Truman State University — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2026

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.

Truman State University		Semester	Missouri S&T		
MATH 198	Analytic Geometry and Calculus I	5	MATH 1214	Calculus I Grade of C or better is required.	4
MATH 263	Analytic Geometry and Calculus II	4	MATH 1215	Calculus II Grade of C or better is required.	4
MATH 264	Analytic Geometry and Calculus III	4	MATH 2222	Calculus III Grade of C or better is required.	4
MATH 365	Ordinary Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHYS 185, 190 AND PHYS 186, 191	College Physics I and Calculus for Physics I AND College Physics II and Calculus for Physics II The combination of TSU PHYS 185, 186, 190, and 191 is equivalent to the combination of S&T PHYSICS 1135 and 2135. All TSU courses must be completed to receive equivalent credit.	10	PHYSICS 1135 AND PHYSICS 2135	Engineering Physics I AND Engineering Physics II Grade of C or better is required. The combination of TSU PHYS 185, 186, 190, and 191 is equivalent to the combination of S&T PHYSICS 1135 and 2135. All TSU courses must be completed to receive equivalent credit.	8
ENG 190	Writing as Critical Thinking	3	ENGLISH 1120	Exposition and Argumentation	3
	Total Hours	29		Total Hours	26

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

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

Aerospace Engineering
Architectural Engineering
Biomedical Engineering - Biomanufacturing
Biomedical Engineering - 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
Semiconductor 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 2026.
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

Truman State University			Semester	Missouri S&T		
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 180 or CS 181	Foundations of Computer Science I (4) or Foundations of Computer Science II (3)	3		COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
PHYS 387	Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
MATH 357 or STAT 290	Linear Algebra or Statistics	3		MATH 3108 or STAT 3115*	Linear Algebra I or Engineering Statistics* pending approval for substitution Satisfies the Advanced Math/Stat elective requirement. *STAT 3115 will be substituted for STAT 3113.	3
PHRE 188 or	Ethics or other engineering, business, bio, social ethics approved by advisor	3		PHILOS 1130	How Should I Live? An Introduction to Ethics or other engineering, business, bio, social ethics approved by advisor	3
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.						
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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	34			Group 2 Major Requirements	35
	Group 1 Core Requirements	29			Group 1 Core Requirements	26
	Total Hours	63			Total Hours*	61
					*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.	

Architectural Engineering Group 2 Major Requirements

Truman State University		Semester	Missouri S&T		Semester
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
PHY 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
NASC 140	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 3 hours Humanities and Fine Arts and 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.**					6 hours
Humanities and Fine Arts Select 3 hours.					
HIST 1104* or **HIST 1105*** or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	3	**ISTORY 1300*** or **HISTORY 1310*** or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	3
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines, to include HISTORY 1200.					
HIST 1012*	**World Civilizations since ca. 1300 CE*** ***Satisfies the State of Missouri government requirement.**	3	**HISTORY 1200***	**Modern Western Civilization*** ***Satisfies the State of Missouri Government requirement.**	3
PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	Intro to Philosophy or Logic or **American National 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	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 ***Satisfies the State of Missouri government requirement.**	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
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	29
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	58		Total Hours*	55

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

Biomedical Engineering-Biomanufacturing
Group 2 Major Requirements

Truman State University		Semester	Missouri S&T		Semester
COMM 170	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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 329, 330	Organic Chemistry I (3) and Lab (1)	4	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHEM 331, 332 or BIOL 100 or BIOL 300	Organic Chemistry II (3) and Lab (1) or Biology with Lab (4) or Genetics with Lab (4)	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or General Genetics Applies to degree as Track Elective.	4
BIOL 214	Anatomy and Physiology I and Lab	4	BIO SCI 3333, 3359	Anatomy and Physiology I and Lab	4
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3

Humanities, Arts, and Social Sciences General Education Requirements

From the options listed in each group below, select 9 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.

HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6

Behavioral and Social Sciences

Select 3 hours.

HIST 1011 or **HIST 1012*** or GEOG 211 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or **American National 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
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	35		Group 2 Major Requirements	35
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	64		Total Hours*	61

*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.

Biomedical Engineering-Biomaterials
Group 2 Major Requirements

Truman State University		Semester	Missouri S&T		Semester
COMM 170	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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 329, 330	Organic Chemistry I (3) and Lab (1)	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).	4
CHEM 331, 332	Organic Chemistry II (3) and Lab (1)	4	CHEM 2220, 2229*	Organic Chemistry II and Lab* CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).	4
BIOL 100	Biology with Lab	4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIOL 214	Anatomy and Physiology I and Lab	4	BIO SCI 3333, 3359	Human Anatomy and Physiology I and Lab	4
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 3 hours.					
HIST 1011 or **HIST 1012*** or GEOG 211 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or **American National 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
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	42		Group 2 Major Requirements	42
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	71		Total Hours*	68

*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

Truman State University		Semester	Missouri S&T		
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117	Engineering Statistics* or Intro to Probability and Statistics or any statistics course 3000-level or higher. Satisfies statistics elective requirement. *STAT 3115 will be substituted for this requirement.	3
PHYS 250	Modern Physics I	3	PHYS 2305	Intro to Modern Physics	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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	38		Group 2 Major Requirements	38
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	67		Total Hours*	64
				*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.	

