

# Mineral Area 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.

<u>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&amp;T</u>		
MAT 1650	Analytical Geometry and Calculus I	5	MATH 1214	Calculus I	Grade of C or better is required.	4
MAT 2150	Analytical Geometry and Calculus II	5	MATH 1215	Calculus II	Grade of C or better is required.	4
MAT 2250	Analytical Geometry and Calculus III	5	MATH 2222	Calculus III	Grade of C or better is required.	4
MAT 2330	Differential Equations	3	MATH 3304	Elementary Differential Equations		3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab		5
ENG 1330	English Composition I	3	ENGLISH 1120	Exposition and Argumentation		3
BUS 2940 or BUS 2930	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics		3
Total Hours			29			Total Hours
						26

### 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](mailto: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>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&amp;T</u>	
TEC 1300 and HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Computer Aided Design and Drafting and Western Civilization II or American History I or American History II or American Political Systems	3	MECH ENG 1720 HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Intro to Engineering Design Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
ENG 2330 or ENG 2430 or ENG 2492	English Literature I or American Literature I or Women's Literature or other literature	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 2242	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or Literature by Women or other literature	3
PHI 142	Intro to Ethics or other engineering, business, bio, social ethics approved by advisor	3	PHILOS 1130	How Should I Live? An Introduction to Ethics or other engineering, business, bio, social ethics approved by advisor	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	29		Group 1 Core Requirements	26
	Total Hours	44		Total Hours*	41

\*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>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&amp;T</u>	
TEC 1300 and HIS 1140* (or HIS 1230 or HIS 1240)	Computer Aided Design and Drafting and Western Civilization II* (or American History I or American History II) <small>*HIS 1140 is preferred; 1230 or 1240 will also be accepted.</small>	3	MECH ENG 1720 HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Intro to Engineering Design 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
PHS 2410	Physical Geology MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	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: ENG1340 or 1440.	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	14		Group 2 Major Requirements	12
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	43		Total Hours*	38

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*Chem 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
BIO 1150	General Biology	5	BIO SCI 1113, 1219	General Biology and Lab <small>Applies to degree as Track Elective.</small>	4
CSC 1100	Programming Logic	3	CS 1500	Computational Problem Solving	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	19
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	51		Total Hours*	45

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

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*Chem 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
BIO 1150	General Biology	5	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
CSC 1100	Programming Logic	3	CS 1500	Computational Problem Solving	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	19		Group 2 Major Requirements	16
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	48		Total Hours*	42

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*Chem 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
ENG 1340 or ENG 1440 or HSS Elective	English Composition or 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 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	20		Group 2 Major Requirements	18
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	49		Total Hours*	44

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*Chem 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CSC 1100	Programming Logic	3	CS 1500	Computational Problem Solving	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	20		Group 2 Major Requirements	18
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	49		Total Hours*	44

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 2410	Physical Geology MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	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	17		Group 2 Major Requirements	15
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	46		Total Hours*	41

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or	Western Civilization II or American History I or American History II or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization or American History to 1877 or American History since 1877 or	3
POS 1180	American Political Systems		POL SCI 1200	American Government	
CSC 1100	Programming Logic	3	CS 1500	Computational Problem Solving	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	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	47		Total Hours*	44

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or	Western Civilization II or American History I or American History II or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization or American History to 1877 or American History since 1877 or	3
POS 1180	American Political Systems		POL SCI 1200	American Government	
CSC 1100	Programming Logic	3	CS 1500	Computational Problem Solving	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	21
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	50		Total Hours*	47

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
PSY 1130	General Psychology I	3	PSYCH 1101	General Psychology	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	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>	3	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	21		Group 2 Major Requirements	18
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	50		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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240	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
PHS 2410	Physical Geology MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	3
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*Chem 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
BIO 1150	General Biology	5	BIO SCI 1113	General Biology	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	26		Group 2 Major Requirements	21
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	55		Total Hours*	47

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180 CSC 1100	Western Civilization II or American History I or American History II or American Political Systems Programming Logic	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200 CS 1500	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government Computational Problem Solving	3
PHS 2410	Physical Geology MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	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	20		Group 2 Major Requirements	18
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	49		Total Hours*	44

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
ENG 2330 or ENG 2430 or ENG 2492	English Literature I or American Literature I or Women's Literature <small>other literature</small>	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 2242	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or Literature by Women <small>other literature</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
	<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	29		Group 1 Core Requirements	26
	Total Hours	44		Total Hours*	41

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*Chem 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</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	5	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	24		Group 2 Major Requirements	21
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	53		Total Hours*	47

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 2410	Physical Geology MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	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	20		Group 2 Major Requirements	18
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	49		Total Hours*	44

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
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	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	50		Total Hours*	47

\*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>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	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
PHS 2410	Physical Geology MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	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
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	<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	29		Group 1 Core Requirements	26
	Total Hours	49		Total Hours*	44

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