

Houston City College — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2025

Complete Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice.

Students are not required to complete all courses on this guide before transferring to Missouri S&T.

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 City College			Semester	Missouri S&T		
MATH 2413 and	Calculus I (4) and	8		MATH 1214 and	Calculus I and	8
MATH 2414	Calculus II (4)			MATH 1215	Calculus II Grade of C or better in both courses is required.	
MATH 2415	Calculus III	4		MATH 2222	Calculus III Grade of C or better is required.	4
MATH 2320	Differential Equations	3		MATH 3304	Elementary Differential Equations	3
PHYS 2325, 2125	University Physics I and Lab I	4		PHYSICS 1135	Engineering Physics I Grade of C or better is required.	4
PHYS 2326, 2126	University Physics II and Lab II	4		PHYSICS 2135	Engineering Physics II Grade of C or better is required.	4
ENGR 1201	Intro to Engineering	2		FR ENG 1100	Study and Careers in Engineering and Computing	1
ENGL 1301	Composition I	3		ENGLISH 1120	Exposition and Argumentation	3
		Total Hours	28			Total Hours
						27

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.

This transfer guide is published by Missouri University of Science and Technology and is in effect as of Fall 2025.
Further information or updates are available from Missouri S&T Transfer Admissions at transfer.mst.edu, transfer@mst.edu, or 800-522-0938.

Aerospace Engineering Group 2 Major Requirements

<u>Houston City College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2800	Electrical Circuits	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Satisfies the Advanced Math/Comp Sci elective requirement.</small>	3
PHIL 2306	Intro to Ethics <small>or other engineering, business, bio, social or other ethics approved by advisor.</small>	3	PHILOS 1130	How Should I Live? An Introduction to Ethics <small>or other engineering, business, bio, social or other ethics approved by advisor.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		37	Group 2 Major Requirements		38
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		65	Total Hours*		65
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.</small>					

Architectural Engineering Group 2 Major Requirements

<u>Houston City College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include HISTORY 1200.					
HIST 2312*	Western Civilization II* <small>*Satisfies the State of Missouri Government requirement.</small>	3	HISTORY 1200*	Modern Western Civilization* <small>*Satisfies the State of Missouri Government requirement.</small>	3
HPHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		28	Group 2 Major Requirements		28
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		56	Total Hours*		55
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.</small>					

Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

Houston City College			Semester	Missouri S&T	
SPCH 1311 or SPPCH 1315	Intro to Speech Communication or Public Speaking	3	SP&MS 1185	Principles of Speech	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1412	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3
CHEM 2423	Organic Chemistry I	4	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHEM 2425 or BIOL 1406	Organic Chemistry II or General Biology I	4	CHEM 2220, 2229 or BIO SCI 1113, 1219	Organic Chemistry II and Lab or General Biology and Lab	4
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation	6
*Satisfies the State of Missouri government requirement.					
Behavioral and Social Sciences					
Select 3 hours.					
HIST 2311 or HIST 2312* or GEOG 1303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	3
*Satisfies the State of Missouri government requirement.					
Humanities, Arts, and Social Sciences					
ENGLISH 3560 required.					
ENGLISH 2314	Technical Writing I	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		35	Group 2 Major Requirements		34
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		63			Total Hours*
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

Biomedical Engineering-Biomaterials Group 2 Major Requirements

Houston City College			Semester	Missouri S&T		
SPCH 1311 or SPPCH 1315	Intro to Speech Communication or Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 1412	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3	
CHEM 2423	Organic Chemistry I	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).	4	
CHEM 2425 or BIOL 1406	Organic Chemistry II	4	CHEM 2220, 2229*	Organic Chemistry II and Lab* CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).	4	
BIOL 1406	General Biology I	4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4	
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	3	
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100. Applies to the degree as a Track Elective (Engineering).	4	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences Select 3 hours.						
HIST 2311 or HIST 2312* or GEOG 1303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	
Humanities, Arts, and Social Sciences ENGLISH 3560 required.						
ENGLISH 2314	Technical Writing I	3	ENGLISH 3560	Technical Writing	3	
No free electives applied to the degree.		0		Maximum Free Electives	0	
Group 2 Major Requirements		45		Group 2 Major Requirements	45	
Group 1 Core Requirements		28		Group 1 Core Requirements	27	
Total Hours		73			Total Hours*	
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.						