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

Truman State University		Semester	Missouri S&T	
COMM 170	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement. 3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab 5
CHEM 131	Chemical Principles 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 329, 330	Organic Chemistry I (3) and Lab (1)	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 331 or BIOL 204 or BIOL 304	Organic Chemistry II (3) or Introductory Microbiology (4) or General Microbiology (4)	8	CHEM 2220 or BIO SCI 3313, 3319 or CHEM 4610, 4619	Organic Chemistry II (3) or Analytical Chemistry (4) or Microbiology and Lab (5) or General Biochemistry and Lab (5) Applies to the degree as required science elective credits. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab. 8
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500. 3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113. 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.

HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.** 6

Behavioral and Social Sciences

Select 6 hours from at least two specific disciplines.

HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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

	No free electives applied to the degree.	0		Maximum Free Electives 0
	Group 2 Major Requirements	41		Group 2 Major Requirements 41
	Group 1 Core Requirements	29		Group 1 Core Requirements 26
	Total Hours	70		Total Hours* 67

*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

Truman State University		Semester	Missouri S&T		Semester
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
NASC 140	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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	32		Group 2 Major Requirements	32
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	61		Total Hours*	70

*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

Truman State University		Semester	Missouri S&T	
COMM 170	Public Speaking	3	SPMS 1185 Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310*, 1319 General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* *Will be substituted for COMP SCI 1500.	3
PHYS 387 and S&T MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR PHYS 250 or CHEM 329 or BIOL 300	Statics and Engineering Mechanics-Dynamics at S&T Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Modern Physics I or Organic Chemistry I or Genetics	3	CIV ENG 2200 and MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR PHYSICS 2311 or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) Both courses above combined or any one of the following courses satisfies a required engineering science elective. OR Modern Physics I (3) or Organic Chemistry I (3) or General Genetics (3)	3
MATH 357	Linear Algebra	3	MATH 3108	Linear Algebra	3
STAT 570 or STAT 290	Mathematical Probability and Statistics I or Statistics	3	STAT 3117 or STAT 3115*	Intro to Probability and Statistics or Engineering Statistics* *Will be substituted for STAT 3117.	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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.					
ENG 210	Writing Across the Disciplines	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	37		Group 2 Major Requirements	38
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	66		Total Hours*	64
				*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

Truman State University			Semester	Missouri S&T		
COMM 170	Public Speaking	3		SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3		COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* *Will be substituted for COMP SCI 1500.	3
PHYS 387 and S&T MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR PHYS 250 or CHEM 329 or BIOL 300	Statics and Engineering Mechanics-Dynamics at S&T Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Modern Physics I or Organic Chemistry I or Genetics	3		CIV ENG 2200 and MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR PHYSICS 2311 or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) Both courses above combined or any one of the following courses satisfies a required engineering science elective. OR Modern Physics I (3) or Organic Chemistry I (3) or General Genetics (3)	3
MATH 357	Linear Algebra	3		MATH 3108	Linear Algebra	3
STAT 570 or STAT 290	Mathematical Probability and Statistics I or Statistics	3		STAT 3117 or STAT 3115*	Intro to Probability and Statistics or Engineering Statistics* *Will be substituted for STAT 3117.	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.						
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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.						
ENG 210	Writing Across the Disciplines	3		ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	6		Electives	Maximum Free Electives	6
	Group 2 Major Requirements	40			Group 2 Major Requirements	41
	Group 1 Core Requirements	29			Group 1 Core Requirements	26
	Total Hours	69			Total Hours*	67

*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

Truman State University		Semester	Missouri S&T		
COMM 170	Public Speaking	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CS 180 or CS 181	Foundations of Computer Science I (4) or Foundations of Computer Science II (3)	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3117 or STAT 3115	Intro to Probability and Statistics or Engineering Statistics* *Will be substituted for the STAT 3117 requirement.	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include PSYCH 1101.					
PSYC 166	General Psychology	3	PSYCH 1101	General Psychology Required	3
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National Government*** 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 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 ***Satisfies the State of Missouri government requirement.**	3
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 210	Writing Across the Disciplines	3	ENGLISH 1160	Writing and Research	3
	No free electives applied to the degree.	0	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	32
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	60		Total Hours*	61

*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

Truman State University		Semester	Missouri S&T		Semester
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
NASC 140	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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
BIOL 100	Biology	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) *The lab is not a degree requirement, transfers as general elective credit.	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	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, or 1310 to satisfy the State of Missouri government requirement and a degree-specific gen ed requirement.**					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines. At least one course in either the HFA or the BSS (below) section must be selected from HISTORY 1200, 1300, or 1310.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.. At least one course in either the HFA (above) or the BSS section must be selected from HISTORY 1200, 1300, or 1310.					
HIST 1012* or PHRE 186 or PHRE 187 or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	**World Civilizations since ca. 1300 CE*** or Intro to Philosophy or Logic 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 1200*** or PHILOS 1105 or PHILOS 1115 or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	**Modern Western Civilization*** or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language ***Satisfies the State of Missouri government requirement and a degree-specific gen ed requirement.**	6
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	37		Group 2 Major Requirements	35
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	66		Total Hours*	61
				*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.	

