

## Houston Community College — Missouri S&T

### General Engineering Transfer Guide

Effective as of Spring 2022

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.

Houston Community College		Semester	Missouri S&T		
MATH 2413 and MATH 2414	Calculus I (4) and Calculus II (4)	8	MATH 1214 and MATH 1215	Calculus for Engineers I (4) Grade of C or better is required. Calculus for Engineer II (4) Grade of C or better is required.	8
MATH 2415	Calculus III	4	MATH 2222	Calculus with Analytic Geometry III Grade of C or better is required.	4
MATH 2320	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHYS 2325 and PHYS 2125	University Physics I (3) and University Physics Lab I (1)	4	PHYS 1135 and PHYS 1135L	Engineering Physics I (3) Grade of C or better is required. PC-Engineering Phys I Lab (1)	4
PHYS 2326 and PHYS 2126	University Physics II (3) and University Physics Lab II (1)	4	PHYS 2135 and PHYS 2135L	Engineering Physics II (3) Grade of C or better is required. PC-Engineering Phys II Lab (1)	4
CHEM 1311 and CHEM 1111	General Chemistry I (3) and General Chemistry I Lab (1)	4	CHEM 1310 and CHEM 1319	General Chemistry I (3) and General Chemistry Lab (1)	4
ENGR 1201	Intro to Engineering (2)	2	FR ENG 1100	Study and Careers in Engineering and Computing	2
ENGL 1301	Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ECON 2302 or ECON 2301	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours		35	Total Hours		35

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

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

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

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

Engineering Major Requirements are detailed on the following pages.

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

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

### Aerospace Engineering Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
ENGR 2405	Electrical Circuits I	3	EE 2800	Circuit Analysis I	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra I (Will satisfy the Advanced Math/Comp Sci elective requirement.)	3
ENGL 2322 or ENGL 2327	Survey of British Literature I or Survey of American Literature I	3	ENGLISH 1211 or ENGLISH 1221	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 (or other literature elective)	3
	See your advisor for course options.	3		Ethics Elective	3
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
Total Hours		59	Total Hours*		59

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Aerospace Engineering degree.

## Architectural Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIST 2312* (or HIST 1301 or HIST 1302)	Western Civilization II* (or United States History I or United States History II) <small>*HISTORY 1200 is preferred; 1300 or 1310 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
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
ENGL 1302 or SPCH 1315 or HSS Elective	Composition II or Public Speaking 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 Public Speaking or Humanities/Social Science Elective: 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	35		Group 1 Core Requirements	35
	Total Hours	50		Total Hours*	50

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Architectural Engineering degree.

## Ceramic Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 2423	Organic Chemistry I	4	CHEM 2210	Organic Chemistry I (4)	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
ENGL 1302 or SPCH 1315 or HSS Elective	Composition II or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language See your advisor for course options.	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	23		Group 2 Major Requirements	21
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	58		Total Hours*	56

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Ceramic Engineering degree.

## Chemical Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENGL 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CHEM 1412	General Chemistry II	4	CHEM 1320 and CHEM 1510	General Chemistry II (3) and Qualitative Analysis (1)	4
CHEM 2423	Organic Chemistry I	4	CHEM 2210 and CHEM 2219	Organic Chemistry I (3) and Organic Chemistry I Lab (1)	4
CHEM 2425	Organic Chemistry II	4	CHEM 2220, 2229	Organic Chemistry II and Lab (4) <small>(Will satisfy science elective requirement. Select up to 9 hours from these options.)</small>	9
SPCH 1311 or SPCH 1315	Fundamentals of Speech (3) or Public Speaking (3) <i>See your advisor for course options.</i>	3	SP&MS 1185	Principles of Speech	3
	<i>No free electives applied to the degree.</i>	0		Humanities/Social Science Elective	3
	Group 2 Major Requirements	24		Maximum Free Electives	0
	Group 1 Core Requirements	35		Group 2 Major Requirements	29
	Total Hours	59		Group 1 Core Requirements	35
				Total Hours*	64

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Chemical Engineering degree.

## Chemical Engineering - Biochemical Engineering Emphasis

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing 3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government 3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II 3
CHEM 2423	Organic Chemistry I	4	CHEM 2210	Organic Chemistry I 4
CHEM 2425	Organic Chemistry II	4	CHEM 2220, 2229	Organic Chemistry II and Lab (4) (Will satisfy science elective requirement. Select up to 9 hours from these options.) 9
SPCH 1311 or SPCH 1315	Fundamentals of Speech (3) or Public Speaking (3)	3	SP&MS 1185	Principles of Speech 3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective 3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives 0
	Group 2 Major Requirements	24		Group 2 Major Requirements 28
	Group 1 Core Requirements	35		Group 1 Core Requirements 35
	Total Hours	59		Total Hours* 63

\*S&T advisor permission is required to transfer more than 11 credits toward the S&T Chemical/Biochemical Engineering degree.

