

Rend Lake College — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2024

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.

Rend Lake College		Semester	Missouri S&T		
MATH 1121	Calculus and Analytical Geometry I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4
MATH 2122	Calculus and Analytical Geometry II	5	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4
MATH 2123	Calculus and Analytical Geometry III	4	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4
MATH 2130	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHY 1103	University Physics I	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4
PHY 1104	University Physics II	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	4
CHE 1103	Inorganic Chemistry	5	CHEM 1310, 1319	General Chemistry I and Lab	5
ENGL 1101	Rhetoric and Composition	3	ENGLISH 1120	Exposition and Argumentation	3
ECON 2102 or ECON 2101	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		38	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
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.

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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENGL 1102 or COMM 1101	Rhetoric and Composition II or Principles of Effective Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
PHY 2121	Electrical Engineering Circuits	4	EE 2800	Electrical Circuits	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MATH 2108	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Will satisfy the Advanced Math/Comp Sci elective requirement.</small>	3
	Literature Elective	3		Literature Elective	3
Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3	Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	22		Group 2 Major Requirements	21
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	55

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1102 or HIST 2101 or HIST 2102	Western Civilization II or American History I or American History 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
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENGL 1102, COMM 1101.	3	Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENGLISH 1160, 1600, 3560 or SPMS 1185.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	11
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	50		Total Hours*	45

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

Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 1101	Principles of Effective Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHE 1104	Qualitative Analysis and Inorganic Chemistry	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 2120	Organic Chemistry I	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHE 2121 or BIO 1101	Organic Chemistry II or College Biology	5	CHEM 2220, 2229 or BIO SCI 1113, 1219	Organic Chemistry II and Lab or General Biology and Lab <small>Applies to degree as Track Elective.</small>	4
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	20
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	54

*S&T advisor permission is required to transfer more than 68 credit hours toward the degree.

Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 1101	Principles of Effective Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHE 1104	Qualitative Analysis and Inorganic Chemistry	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 2120	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
CHE 2121	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II and Lab* <small>CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIO 1101	College Biology	5	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2121	Electrical Engineering Circuits	4	EE 2100*	Circuits I <small>*A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100. Applies to the degree as a Track Elective (Engineering).</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	33		Group 2 Major Requirements	27
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	71		Total Hours*	61

*S&T advisor permission is required to transfer more than 65 credits toward the S&T Biomedical Engineering degree.

Ceramic Engineering Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHE 2120	Organic Chemistry I	5	CHEM 2210	Organic Chemistry I <small>Will satisfy the advanced chemistry elective requirement.</small>	3
CHE 1104	Qualitative Analysis and Inorganic Chemistry	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
ENGL 1102 or COMM 1101 or HSS Elective	Rhetoric and Composition II or Principles of Effective Public Speaking or Any 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 Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	21
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	55

*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

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 1101	Principles of Effective Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHE 1104	Qualitative Analysis and Inorganic Chemistry	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 2120	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*The lab will apply to the degree as 1 of the 9 science elective credits (below).</small>	4
CHE 2121	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II (3) and Lab* (1) <small>CHEM 2220 will partially satisfy the 9-hour science elective requirement. *CHEM 2229 is not an S&T degree requirement, will transfer as general elective credit.</small>	8
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	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	38		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	58

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

Civil Engineering Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1102 or COMM 1101	Rhetoric and Composition II or Principles of Effective Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	14
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	53		Total Hours*	48

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COMM 1101	Principles of Effective Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 1102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101 or PHY 2102 or CHEM 2210	Statics or 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) <small>Satisfies a required engineering/science elective.</small>	3
PHY 2121	Electrical Engineering Circuits		EE 2100**	Circuits I <small>**A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.</small>	3
MATH 2108	Linear Algebra	3	MATH 3108	Linear Algebra <small>Will satisfy a required math elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	21		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		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 Computer Engineering degree.

Electrical Engineering Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COMM 1101	Principles of Effective Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 1102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101 and PHY 2102	Statics and Dynamics		CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2)	
BOTH of the courses above or ONE of the courses below. OR CHEM 2120	Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Organic Chemistry I	3	BOTH of the courses above or ONE of the courses below. OR CHEM 2210	Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Organic Chemistry I (3)	3
PHY 2121	Electrical Engineering Circuits	4	EE 2100**	Circuits I <small>**A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.</small>	3
MATH 2108	Linear Algebra	3	MATH 3108	Linear Algebra	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	25		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	63		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

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
PSYC 2101	Intro to Psychology	3	PSYCH 1101	General Psychology	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COMM 1101	Principles of Effective Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 1102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
PHY 2121	Electrical Engineering Circuits	4	EE 2800	Electrical Circuits	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	3	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	28		Group 2 Major Requirements	23
	Group 1 Core Requirements	38		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 Engineering Management degree.

Environmental Engineering Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1102 or COMM 1101	Rhetoric and Composition II or Principles of Effective Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102	Western Civilization II or American History I or American History II	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
CHE 1104	Qualitative Analysis and Inorganic Chemistry	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
BIO 1101	College Biology	5	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*BIO SCI 1219 is not an S&T degree requirement, will transfer as general elective credit.</small>	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	20
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	54

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	14
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	53		Total Hours*	48

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENGL 1102 or COMM 1101	Rhetoric and Composition II or Principles of Effective Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
PHY 2121	Electrical Engineering Circuits	4	EE 2800	Electrical Circuits	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
MATH 2108	Linear Algebra	3	MATH 3108	Linear Algebra I <small>(Will satisfy the Advanced Math/Computer Science elective requirement.)</small>	3
	Literature Elective	3		Literature Elective	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	22		Group 2 Major Requirements	21
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	55

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1102 or COMM 1101	Rhetoric and Composition II or Principles of Effective Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHE 1104	Qualitative Analysis and Inorganic Chemistry	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 2120 or PHY 2121	Organic Chemistry I (5) or Electrical Engineering Circuits (4)	5	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 or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	28		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	58

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	17
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	56		Total Hours*	51

*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>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1102 or COMM 1101	Rhetoric and Composition II or Principles of Effective Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
MATH 2108	Linear Algebra	3	MATH 3108	Linear Algebra	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2121	Electrical Engineering Circuits	4	EE 2800	Electrical Circuits	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	28		Group 2 Major Requirements	27
	Group 1 Core Requirements	38		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 Nuclear Engineering degree.

Petroleum Engineering Group 2 Major Requirements

<u>Rend Lake College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 1102 or HIST 2101 or HIST 2102 or POLI 2101	Western Civilization II or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 2101	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 2102	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	17
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	56		Total Hours*	51

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