## University of Central Missouri — Missouri S&T

## **General Engineering**

Transfer Guide Effective as of Fall 2025

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

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

## Group 1 - Core Requirements: All Majors Take All Courses

Engineering students take all Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice. Math prerequisites: While they are not part of Missouri S&T engineering degree requirements, algebra and trigonometry skills are critical to success in calculus. To prepare for entry into calculus, students should follow math placement testing and advising recommendations at their college.

	University of Central Missouri	<u>s</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>		
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 or Biomaterials

**Ceramic Engineering** 

**Chemical Engineering and Biochemistry Emphasis** 

**Civil Engineering** 

**Computer Engineering** 

**Electrical Engineering** 

**Engineering Management** 

**Environmental Engineering** 

**Geological Engineering** 

**Mechanical Engineering** 

Metallurgical Engineering

Mining Engineering

**Nuclear Engineering** 

**Petroleum Engineering** 

Engineering Major Requirements are detailed on the following pages.

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

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

	Aerospace Eng	gineerinç	g Grou	p 2 Major F	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 PHYS 3211 PHYS 3212	Electric Circuit Theory Analytical Mechanics I Analytical Mechanics II	3 2 3		ELEC ENG 2800 CIV ENG 2200 AERO ENG 2360	Electrical Circuits Engineering Mechanics-Statics Dynamics	3 3 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.	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
	6 hours H	lumanities and Fine havioral and Social STORY 1200, 1300,	Arts from at le Sciences from	•	es and ciplines.	
				specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 "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	British Literature II: 1800 to Present MOTRLITE 1028 or American Literature: 1865 to Present MOTRLITE 1018 or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfus the State of Missouri government requirement.	6
			ral and Socia			
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.	Select 6 hours fro	m at least two	specific disciplines. 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 'Satsfies the State of Missouri government requirement.	6
			, Arts, and So Select 3 hour	ocial Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any his music, theater, English and technical communicatic philosophy, political science, psychology, economic etymology, or foreign language.	story, art, n,	COIGOT O FIOUR	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. Group 2 Major Requirements Group 1 Core Requirements	0 40 32 Total Hours 72			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  "S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.	0 41 27 68

	Architectural En	gineeri	ng Gro	up 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 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 2527 or MECH ENG 2519*	Thermal Analysis or 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 Socia	al Sciences Ge	eneral Education Requi	irements	
		umanities and Fir 3 hours Be	e Arts from at le		s and	
	At least one course must be selected from his	•	nanities and F	•	State of Missouri government requirement.	
	ç			specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	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 "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	British Literature II: 1800 to Present MOTR LITR 102B OR American Literature: 1865 to Present MOTR LITR 101B OR World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
		Behavi	oral and Socia			
PHIL 1000 or	Intro to Philosophy or		Select 3 hour	rs. PHILOS 1105 or	Self and World: Intro to Philosophy or	
PHIL 1000 of PHIL 1400 or POLS 1510* or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	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 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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 Group 1 Core Requirements	32 32 Total Hours 64			Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.	31 27 58

	Biomedical E					
	<u> </u>	2 W		equirements		
	University of Central Missouri		Semester		Missouri S&T Principles of Speech	
COMM 1000	Public Speaking	3		SP&MS 1185	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
CIS 1625 or CS 1030 or CS 2030 or CS 2300 or ENGT 2065	Programming with Visual C# or Python Programming I or Python Programming II or Data Structures or Computer Programming for Engineering Technology	3		CS 1500	Computational Problem Solving	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
	*At least one course must be selected from HISTORY 12  Select 6	Huma	nities and F		tate of Missouri government requirement.	
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 Statisfies 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	British Literature II: 1800 to Present MOTR LITR 102B or American Literature: 1865 to Present MOTR LITR 101B or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			ral and Socia			
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.  Hun	3 manities,	Select 3 hour	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
CTE 2060	Technical Writing	3	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements Total Ho	0 42 32 ours 74			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credit hours toward the degree.	0 41 27 68

				ng-Biomate		
	-	2 Ma	ajor Re	quirements		
	University of Central Missouri		<u>Semester</u>		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*  *OHEM 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 BIOL 2512	General Biology I-Esntls of Molecular and Cell Biology or Investigative Biology and Lab Cell Biology	4		BIO SCI 1113*, 1219* BIO SCI 2213, 2219	General Biology* and Lab*  *Applies to degree as Track Elective (Non-engineering).  Cell Biology and Lab	4
CIS 1625 or CS 1030 or CS 2030 or CS 2300 or ENGT 2065	Programming with Visual C# or Python Programming I or Python Programming II or Data Structures or Computer Programming for Engineering Technology	3		CS 1500	Computational Problem Solving	3
PHYS 3211	Analytical Mechanics I	2		CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1)  A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100. Applies to the degree as a Track Elective (Engineering).	4
	*At least one course must be selected from HISTORY 12	200, 1300 Huma	1310, or POL s	•		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 "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	British Literature II: 1800 to Present MOTR LITR 102B OF American Literature: 1865 to Present MOTR LITR 101B OF World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation  **Satisfies the State of Missouri government requirement.	6
			ral and Social 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
	Hui		Arts, and Soc			
CTE 2060	Technical Writing	ENG 3	LISH 3560 req	luirea. ENGLISH 3560	Technical Writing	3
		0				
	No free electives applied to the degree.  Group 2 Major Requirements	48			Maximum Free Electives Group 2 Major Requirements	0 49
	Group 1 Core Requirements  Total Ho	32			Group 2 major reequirements  Group 1 Core Requirements  Total Hours' *S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.	27