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

Ceramic Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T		
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1412	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHEM 2423	Organic Chemistry I	4	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) <small>Satisfies the advanced chemistry elective requirement. *The lab is not a degree requirement, transfers as general elective credit.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		36	Group 2 Major Requirements		35
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		64			Total Hours*
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.</small>					

Chemical Engineering or Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

Houston City College			Semester	Missouri S&T	
SPCH 1311 or SPPCH 1315	Intro to Speech Communication or Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1412	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHEM 2423	Organic Chemistry I	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2210 is a degree requirement. CHEM 2219 applies to the degree as 1 of 9 required science elective credits See note below .	4
CHEM 2425	Organic Chemistry II	4	CHEM 2220, 2229*	Organic Chemistry II (3) and Lab* (1) CHEM 2220 applies to the degree as 3 of 9 required science elective credits. *CHEM 2229 is not a degree requirement; transfers as general elective credit.	8
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences					
ENGLISH 3560 required.					
ENGLISH 2314	Technical Writing I	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		38	Group 2 Major Requirements		41
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		66	Total Hours*		68
*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

Houston City College		Semester	Missouri S&T	
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i>
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab
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 Materials	3	CIV ENG 2210	Mechanics of Materials
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.				
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.				
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <i>*Satisfies the State of Missouri government requirement.</i>
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.				
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>
Humanities, Arts, and Social Sciences Select 3 hours.				
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives	
Group 2 Major Requirements		31	Group 2 Major Requirements	
Group 1 Core Requirements		28	Group 1 Core Requirements	
Total Hours		59	Total Hours*	
			58	

*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

Houston City College			Semester	Missouri S&T	
SPCH 1311 or SPPCH 1315	Intro to Speech Communication or Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	3
ENGR 2301 and ENGR 2302 or CHEM 2423	Engineering Mechanics - Statics (3) and Engineering Mechanics - Dynamics (3) or Organic Chemistry I (4)	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3) Satisfies a required engineering/science elective.	3
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.	4
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra Satisfies a required math elective.	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENGL 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	38		Group 2 Major Requirements	39
	Group 1 Core Requirements	28		Group 1 Core Requirements	27
	Total Hours	66		Total Hours*	66
				*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer/Engineering degree.	

*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

Houston City College			Semester	Missouri S&T	
SPCH 1311 or SPCH 1315	Intro to Speech Communication or Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	3
ENGR 2301 and ENGR 2302	Engineering Mechanics - Statics (3) and Engineering Mechanics - Dynamics (3)		CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2)	
BOTH of the courses above or ONE of the courses below.	Both courses above combined or any one of the following courses will satisfy a required engineering science elective)	3	BOTH of the courses above or ONE of the courses below.	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 (3)	
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.	4
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENGL 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	41		Group 2 Major Requirements	42
	Group 1 Core Requirements	28		Group 1 Core Requirements	27
	Total Hours	69		Total Hours*	69
*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

Houston City College			Semester	Missouri S&T	
SPCH 1311 or SPPCH 1315	Intro to Speech Communication or Public Speaking	3	SP&MS 1185	Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i>	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2800	Electrical Circuits	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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include					
6 hours Humanities and Fine Arts from at least two specific disciplines and					
6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines to include PSYCH 1101.					
PSYC 2301	General Psychology	3	PSYCH 1101	General Psychology Required	3
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	3
Humanities, Arts, and Social Sciences					
Select 3 hours.					
ENGL 1302 or ENGL 2314	Composition II or Technical Writing I	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
No free electives applied to the degree.		0	Electives	Maximum Free Electives	0
Group 2 Major Requirements		34	Group 2 Major Requirements		34
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		62			Total Hours*
*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.					

