University of Central Missouri — 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.

University of Central Missouri		Semester	Missouri S&T		
MATH 1151	Calculus I	5	MATH 1214	Calculus I Grade of C or better is required.	4
MATH 1152	Calculus II	5	MATH 1215	Calculus II Grade of C or better is required.	4
MATH 2153	Calculus III	3	MATH 2222	Calculus III Grade of C or better is required.	4
MATH 3151	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHYS 2121	University Physics I	5	PHYSICS 1135	Engineering Physics I Grade of C or better is required.	4
PHYS 2122	University Physics II	5	PHYSICS 2135	Engineering Physics II Grade of C or better is required.	4
ENGT 1000	Principles of Engineering	3	FR ENG 1100	Study and Careers in Engineering and Computing	1
ENGL 1020	Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
	Total Hours	32		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
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

	University of Central Missouri		Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2800	Electrical Circuits	3
PHYS 3211	Analytical Mechanics I	2		CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3		AERO ENG 2360	Dynamics	3
PHYS 4411	Thermodynamics	3		MECH ENG 2519	Thermodynamics	3
MATH 3710 or ACST 3311	Linear Algebra or Intro to Probability and Statistics	3		MATH 3108 or STAT 3115*	Linear Algebra I or Engineering Statistics* Satisfies the Advanced Math/Comp Sci elective requirement. *STAT 3115 will be substituted for STAT 3113.	3
PHIL 2300	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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	40			Group 2 Major Requirements	41
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	72			Total Hours*	68
					*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

	University of Central Missouri	Semester		Missouri S&T	Semester
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
PHYS 3211	Analytical Mechanics I	2		CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHYS 4411	Thermodynamics	3		MECH ENG 2519*	Thermodynamics* *Will be substituted for MECH ENG 2527.	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering Statistics* *Will be substituted for STAT 3113.	3
GEOS 1004	Intro to 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 9 hours to include 3 hours Humanities and Fine Arts and Behavioral and Social Sciences. 3 hours ***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 3 hours.						
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	3		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **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 3 hours.						
PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	Intro to Philosophy or Deductive Logic 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		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	32			Group 2 Major Requirements	31
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	64			Total Hours*	58
					*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

	University of Central Missouri		Semester		Missouri S&T	
COMM 1000	Public Speaking	3		SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5		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 3341	Organic Chemistry I	4		CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHEM 3342 or BIOL 1500 or BIOL 1510 or BIOL 2510	Organic Chemistry II (4) or General Biology I-Esntls of Molecular and Cell Biology (4) or Investigative Biology (4) or Basic Genetics (3)	4		CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or Principles of Biology* or General Genetics Applies to degree as Track Elective.	4
BIOL 2512	Cell Biology	3		BIO SCI 2213, 2219	Cell Biology and Lab	4
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3		COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 1500.	3
PHYS 4411	Thermodynamics	3		MECH ENG 2519*	Thermodynamics* *The combination of MECH ENG 2519 AND CHEM ENG 4000 (an independent study, online S&T course) will be substituted for CHEM ENG 2110 by the biomedical engineering department. Students must complete both courses to receive credit.	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 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World 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		HISTORY 2110 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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.					
CTE 2060	Technical Writing	3		ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements	42			Group 2 Major Requirements	41
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	74			Total Hours*	68
					*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.	