	Ceramic Engi	neering	J Grοι	up 2 Major Re	quirements	
	University of Central Missouri		Semes	ster_	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 6an 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
CHEM 3341	Organic Chemistry I	4		CHEM 2210, 2219*	Organic Chemistry I (3) and Lab (1) CHEM 2210 will satisfy the advanced chemistry elective requirement.  *CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.	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.	3
PHYS 3511	Modern Physics	4		PHYS 2305	Intro to Modern Physics	3
	6 hours H	lumanities and Fi havioral and Soc STORY 1200, 13	ne Arts from ial Sciences 00, 1310, or	•	s and iplines.	
				d Fine Arts two specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 *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	British Literature II: 1800 to Present MOTR LITR 102B OF American Literature: 1865 to Present MOTR LITR 101B OF World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
				ocial Sciences		
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.	Select 6 hours f		two specific disciplines. 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
		Humanitie	es, Arts, an Select 3	d Social Sciences hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any his music, theater, English and technical communicatio philosophy, political science, psychology, economic etymology, or foreign language.	n, ,		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. Group 2 Major Requirements Group 1 Core Requirements	0 4: 3: Total Hours 7-	2		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.	0 38 27 * 65

		Chemical	Engi	neering or		
	Chemical Enginee	ering - Bio	chem	nical Engine	ering Emphasis	
				equirements		
	University of Central Missouri		Semester		Missouri S&T	
COMM 1000	Public Speaking	3		SP&MS 1185	Principles of Speech	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  General Chemistry I and Lab	5
CHEM 1132	General Chemistry II	5		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2)	3
	•			,	*CHEM 1510 is not a degree requirement, transfers as general elective credit.  Organic Chemistry I and Lab*	
CHEM 3341	Organic Chemistry I	4		CHEM 2210, 2219*	*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
CIS 1625 or CS 1030 or CS 2030 or CS 2300 or ENGT 2065	Programming with Visual C# or Python Programming I or Python Programming II or Data Structures or Computer Programming for Engineering Technolog	3		CS 1500	Computational Problem Solving	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
	6 hours Be *At least one course must be selected from His	ehavioral and Social S STORY 1200, 1300, 1 Human	ciences from 310, or POL ities and Fi	ine Arts	lines.	
ENGL 2215 or	Intro to British Literature MOTR LITR 102B OF	Select 6 hours from	at least two	specific disciplines.  ENGLISH 1212 or	British Literature II: 1800 to Present MOTR LITR 102B or	
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	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 *Satisfies the State of Missouri government requirement.	6		ENGLISH 12/12 or ENGLISH 12/22 or ENGLISH 12/31 or HISTORY 13/10* or HISTORY 13/10* or ART 11/80 or MUSIC 11/50	British Literature II: 1800 to Present MOTR LITR 102B or American Literature: 1865 to Present MOTR LITR 101B or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			I and Socia			
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.	Select 6 hours from		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
				ocial Sciences		
CTE 2060	Technical Writing	ENGLI 3	ISH 3560 re	equirea. ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 49 32			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements	0 47 27
		Total Hours 81			Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T  Chemical Engineering degree.	74

	Civil Engineer	ing G	roup 2	Major Requ	uirements	
	University of Central Missouri		Semester		<u>Missouri S&amp;T</u>	
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
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
	From the optio 6 hours Humani	ns listed in e ties and Fine al and Social ' 1200, 1300,	each group be Arts from at le Sciences fron 1310, or POI		elude and Jines.	
	Select		nities and F	ne Arts o specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 States 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	British Literature II: 1800 to Present MOTRLITR 102B OF American Literature: 1865 to Present MOTRLITR 101B OF World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation **Satisfies the State of Missouri government requirement.	6
	•	Behavio	ral and Socia	al Sciences		
0500 0040		6 hours fro	m at least two	specific disciplines.	W 115 1 10 1	
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
	<b>!</b>	łumanities,	Arts, and Select 3 hou	ocial Sciences rs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, a music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	rt, 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 Group 1 Core Requirements Total	36 32 Hours 68			Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.	34 27 61