Geological Engineering Group 2 Major Requirements

Truman State University		Semester	Missouri S&T		
CHEM 130	Chemical Principles I	4	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
NASC 140	Physical Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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	29		Group 2 Major Requirements	29
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	58		Total Hours*	64
				*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

Truman State University			Semester	Missouri S&T		
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 180 or CS 181	Foundations of Computer Science I (4) or Foundations of Computer Science II (3)	3		COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++) (3)	3
PHYS 387	Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
MATH 357 or STAT 290	Linear Algebra or Statistics	3		MATH 3108 or STAT 3115*	Linear Algebra I or Engineering Statistics* pending approval for substitution Satisfies the Advanced Math/Stat elective requirement. *STAT 3115 will be substituted for STAT 3113.	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.						
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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	31			Group 2 Major Requirements	32
	Group 1 Core Requirements	29			Group 1 Core Requirements	26
	Total Hours	60			Total Hours*	58
					*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.	

Metallurgical Engineering Group 2 Major Requirements

Truman State University			Semester	Missouri S&T	
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3		COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3		STAT 3115* or STAT 3117	Engineering Statistics* or Intro to Probability and Statistics *Will be substituted for the STAT 3113/3117 requirement.	3
PHYS 387	Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 130	Chemical Principles I	4		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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 329 or PHYS 250	Organic Chemistry I or Modern Physics I	3		CHEM 2210 or PHYSICS 2311	Organic Chemistry I (4) or Modern Physics I (3) Not specifically required for the degree but satisfies out-of-department technical elective requirement	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.						
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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.	3			Maximum Free Electives	0
	Group 2 Major Requirements	41			Group 2 Major Requirements	38
	Group 1 Core Requirements	29			Group 1 Core Requirements	26
	Total Hours	70			Total Hours*	68
					*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.	

Mining Engineering Group 2 Major Requirements

Truman State University		Semester	Missouri S&T		
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
NASC 140	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	29
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	58		Total Hours*	55
				*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.	

Nuclear Engineering Group 2 Major Requirements

Truman State University		Semester	Missouri S&T		
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CS 180 or CS 181	Foundations of Computer Science I (4) or Foundations of Computer Science II (3)	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 357	Linear Algebra	3	MATH 3108	Linear Algebra	3
PHYS 387	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for the statistics requirement.	3
PHYS 250	Modern Physics I	3	PHYSICS 2311	Modern Physics	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include either ECON 1100 or 1200.					
ECON 201 or ECON 200	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National Government*** or General Psychology or Elementary or Intermediate Foreign Language ***Satisfies the State of Missouri government requirement.**	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 ***Satisfies the State of Missouri government requirement.**	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	37		Group 2 Major Requirements	38
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	66		Total Hours*	64

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

Petroleum Engineering Group 2 Major Requirements

Truman State University			Semester	Missouri S&T		
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 170	Intro to Computer Science	4		COMP SCI 1500	Computational Problem Solving	3
NASC 140	Physical Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHYS 387	Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3		STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for the statistics requirement.	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.						
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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	36			Group 2 Major Requirements	35
	Group 1 Core Requirements	29			Group 1 Core Requirements	26
	Total Hours	65			Total Hours*	61
					*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.	

Semiconductor Engineering-Device Engineering Emphasis
Group 2 Major Requirements

	Truman State University	Semester		Missouri S&T	
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117	Engineering Statistics* or Intro to Probability and Statistics *Will be substituted for STAT 3117.	3
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	35		Group 2 Major Requirements	35
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	64		Total Hours*	61

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

Semiconductor Engineering-Process Engineering Emphasis
Group 2 Major Requirements

	Truman State University	Semester		Missouri S&T	
ENG 210 or COMM 170	Writing Across the Disciplines or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 130	Chemical Principles I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 131	Chemical Principles 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
STAT 290 or STAT 570	Statistics or Mathematical Probability and Statistics I	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
CS 170 or CS 180* or CS 181*	Intro to Computer Science (4) or Foundations of Computer Science I (3) or Foundations of Computer Science II (3)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	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.					
HIST 1104* or **HIST 1105*** or ART 203 or MUSI 204 or THEA 275 or Literature	**United States History I, 1607-1877*** or **United States History II, 1877-present*** or Intro to the Visual Arts or Perspectives in Music: Art Music in Western Thought or Intro to the Theatre Arts or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	**HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	**American History to 1877*** or **American History Since 1877*** or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. ***Satisfies the State of Missouri government requirement.**	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 1011 or **HIST 1012*** or GEOG 211 or PHRE 186 or PHRE 187 or **POL 161*** or PSYC 166 or ECON 201 or ECON 200 or Foreign Language	World Civilizations before ca. 1300 CE or **World Civilizations since ca. 1300 CE*** or Global Geography or Intro to Philosophy or Logic or **American National 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
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	35		Group 2 Major Requirements	35
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	64		Total Hours*	61

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