Biomedical Engineering-Biomaterials
Group 2 Major Requirements

University of Central Missouri		Semester	Missouri S&T		
COMM 1000	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5	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 3341	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 3342	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 1500 or BIOL 1510	General Biology I-Esntls of Molecular and Cell Biology or Investigative Biology and Lab	4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIOL 2512	Cell Biology	3	BIO SCI 2213, 2219	Cell Biology and Lab	4
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3	COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 1500.	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3311	Electric Circuit Theory	3	ELEC ENG 2100*	Circuits I* *A passing grade on the Missouri S&T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100. Without the required passing score, the course will transfer as ELEC ENG 2800. Applies to the degree as a Track Elective (Engineering).	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 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World 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	HISTORY 2110 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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.					
CTE 2060	Technical Writing	3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	48		Group 2 Major Requirements	48
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	80		Total Hours*	75
				*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

	University of Central Missouri	Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
PHYS 3211	Analytical Mechanics I	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5	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 2300 or CS 1030 or CS 2030	Data Structures or Python Programming I or Python Programming II	3	COMP SCI 1500 or COMP SCI 1973, 1983 or	Computational Problem Solving or Intro to Python Programming and Lab	3
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115*	Engineering Statistics* or any statistics course 3000-level or higher. Satisfies statistics elective requirement. *STAT 3115 will be substituted for this requirement.	3
PHYS 3511	Modern Physics	4	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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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	HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	41		Group 2 Major Requirements	38
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	73		Total Hours*	65
				*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

	University of Central Missouri		Semester		Missouri S&T	
COMM 1000	Public Speaking	3		SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5		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 3341	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 3342 or BIOL 2512 or BIOL 3611	Organic Chemistry II (4) or Cell Biology (3) or Microbiology and Lab (4) Select up to 8 hours from these options.	8		CHEM 2220 or BIO SCI 2213, 2219 or BIO SCI 3313, 3319	Organic Chemistry II (3) or Cell Biology and Lab (4) or Microbiology 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 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3		COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 1500.	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering Statistics* *Will be substituted for STAT 3113.	3
PHYS 4411	Thermodynamics	3		MECH ENG 2519*	Thermodynamics* *The combination of MECH ENG 2519 AND CHEM ENG 4000 (an independent study, online S&T course) will be substituted for CHEM ENG 2110 by the chemical engineering department. Students must complete both courses to receive credit.	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 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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.					
CTE 2060	Technical Writing	3		ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements	49			Group 2 Major Requirements	47
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	81			Total Hours*	74
					*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

	University of Central Missouri		Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
GEOS 1004	Intro to Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHYS 3211	Analytical Mechanics I	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering 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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	34
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	68			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

University of Central Missouri			Semester	Missouri S&T		
COMM 1000	Public Speaking	3		SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 2400 or MATH 2410	Discrete Structures or Discrete Mathematics	3		COMP SCI 1200	Discrete Math for Computer Science	3
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3		COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 1500.	3
PHYS 3211 and PHYS 3212 BOTH of the courses above or ONE of the courses below. OR PHYS 4411 or CHEM 3341 or BIOL 2512 or BIOL 3511	Analytical Mechanics I (3) and Analytical Mechanics II (3) Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Thermodynamics (3) or Organic Chemistry I (4) or Cell Biology (3) or General Genetics (4)	3		CIV ENG 2200 and MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR MECH ENG 2519 or CHEM 2210, 2219* or BIO SCI 2213 or BIO SCI 2223	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Thermodynamics (3) or Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) or General Genetics (3) *CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.	3
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2100*	Circuits I* *A passing grade on the Missouri S&T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100. Without the required passing score, the course will transfer as ELEC ENG 2800.	3
MATH 3710	Linear Algebra	3		MATH 3108	Linear Algebra	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	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.						
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.						
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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 1030 or CTE 2060	Composition II or Technical Writing	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	44			Group 2 Major Requirements	44
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	76			Total Hours*	71
					*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

