requirements	
Group 1 Core Requirements		39	Group 1 Core Requirements	
Total Hours		54	Total Hours*	
			62	

*S&T advisor permission is required to transfer more than 66 credits toward the S&T Aerospace Engineering degree.

Architectural Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
HIST 2312 or HIST 1301 or HIST 1302	Western Civilization II or History of the United States I or History of the United States 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>
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials
ENGL 1302 or SPCH 1315	Composition II or Fundamental of Public Speaking	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
GEOL 1403	Physical Geology	4	GEOLGY 1111	Intro to Physical Geology (or other chemistry, geology, biology, physics, or astronomy course that is not otherwise required for the degree) Applies to
<i>No free electives applied to the degree.</i>				Maximum Free Electives
Group 2 Major Requirements		19	Group 2 Major Requirements	
Group 1 Core Requirements		39	Group 1 Core Requirements	
Total Hours		58	Total Hours*	
			56	

*S&T advisor permission is required to transfer more than 66 credits toward the S&T Architectural Engineering degree.

Ceramic Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
ENGL 1302 or SPCH 1315	Composition II or Fundamental of Public Speaking	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 Humanities/Social Science Elective	3
<i>See your advisor for course options.</i>			<i>Maximum Free Electives</i>		0
<i>No free electives applied to the degree.</i>			<i>Group 2 Major Requirements</i>		18
<i>Group 2 Major Requirements</i>		16	<i>Group 1 Core Requirements</i>		38
<i>Group 1 Core Requirements</i>		39	Total Hours*		56
Total Hours		55	*S&T advisor permission is required to transfer more than 66 credits toward the S&T Ceramic Engineering degree.		

Chemical Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>			
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3	
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3	
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	5	
<i>See your advisor for course options.</i>			<i>Humanities/Social Science Elective</i>		3	
<i>See your advisor for course options.</i>			<i>Humanities/Social Science Elective</i>		3	
<i>No free electives applied to the degree.</i>			<i>Maximum Free Electives</i>		0	
<i>Group 2 Major Requirements</i>		10	<i>Group 2 Major Requirements</i>		17	
<i>Group 1 Core Requirements</i>		39	<i>Group 1 Core Requirements</i>		38	
Total Hours		49	Total Hours*			55
			*S&T advisor permission is required to transfer more than 69 credits toward the S&T Chemical Engineering degree.			

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>			
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3	
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3	
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	5	
<i>See your advisor for course options.</i>			<i>Humanities/Social Science Elective</i>		3	
<i>See your advisor for course options.</i>			<i>Humanities/Social Science Elective</i>		3	
<i>No free electives applied to the degree.</i>			<i>Maximum Free Electives</i>		0	
<i>Group 2 Major Requirements</i>		10	<i>Group 2 Major Requirements</i>		17	
<i>Group 1 Core Requirements</i>		39	<i>Group 1 Core Requirements</i>		38	
Total Hours		49	Total Hours*			55
			*S&T advisor permission is required to transfer more than 71 credits toward the S&T Chemical/Biochemical Engineering degree.			

Civil Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	3
GEOL 1403	Physical Geology	4	GEO 1110/GE 1150	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	3
<i>See your advisor for course options.</i>				3
<i>No free electives applied to the degree.</i>				0
Group 2 Major Requirements		19	Group 2 Major Requirements	21
Group 1 Core Requirements		39	Group 1 Core Requirements	38
Total Hours		58	Total Hours*	
			59	

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

Computer Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 1185	3
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	3
ENGR 2301 & ENGR 2302	Engineering Mechanics I - Statics and Engineering Mechanics II- Dynamics	6	CIV ENG 2200 and MECH ENG 2350	6
ENGR 2305	Electrical Circuits I (for EE majors)	3	EE 2100**	3
MATH 2418 or EGR 2300	Linear Algebra or Applied Linear Algebra	4 3	MATH 3108	3
<i>See your advisor for course options.</i>				3
<i>See your advisor for course options.</i>				3
Group 2 Major Requirements		18	Group 2 Major Requirements	27
Group 1 Core Requirements		39	Group 1 Core Requirements	38
Total Hours		57	Total Hours*	
			65	

*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>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 1185	3
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	3
ENGR 2301 & ENGR 2302	Engineering Mechanics I - Statics and Engineering Mechanics II- Dynamics	6	CIV ENG 2200 and MECH ENG 2350	6
ENGR 2305	Electrical Circuits I (for EE majors)	3	EE 2100**	3
MATH 2418 or EGR 2300	Linear Algebra or Applied Linear Algebra	4 3	MATH 3108	3
<i>See your advisor for course options.</i>				3
<i>See your advisor for course options.</i>				3
Group 2 Major Requirements		18	Group 2 Major Requirements	27
Group 1 Core Requirements		39	Group 1 Core Requirements	38
Total Hours		57	Total Hours*	
			65	

