

# State Fair Community 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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
MATH 130	Calculus and Analytic Geometry I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4
MATH 131	Calculus and Analytic Geometry II	5	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4
MATH 132	Calculus and Analytic Geometry III	5	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4
MATH 134	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHYS 211	Engineering Physics I with Lab	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4
PHYS 212	Engineering Physics II with Lab	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	4
CHEM 123	General Chemistry I with Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
ENGL 101	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ECON 102 or ECON 101	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours		39	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](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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
HIST 109 or HIST 101 or HIST 102 or POL S 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
ENGL 102 or COM 101	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
LIT 109 or LIT 107 or LIT 112	British Literature or American Literature or World Literature or other literature	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature I or other literature
PHIL 102	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
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	15		Group 2 Major Requirements
	Group 1 Core Requirements	39		Group 1 Core Requirements
	Total Hours	54		Total Hours*
				49

\*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

HIST 109 (or HIST 101 or HIST 102)	World Civilization After 1500 (or US History Before 1877 or US History Since 1877) <small>*HIST 109 is preferred; 101 or 102 will also be accepted.</small>	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
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EASC 118	Environmental Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	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: ENGL 102, 110, or COMM 101.	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	12
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	51		Total Hours*	46

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 101	Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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 124	General Chemistry II with Lab	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
CHEM 221	Organic Chemistry I with Lab	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHEM 222 or BIO 112 or BIO 125 or BIO 210	Organic Chemistry II with Lab (5) or Intro to Biology with Lab (5) or Biology I with Lab (5) or Principles of Genetics with Lab (4)	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or General Genetics <small>Applies to degree as Track Elective.</small>	4
CIS 120 or CIS155	Programming in Python or Programming in C#	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	26		Group 2 Major Requirements	23
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	57

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

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 101	Public Speaking	3	SP&MS 1185	Principles of Speech	3
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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 124	General Chemistry II with Lab	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
CHEM 221	Organic Chemistry I with Lab	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
CHEM 222	Organic Chemistry II with Lab	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 112 or BIO 125	Intro to Biology with Lab (5) or Biology I with Lab (5)	4	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
CIS 120 or CIS155	Programming in Python or Programming in C#	3	CS 1500	Computational Problem Solving	3
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	27
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	70		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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
CHEM 221	Organic Chemistry I with Lab	5	CHEM 2210 or CHEM 2310	Organic Chemistry I (3) or Inorganic Chemistry I (3) <small>Will satisfy the advanced chemistry elective requirement.</small>
CHEM 124	General Chemistry II with Lab	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>
ENGL 102 or COM 101 or HSS Elective	English Composition II 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.
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.
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.
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	25		Group 2 Major Requirements
	Group 1 Core Requirements	39		Group 1 Core Requirements
	Total Hours	64		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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
COM 101	Public Speaking	3	SP&MS 1185	Principles of Speech
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
CHEM 124	General Chemistry II with Lab	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>
CHEM 221	Organic Chemistry I with Lab	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>
CHEM 222	Organic Chemistry II with Lab	5	CHEM 2220, 2229	Organic Chemistry II (3) and Lab (1) <small>CHEM 2220 will apply to the degree as 3 of the 9 science elective credits. CHEM 2229 is not required for the S&amp;T degree, will transfer as general elective credit.</small>
CIS 120 or CIS155	Programming in Python or Programming in C#	3	CS 1500	Computational Problem Solving
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.
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	27		Group 2 Major Requirements
	Group 1 Core Requirements	39		Group 1 Core Requirements
	Total Hours	66		Total Hours*
				61

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 102 or COM 101	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
EASC 118	Environmental Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
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.
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	15		Group 2 Major Requirements
	Group 1 Core Requirements	39		Group 1 Core Requirements
	Total Hours	54		Total Hours*
				49

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

## Computer Engineering Group 2 Major Requirements

<u>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 101	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 109 or HIST 101 or HIST 102 or	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or	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
POLS 101	American/National Government		CS 1500	Computational Problem Solving	3
CIS 120 or CIS155	Programming in Python or Programming in C#	3	CIV ENG 2200or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Organic Chemistry I (3) or General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
PHYS 235 or CHEM 221 or BIO 210	Engineering Statics or rganic Chemistry I with Lab or Principles of Genetics with Lab	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	34
	Group 1 Core Requirements	39		<b>Total Hours*</b>	<b>55</b>
	<b>Total Hours</b>	<b>60</b>			