	University of Central Missouri	Semester		Missouri S&T	
COMM 1000	Public Speaking	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3	COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 1500.	3
PHYS 3211 and PHYS 3212 BOTH of the courses above or ONE of the courses below. OR PHYS 4411 or CHEM 3341 or BIOL 2512 or BIOL 3511	Analytical Mechanics I (3) and Analytical Mechanics II (3) Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Thermodynamics (3) or Organic Chemistry I (4) or Cell Biology (3) or General Genetics (4)	3	CIV ENG 2200 and MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR MECH ENG 2519 or CHEM 2210, 2219* or BIO SCI 2213 or BIO SCI 2223	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Thermodynamics (3) or Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) or General Genetics (3) *CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.	3
PHYS 3311	Electric Circuit Theory	3	ELEC ENG 2100*	Circuits I* *A passing grade on the Missouri S&T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100. Without the required passing score, the course will transfer as ELEC ENG 2800.	3
MATH 3710	Linear Algebra	3	MATH 3108	Linear Algebra	3
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115*	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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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	HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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 1030 or CTE 2060	Composition II or Technical Writing	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	44		Group 2 Major Requirements	44
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	76		Total Hours*	71
				*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

	University of Central Missouri		Semester		Missouri S&T	
COMM 1000	Public Speaking	3		SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
MGT 3315	Management of Organizations	3		ENG MGT 2110	Managing Engineering and Technology	3
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2800	Electrical Circuits	3
PHYS 3211	Analytical Mechanics I	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHYS 4411	Thermodynamics	3		MECH ENG 2519*	Thermodynamics *Will be substituted for MECH ENG 3503	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering 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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
PSY 1100	General Psychology	3		PSYCH 1101	General Psychology Required	3
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or ECON 1100 or ECON 1200 or Foreign Language	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.					
ENGL 1030 or CTE 2060	Composition II or Technical Writing	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	41			Group 2 Major Requirements	40
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	73			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

University of Central Missouri		Semester	Missouri S&T		Semester
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
GEOS 1004	Intro to Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5	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 1500 or BIOL 1510	General Biology I-Esntls of Molecular and Cell Biology or Investigative Biology and Lab	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 3211	Analytical Mechanics I	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115*	Engineering 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 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. At least one course in either the HFA or the BSS (below) section must be selected from HISTORY 1200, 1300, or 1310.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	Intro to Philosophy or Deductive Logic 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	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
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	39		Group 2 Major Requirements	34
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	71		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

	University of Central Missouri	Semester		Missouri S&T	Semester
CTE 2060	Technical Writing	3	ENGLISH 3560	Technical Writing Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
GEOS 1004	Intro to Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
PHYS 3211	Analytical Mechanics I	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115*	Engineering 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.				
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.				
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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	HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	34
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	68		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

	University of Central Missouri	Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
PHYS 3311	Electric Circuit Theory	3	ELEC ENG 2800	Electrical Circuits	3
PHYS 3211	Analytical Mechanics I	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3	MECH ENG 2360	Dynamics	3
PHYS 4411	Thermodynamics	3	MECH ENG 2519	Thermodynamics	3
MATH 3710 or ACST 3311	Linear Algebra or Intro to Probability and Statistics	3	MATH 3108 or STAT 3115*	Linear Algebra I or Engineering Statistics* Satisfies the Advanced Math/Comp Sci 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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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	HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	32		Group 1 Core Requirements	27
	Total Hours	70		Total Hours*	65
				*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

	University of Central Missouri	Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CS 2300 or CS 1030 or CS 2030	Data Structures or Python Programming I or Python Programming II	3	COMP SCI 1500 or COMP SCI 1973, 1983 or	Computational Problem Solving or Intro to Python Programming and Lab	3
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115*	Engineering Statistics* *Will be substituted for STAT 3113.	3
PHYS 3211	Analytical Mechanics I	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5	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 3341 or PHYS 3311 or PHYS 3511	Organic Chemistry I (4) or Electric Circuit Theory (3) or Modern Physics (4)	3	CHEM 2210 or ELEC NG 2800 or PHYSICS 2305	Organic Chemistry I (3) or Electrical Circuits (3) or Intro to Modern Physics (3) Not specifically required for the degree but will satisfy 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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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	HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	43		Group 2 Major Requirements	38
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	75		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