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

Engineering Management Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
PSYCH 2301	General Psychology	3	PSYCH 1101	General Psychology	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
ENGR 2307	Fundamentals of Circuit Analysis (for non-EE majors)	3	EE 2800	Circuit Analysis I	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
<i>See your advisor for course options.</i>				Humanities/Social Science Elective	3
<i>See your advisor for course options.</i>				Maximum Free Electives	3
Group 2 Major Requirements		21	Group 2 Major Requirements		27
Group 1 Core Requirements		39	Group 1 Core Requirements		38
Total Hours		60	Total Hours*		65

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

Environmental Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312	History of the United States I or History of the United States II or Western Civilization II	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200	American History to 1877 (preferred) or American History since 1877 (preferred) or Modern Western Civilization	3
GEOL 1403	Physical Geology	4	GEO 1110/GE 1150	Intro to Physical Geology	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
BIOL 1406	Biology for Science Majors I	4	BIO SCI 1113	General Biology	4
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
<i>See your advisor for course options.</i>				Humanities/Social Science Elective	3
<i>No free electives applied to the degree.</i>				Maximum Free Electives	0
Group 2 Major Requirements		27	Group 2 Major Requirements		28
Group 1 Core Requirements		39	Group 1 Core Requirements		38
Total Hours		66	Total Hours*		66

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

Geological Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
GEOL 1403	Physical Geology	4	GEO 1110/GE 1150	Physical and Environmental Geology	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
BIOL 1406	Biology for Science Majors I	4	BIO SCI 1113 or CHEM 1320 or CHEM 2210	General Biology or General Chemistry II or Organic Chemistry I	3
<i>See your advisor for course options.</i>				<i>or any 3-hour course in chemistrv, aeochemistrv, or bioloav</i>	3
<i>See your advisor for course options.</i>				Humanities/Social Science Elective	3
<i>No free electives applied to the degree.</i>				Humanities/Social Science Elective	3
<i>No free electives applied to the degree.</i>				Maximum Free Electives	0
Group 2 Major Requirements		23	Group 2 Major Requirements		24
Group 1 Core Requirements		39	Group 1 Core Requirements		38
Total Hours		62	Total Hours*		62

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

Mechanical Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
ENGR 2307	Fundamentals of Circuit Analysis (for non-EE majors)	3	EE 2800	Circuit Analysis I	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MATH 2418 or EGR 2300	Linear Algebra or Applied Linear Algebra	4 3	MATH 3108	Linear Algebra I (Will satisfy the Advanced Math/Comp Sci elective requirement.)	3
<i>See your advisor for course options.</i>			Literature Elective		3
<i>No free electives applied to the degree.</i>			Humanities/Social Science Elective		3
			Maximum Free Electives		0
Group 2 Major Requirements		9	Group 2 Major Requirements		18
Group 1 Core Requirements		39	Group 1 Core Requirements		38
Total Hours		48	Total Hours*		56

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

Metallurgical Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or SPCH 1315 or ENGL 2311	Composition II or Fundamental of Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
ENGR 2307	Fundamentals of Circuit Analysis (for non-EE majors)	3	EE 2800	Electrical Circuits <i>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement</i>	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Maximum Free Electives		5
Group 2 Major Requirements		19	Group 2 Major Requirements		29
Group 1 Core Requirements		39	Group 1 Core Requirements		38
Total Hours		58	Total Hours*		67

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

Mining Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200*	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350*	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210*	Mechanics of Materials	3
*The combination of CIV ENG 2200 and MECH ENG 2350 will be substituted for MECH ENG 2340. The Combination of CIV ENG 22000 and 2210 and MECH ENG 2350 will be substituted for MI ENG 3812					
GEOL 1403	Physical Geology	4	GEO 1110/GE 1150	Intro to Physical Geology	3
				Humanities/Social Science Elective	3
				Humanities/Social Science Elective	3
				Maximum Free Electives	0
		19			24
		39			38
Total Hours		58			62

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

Nuclear Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
				Humanities/Social Science Elective	3
				Humanities/Social Science Elective	3
				Maximum Free Electives	6
		12			24
		39			38
Total Hours		51			62

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

Petroleum Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	History of the United States I or History of the United States II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2332	Mechanics of Materials	3	GEO 1110/GE 1150	Physical and Environmental Geology	3
ENGR 2301	Engineering Mechanics I - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
				Humanities/Social Science Elective	3
				Humanities/Social Science Elective	3
				Maximum Free Electives	0
		12			18
		39			38
Total Hours		51			56

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