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 101	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENGL 102	English Composition I	3	ENGLISH 1160	Writing and Research	3
HIST 109 or HIST 101 or HIST 102 or	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or	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
POLS 101	American/National Government		CS 1500	Computational Problem Solving	3
CIS 120 or CIS155	Programming in Python or Programming in C#	3	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) <small>BOTH of the courses above or ONE of the courses below.</small>	3
MACC PHYS 235 and S&T MECH ENG 2350	MACC Engineering Statics* AND Missouri S&T Engineering Mechanics-Dynamics <small>BOTH of the courses above combined or any one of the following courses will satisfy a required engineering science elective.</small>	3	OR CHEM 2210 or BIO SCI 2223	OR Organic Chemistry I (3) or General Genetics (3) <small>BOTH of the courses above combined or any one of the following courses will satisfy a required engineering science elective.</small>	3
BOTH of the courses above or ONE of the courses below. OR CHEM 221 or BIO 210	OR Organic Chemistry I with Lab or Principles of Genetics w/ Lab		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	34
	Group 1 Core Requirements	39		<b>Total Hours*</b>	<b>55</b>
	<b>Total Hours</b>	<b>60</b>			

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HIST 109 or HIST 101 or HIST 102 or	World Civilization After 1500 or US History Before 1877 or US History Since 1877 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
POLS 101	American/National Government		POL SCI 1200	American Government	
COM 101	Public Speaking		SPMS 1185	Principles of Speech	3
ENGL 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	57		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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENGL 102 or COM 101	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 109 or HIST 101 or HIST 102	World Civilization After 1500 or US History Before 1877 or US History Since 1877	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
EASC 118	Environmental Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 124	General Chemistry II with Lab	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 112 or BIO 125	Intro to Biology with Lab or Biology I with Lab	5	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*BIO SCI 1219 is not an S&amp;T degree requirement; course will transfer as elective credit.</small>	3
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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	39		Group 1 Core Requirements	34
	Total Hours	64		Total Hours*	55

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
CIS 120 or CIS155	Programming in Python or Programming in C#	3	CS 1500	Computational Problem Solving	3
EASC 118	Environmental Geology	3	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	52

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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 102 or COM 101	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
LIT 109 or LIT 107 or LIT 112	British Literature or American Literature or World Literature or other literature	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature I or other literature	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	39		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	49

\*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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 102 or COM 101	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech 3
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics 3
CHEM 124	General Chemistry II with Lab	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
CHEM 221	Organic Chemistry I with Lab	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) <small>CHEM 2210 is not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement. *CHEM 2219 is not a degree requirement, transfers 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	30		Group 2 Major Requirements 24
	Group 1 Core Requirements	39		Group 1 Core Requirements 34
	Total Hours	69		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>State Fair Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 102 or ENGL 110	English Composition II or Communication for Business and Industry	3	ENGLISH 1160 or ENGLISH 1600	Writing and Research or Intro to Technical Communications 3
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
PHYS 235	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics 3
EASC 118	Environmental Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology 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	18		Group 2 Major Requirements 18
	Group 1 Core Requirements	39		Group 1 Core Requirements 34
	Total Hours	57		Total Hours* 52

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



## Nuclear Engineering Group 2 Major Requirements

Nuclear Engineering Group 2 Major Requirements				
	<u>State Fair Community College</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 102 or COM 101	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185 Writing and Research or Principles of Speech	3
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
PHYS 235	Engineering Statics	3	CIV ENG 2200 Engineering Mechanics-Statics	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	6
	Group 2 Major Requirements	21	Group 2 Major Requirements	21
	Group 1 Core Requirements	39	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 Nuclear Engineering degree.

## Petroleum Engineering Group 2 Major Requirements

Petroleum Engineering Group 2 Major Requirements				
	<u>State Fair Community College</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 102 or ENGL 110	English Composition II or Communication for Business and Industry	3	ENGLISH 1160 or ENGLISH 1600 Writing and Research or Intro to Technical Communications	3
HIST 109 or HIST 101 or HIST 102 or POLS 101	World Civilization After 1500 or US History Before 1877 or US History Since 1877 or American/National 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
EASC 118	Environmental Geology	3	GEOLOGY 1110 (GEO ENG 1150) Physical and Environmental Geology	3
PHYS 235	Engineering Statics	3	CIV ENG 2200 Engineering Mechanics-Statics	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	18	Group 2 Major Requirements	18
	Group 1 Core Requirements	39	Group 1 Core Requirements	34
	Total Hours	57	Total Hours*	52

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