Environmental Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T		
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315 CHEM 1311, 1111	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking General Chemistry I and Lab	3 4	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185 CHEM 1310, 1319	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3 5
CHEM 1412	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
BIOL 1406	General Biology I	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*The lab is not a degree requirement, transfers as general elective credit.</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	2
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines to include HISTORY 1200					
HIST 2312*	Western Civilization II* <small>*Satisfies the State of Missouri Government requirement.</small>	3	HISTORY 1200*	Modern Western Civilization* <small>*Satisfies the State of Missouri Government requirement.</small>	3
HPHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		36	Group 2 Major Requirements		34
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		64	Total Hours*		61
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.</small>					

Geological Engineering Group 2 Major Requirements

Houston City College			Semester	Missouri S&T		
ENGLISH 2314	Technical Writing I	3	ENGLISH 3560	Technical Writing Applies to degree as Gen Ed Communication requirement.	3	
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	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	2	
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		35	Group 2 Major Requirements		34	
Group 1 Core Requirements		28	Group 1 Core Requirements		27	
Total Hours		63	Total Hours*		61	
*S&T advisor permission is required to transfer more than 65 credits toward the S&T Geological Engineering degree.						

Mechanical Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T			
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5	
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2800	Electrical Circuits	3	
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Satisfies the Advanced Math/Statistics elective requirement.</small>	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		34	Group 2 Major Requirements		35	
Group 1 Core Requirements		28	Group 1 Core Requirements		27	
Total Hours		62			Total Hours*	62
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.</small>						

Metallurgical Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T			
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 1412	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3	
CHEM 2423	Organic Chemistry II	4	CHEM 2210	Organic Chemistry I <small>Not specifically required for the degree but will satisfy out-of-department technical elective requirement</small>	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
Maximum Free Electives		3	Maximum Free Electives		3	
Group 2 Major Requirements		39	Group 2 Major Requirements		38	
Group 1 Core Requirements		28	Group 1 Core Requirements		27	
Total Hours		67			Total Hours*	65
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.</small>						

Mining Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T			
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
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	2	
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		28	Group 2 Major Requirements		28	
Group 1 Core Requirements		28	Group 1 Core Requirements		27	
Total Hours		56			Total Hours*	55
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.</small>						

Nuclear Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T		
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 2318	Linear Algebra	3	MATH 3108	Linear Algebra	3
ENGR 2301	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
ENGR 2405	Electrical Circuits I	3	ELEC ENG 2800	Electrical Circuits	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
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
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
Maximum Free Electives		0	Maximum Free Electives		0
Group 2 Major Requirements		34	Group 2 Major Requirements		35
Group 1 Core Requirements		28	Group 1 Core Requirements		27
Total Hours		62			Total Hours*
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.</small>					

Petroleum Engineering Group 2 Major Requirements

Houston City College		Semester	Missouri S&T			
ENGL 1302 or ENGL 2314 or SPCH 1311 or SPCH 1315	Composition II or Technical Writing I or Intro to Speech Communication or Public Speaking	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 1311, 1111	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
COSC 1436 or COSC 1437	Programming Fundamentals I or Programming Fundamentals II	4	COMP SCI 1500	Computational Problem Solving	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	2	
ENGR 2332	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 2322 or ENGL 2323 or ENGL 2327 or ENGL 2328 or HISTORY 1301* or HISTORY 1302* or ARTS 1301 or MUSI 1306	British Literature I or British Literature II or American Literature I or American Literature II or United States History I* or United States History II* or Art Appreciation or Music Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 2311 or HIST 2312* or GEOG 1303 or PHIL 1301 or PHIL 2303 or GOVT 2305* or PSYC 2301 or ECON 2302 or ECON 2301 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Philosophy or Intro to Formal Logic or Federal Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		35	Group 2 Major Requirements		34	
Group 1 Core Requirements		28	Group 1 Core Requirements		27	
Total Hours		63			Total Hours*	61
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.</small>						