## Civil Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing 3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government 3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics 3
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics 3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials 3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective 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	35		Group 1 Core Requirements 35
	Total Hours	53		Total Hours* 53

\*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>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
SPCH 1315	Public Speaking	3	SPMS 1185	Public Speaking 3
ENGLISH 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing 3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government 3
ENGR 2301 and ENGR 2302 (BOTH of the courses above or ONE of the courses below.)	Engineering Mechanics - Statics (3) and Engineering Mechanics - Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.)	3	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.)	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) 3
OR	OR		OR	OR
CHEM 2423	Organic Chemistry I (4)		CHEM 2210	Organic Chemistry I (4) 4
MATH 2318	Linear Algebra (Will satisfy a required math elective.)	3	MATH 3108	Linear Algebra (Will satisfy a required math elective.) 3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective 3
	<i>See your advisor for course options.</i>	0		Maximum Free Electives 3
	Group 2 Major Requirements	18		Group 2 Major Requirements 21
	Group 1 Core Requirements	35		Group 1 Core Requirements 35
	Total Hours	53		Total Hours* 56

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

## Electrical Engineering Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
SPCH 1315	Public Speaking	3	SPMS 1185	Public Speaking	3
ENGL 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301 and ENGR 2302 (BOTH of the courses above or ONE of the courses below.) OR CHEM 2423	Engineering Mechanics - Statics (3) and Engineering Mechanics - Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR Organic Chemistry I (4)	3	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR CHEM 2210	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR Organic Chemistry I (4)	3
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	56		Total Hours*	56

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Electrical Engineering degree.

## Engineering Management Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
PSYC 2301	General Psychology	3	PSYC 1101	General Psychology	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
ENGR 2405	Electrical Circuits I	3	EE 2800	Circuit Analysis I	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	62		Total Hours*	62

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Engineering Management degree.

## Environmental Engineering Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312	United States History I or United States History II or Western Civilization II	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200	American History to 1877 or American History since 1877 or Modern Western Civilization	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
BIOL 1306	Biology for Science Majors I	3	BIO SCI 1113	General Biology	4
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	25
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	60		Total Hours*	60

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Environmental Engineering degree.

## Geological Engineering Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
BIOL 1306 or CHEM 1412 or CHEM 2423	Biology for Science Majors I (3) or General Chemistry II (4) or Organic Chemistry I (4)	3	BIO SCI 1113 or CHEM 1320 or CHEM 2210	General Biology or General Chemistry II or Organic Chemistry I	3
	<small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>			<small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	59		Total Hours*	59

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Geological Engineering degree.

## Mechanical Engineering Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Dynamics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
MATH 2318	Linear Algebra <small>(Will satisfy the Advanced Math/Computer Science elective requirement.)</small>	3	MATH 3108	Linear Algebra I <small>(Will satisfy the Advanced Math/Computer Science elective requirement.)</small>	3
ENGL 2322 or ENGL 2327	Survey of British Literature I or Survey of American Literature I <small>(or other literature elective)</small>	3	ENGLISH 1211 or ENGLISH 1221	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 <small>(or other literature elective)</small>	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	59		Total Hours*	59

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Mechanical Engineering degree.

## Metallurgical Engineering Group 2 Major Requirements

Houston Community College		Semester	Missouri S&T		
ENGL 1302 or SPCH 1311 or ENGL 2314	Composition II or Introduction to Speech Communication or Technical Writing I	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 1412	General Chemistry II	4	CHEM 1320	General Chemistry II	3
CHEM 2423 or ENGR 2405	Organic Chemistry I or Electrical Circuits I	4	CHEM 2210 or EE 2800	Organic Chemistry I (4) or Electrical Circuits (3)	3
	<small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.</small>			<small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.</small>	
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	5		Maximum Free Electives	5
	Group 2 Major Requirements	31		Group 2 Major Requirements	29
	Group 1 Core Requirements	35		Group 1 Core Requirements	35
	Total Hours	66		Total Hours*	64

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Metallurgical Engineering degree.

## Mining Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGLISH 1302 or ENGL 2314 or ENGL 2311	Composition II or Technical Writing I or Technical & Business Writing	3	ENGLISH 1160 or ENGLISH 3560 or ENGLISH 1600	Writing and Research or Technical Writing or Intro to Technical Communications
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200*	Engineering Mechanics-Statics
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	18		Group 2 Major Requirements
	Group 1 Core Requirements	35		Group 1 Core Requirements
	<b>Total Hours</b>	<b>53</b>		<b>Total Hours*</b>
				<b>53</b>

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Mining Engineering degree.

## Nuclear Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGLISH 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective
	<i>See your advisor for course options.</i>	6		Maximum Free Electives
	Group 2 Major Requirements	27		Group 2 Major Requirements
	Group 1 Core Requirements	35		Group 1 Core Requirements
	<b>Total Hours</b>	<b>62</b>		<b>Total Hours*</b>
				<b>62</b>

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Nuclear Engineering degree.

## Petroleum Engineering Group 2 Major Requirements

<u>Houston Community College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
ENGLISH 1302 or ENGL 2314 or ENGL 2311	Composition II or Technical Writing I or Technical & Business Writing I	3	ENGLISH 1160 or ENGLISH 3560 or ENGLISH 1600	Writing and Research or Technical Writing or Intro to Technical Communications
HIST 1301 or HIST 1302 or HIST 2312 or GOVT 2305	United States History I or United States History II or Western Civilization II or Federal Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics
ENGR 2302	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics
ENGR 2332	Mechanics of Material	3	CIV ENG 2210	Mechanics of Materials
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives
	Group 2 Major Requirements	21		Group 2 Major Requirements
	Group 1 Core Requirements	35		Group 1 Core Requirements
	<b>Total Hours</b>	<b>56</b>		<b>Total Hours*</b>
				<b>56</b>

\*S&T advisor permission is required to transfer more than 60 credits toward the S&T Petroleum Engineering degree.