University of Central Missouri		Semester	Missouri S&T		
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115*	Engineering Statistics* *Will be substituted for STAT 3113.	3
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHYS 3211	Analytical Mechanics I	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHYS 4411	Thermodynamics	3	MECH ENG 2519*	Thermodynamics* *Will be substituted for MECH ENG 2527.	3
GEOS 1004	Intro to 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.					
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.					
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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	HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	36		Group 2 Major Requirements	34
	Group 1 Core Requirements	32		Group 1 Core Requirements	27
	Total Hours	68		Total Hours*	61
				*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

	University of Central Missouri		Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 3710	Linear Algebra	3		MATH 3108	Linear Algebra	3
PHYS 3211	Analytical Mechanics I	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering Statistics* *Will be substituted for the statistics requirement.	3
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2800	Electrical Circuits	3
PHYS 4411	Thermodynamics	3		MECH ENG 2519	Thermodynamics	3
PHYS 3511	Modern Physics	4		PHYSICS 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.						
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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 1011 or ECON 1010	Principles of Microeconomics or Principles of Macroeconomics	3		ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic or **American Government*** or General Psychology or Elementary or Intermediate Foreign Language ***Satisfies the State of Missouri government requirement.**	3		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or Foreign Language	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	42			Group 2 Major Requirements	41
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	74			Total Hours*	68
					*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

	University of Central Missouri		Semester		Missouri S&T	
ENGL 1030 or CTE 2060	Composition II or Technical Writing	3		ENGLISH 3560 or ENGLISH 1160	Technical Writing (preferred) or Writing and Research Applies to degree as Gen Ed Communications requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3		COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 1500.	3
CS 4600	Database Theory and Applications	3		COMP SCI 2300	File Structures and Intro to Database Systems	3
GEOS 1004	Intro to Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHYS 3211	Analytical Mechanics I	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering 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.						
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.						
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	42			Group 2 Major Requirements	40
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	74			Total Hours*	67
					*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

	University of Central Missouri		Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2100*	Circuits I* *A passing grade on the Missouri S&T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100. Without the required passing score, the course will transfer as ELEC ENG 2800.	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering Statistics* *Will be substituted for STAT 3117.	3
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3		COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 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.						
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.						
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	40			Group 2 Major Requirements	38
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	72			Total Hours*	65
					*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

	University of Central Missouri		Semester		Missouri S&T	
ENGL 1030 or COMM 1000 or CTE 2060	Composition II or Public Speaking or Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2100*	Circuits I* *A passing grade on the Missouri S&T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100. Without the required passing score, the course will transfer as ELEC ENG 2800.	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	Engineering Statistics* *Will be substituted for STAT 3113.	3
CS 2300 or ENGT 2065*	Data Structures or Computer Programming for Engineering Technology*	3		COMP SCI 1500 or COMP SCI 1971*	Computational Problem Solving (3) or Intro to Programming Methodology (C++) (3) *Will be substituted for COMP SCI 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.						
ENGL 2215 or ENGL 2205 or ENGL 2220 or **HIST 1350*** or **HIST 1352*** or ART 1800 or MUSI 1210 or THEA 2400 or Literature	Intro to British Literature MOTR LITR 102B or Intro to American Literature MOTR LITR 101B or Intro to World Literature or **History of the United States to 1877*** or **History of the United States from 1877*** or Ideas and the Visual Arts or Experiencing Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. ***Satisfies the State of Missouri government requirement.**	6		ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1231 or **HISTORY 1300*** or **HISTORY 1310*** or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature II: 1800 to Present American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or **American History to 1877*** or **American History Since 1877*** or Architectural Design I 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.						
GEOG 2212 or PHIL 1000 or PHIL 1400 or **POLS 1510*** or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	World Geography or Intro to Philosophy or Deductive Logic 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		HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or **POL SCI 1200*** or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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	40			Group 2 Major Requirements	38
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total Hours	72			Total Hours*	65
					*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.	