

Richland 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>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MATH 2413 and	Calculus I and		MATH 1214 and	Calculus I and	4
MATH 2414	Calculus II	4	MATH 2414	Calculus II Grade of C or better is required in both courses.	4
MATH 2415	Calculus III	4	MATH 2222	Calculus III Grade of C or better is required.	4
MATH 2420	Differential Equations	4	MATH 3304	Elementary Differential Equations	3
PHYS 2425	University Physics I	4	PHYSICS 1135	Engineering Physics I Grade of C or better is required.	4
PHYS 2426	University Physics II	4	PHYSICS 2135	Engineering Physics II Grade of C or better is required.	4
CHEM 1411	General Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
ENGR 1201 and	Intro to Engineering and		FR ENG 1100 and	Study and Careers in Engineering and Computing and	
ENGR 1304	Engineering Graphics	5	MECH ENG 1720*	Intro to Engineering Design*	4
				<small>*MECH ENG 1720 is not required for computer engineering majors.</small>	
ENGL 1301	Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ECON 2302 or	Principles of Economics II or		ECON 1100 or	Principles of Microeconomics or	
ECON 2301	Principles of Economics I	3	ECON 1200	Principles of Macroeconomics	3
Total Hours		35	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>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
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 2305	Electrical Circuits I	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 ENGR 2300	Linear Algebra or Applied Linear Algebra	3	MATH 3108	Linear Algebra (Will satisfy the Advanced Math/Computer Science elective requirement.)	3
	Literature Elective	3		Literature Elective	3
	Ethics Elective Engineering, business, bio, social or other ethics approved by advisor.	3		Ethics Elective 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	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	59		Total Hours*	58

*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>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>	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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	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 1403	Physical Geology	4	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	19		Group 2 Major Requirements	17
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	51

*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>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
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 or HSS Elective	Composition II or Fundamental of Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Principles of Speech or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	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	19		Group 2 Major Requirements	18
	Group 1 Core Requirements	35		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 Ceramic Engineering degree.

Chemical Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 2311	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	CS 1500	Computational Problem Solving	3
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 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	20		Group 2 Major Requirements	18
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	55		Total Hours*	52

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

Chemical Engineering - Biochemical Engineering Emphasis 2 Major Requirements

Group

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 2311	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	CS 1500	Computational Problem Solving	3
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 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	20		Group 2 Major Requirements	18
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	55		Total Hours*	52

*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>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 Principles of Speech or Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
GEOL 1403	Physical Geology	4	GEOLOGY 1110 (GEO ENG 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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	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	22		Group 2 Major Requirements	20
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	54

*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

Richland College		Semester	Missouri S&T		
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	CS 1500	Computational Problem Solving	3
ENGR 2301 or ENGR 2302	Engineering Mechanics I -Statics or Engineering Mechanics II -Dynamics	3	CIV ENG 2200 or MECH ENG 2350	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2)	3
ENGR 2305	Electrical Circuits I	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MATH 2418 or ENGR 2300	Linear Algebra or Applied Linear Algebra	3	MATH 3108	Linear Algebra or (Will satisfy a required math elective.)	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	28		Group 2 Major Requirements	27
	Group 1 Core Requirements	35		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

Richland College		Semester	Missouri S&T		
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	CS 1500	Computational Problem Solving	3
ENGR 2301 & ENGR 2302	Engineering Mechanics I - Statics and Engineering Mechanics II- Dynamics	6	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) (Both courses above combined will satisfy a required engineering science elective.)	3
ENGR 2305	Electrical Circuits I	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MATH 2418 or ENGR 2300	Linear Algebra or Applied Linear Algebra	3	MATH 3108	Linear Algebra or (Will satisfy a required math elective.)	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	31		Group 2 Major Requirements	27
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	61

*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

Richland College		Semester	Missouri S&T		
PSYCH 2301	General Psychology	3	PSYCH 1101	General Psychology	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
SPCH 1315	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
ENGR 2305	Electrical Circuits I	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	2
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	3		Maximum Free Electives	3
	Group 2 Major Requirements	30		Group 2 Major Requirements	29
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	63

*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 Principles of Speech or Technical Writing	3
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	3
GEOL 1403	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental 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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	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	30		Group 2 Major Requirements	27
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	61

*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>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 2311	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
GEOL 1403	Physical Geology	4	GEO ENG 1150 (GEOLOGY 1110)	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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
BIOL 1406 or CHEM 1412	Biology for Science Majors I or General Chemistry II	4	BIO SCI 1113 or CHEM 1320	General Biology or General Chemistry II	3
	Humanities/Social Science Elective	3		or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Humanities/Social Science Elective	3
	Group 2 Major Requirements	29		Maximum Free Electives	0
	Group 1 Core Requirements	35		Group 2 Major Requirements	26
	Total Hours	64		Group 1 Core Requirements	34
				Total Hours*	60

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

Mechanical Engineering Group 2 Major Requirements

<u>Richland College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
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 2305	Electrical Circuits I	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 ENGR 2300	Linear Algebra or Applied Linear Algebra	3	MATH 3108	Linear Algebra I or (Will satisfy the Advanced Math/Computer Science elective requirement.)	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	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	59		Total Hours*	58

*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 Principles of Speech or Technical Writing	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
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 2305	Electrical Circuits I	3	EE 2800	Electrical Circuits Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement	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	30		Group 2 Major Requirements	27
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	61

*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 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
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
GEOL 1403	Physical Geology	4	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	25		Group 2 Major Requirements	24
	Group 1 Core Requirements	35		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 Mining Engineering degree.

Nuclear Engineering Group 2 Major Requirements

Richland College		Semester	Missouri S&T		
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
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
MATH 2418 or ENGR 2300	Linear Algebra or Applied Linear Algebra	3	MATH 3108	Linear Algebra	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
ENGR 2305	Electrical Circuits I	3	EE 2800	Circuit Analysis I	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	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	64

*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

Richland College		Semester	Missouri S&T		
ENGL 1302 or ENGL 2311	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing (preferred)	3
HIST 2312 or HIST 1301 or HIST 1302 or GOVT 2305	Western Civilization II or History of the United States I or History of the United States II or Federal Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
GEOL 1403	Physical Geology	4	GEOLOGY 1110 (GEO ENG 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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	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	25		Group 2 Major Requirements	23
	Group 1 Core Requirements	35		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	57

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