	<u> </u>		9	p 2 Major Re		
	University of Central Missouri		Semeste	r	Missouri S&T	
COMM 1000	Public Speaking	3	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 1131	General Chemistry I	5	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CS 2400 or MATH 2410	Discrete Structures or Discrete Mathematics	3	3	COMP SCI 1200	Discrete Math for Computer Science	3
CIS 1625 or CS 1030 or CS 2030 or CS 2300 or ENGT 2065	Programming with Visual C# or Python Programming I or Python Programming II or Data Structures or Computer Programming for Engineering Technology	3	3	CS 1500	Computational Problem Solving	3
PHYS 3211 or PHYS 3212 or PHYS 4411 or PHYS 3511 or CHEM 3341 or BIOL 2512 or BIOL 3511	Analytical Mechanics I (3) or Analytical Mechanics II (3) or Thermodynamics (3) or Modern Physics (3) or Organic Chemistry I (4) or Cell Biology (3) or General Genetics (4)	3	3	CIV ENG 2200 or MECH ENG 2350 or MECH ENG 2519 or PHYSICS 2305 or CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Thermodynamics (3) or Intro to Modern Physics (3) or Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3) Satisfies a required engineering/science elective.	3
PHYS 3311	Electric Circuit Theory	3	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1)  A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2104.	4
MATH 3710	Linear Algebra	3	3	MATH 3108	Linear Algebra Will satisfy a required math elective.	3
ACTS 3311	Intro to Probability and Statistics	3	3	STAT 3115*	Engineering Statistics*  *Will be substituted for STAT 3117.	3
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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			o specific disciplines.  ENGLISH 1212 or  ENGLISH 1222 or  ENGLISH 1231 or  HISTORY 1300* or  HISTORY 1310* or  ART 1180 or	British Literature II: 1800 to Present MOTRLITR 102B OF American Literature: 1865 to Present MOTRLITR 101B OF World Literature I: Beginnings to the Renaissance of American History to 1877* or American History Since 1877* or Art Appreciation or	6
MUSI 1210	Experiencing Music *Satisfies the State of Missouri government requirement.			MUSIC 1150	Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	
			ioral and Soci			
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 *Satisfes the State of Missouri government requirement.	ct 6 hours t		o specific disciplines. 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 **Sattifies the State of Missouri government requirement.	6
		Humaniti		ocial Sciences		
ENGL 1030 or CTE 2060	Composition II or Technical Writing	3	Select 3 hou	rs. ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	3	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements Group 1 Core Requirements	4 3 al Hours 7	4 2		Group 2 Major Requirements Group 1 Core Requirements  Total Hours* *S&T advisor permission is required to transfer more than 68 credits toward the S&T	45 27 72

	University of Central Missouri		Semeste	<u>er</u>	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
CIS 1625 or	Programming with Visual C# or					
CS 1030 or	Python Programming I or			00.4500	0 15 15 11 01:	
CS 2030 or CS 2300 or	Python Programming II or Data Structures or	3		CS 1500	Computational Problem Solving	3
ENGT 2065	Computer Programming for Engineering Technology					
PHYS 3211 and	Analytical Mechanics I (3) and			CIV ENG 2200 and	Engineering Mechanics-Statics (3) and	
PHYS 3212	Analytical Mechanics II (3)			MECH ENG 2350	Engineering Mechanics-Dynamics (2)	
BOTH of the courses above or ONE of	Both courses above combined or any one of the following courses will satisfy a require engineering science elective.	ed		BOTH of the courses above or ONE of the courses below	Both courses above combined or any one of the following courses will satisfy a required engineering science elective.	
the courses below. OR	OR			OR	OR	
PHYS 4411 or	Thermodynamics (3) or	2		MECH ENG 2519 or	Thermodynamics (3) or	2
CHEM 3341 or	Organic Chemistry I (4) or	3		PHYSICS 2305 or	Intro to Modern Physics (3) or	3
BIOL 2512 or	Cell Biology (3) or General Genetics (4)			CHEM 2210, 2219* or	Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) or	
BIOL 3511	General Genetics (4)			BIO SCI 2213 or	General Genetics (3)	
				BIO SCI 2223	*CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.	
					0: " (* (*)	
PHYS 3311	Electric Circuit Theory	3		ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1)  *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive	4
MATIL 2740	Lincon Alexande	2		MATH 2400	credit for ELEC ENG 2100.	2
MATH 3710	Linear Algebra	3		MATH 3108	Linear Algebra Engineering Statistics*	3
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115*	*Will be substituted for STAT 3117.	3
	*At least one course must be selected from HISTORY		<mark>0, 1310, or PC</mark> nanities and l	The state of the s	te of Missouri government requirement.	
	Select 6	6 hours fr	om at least tw	vo specific disciplines.		
ENGL 2215 or	Intro to British Literature MOTR LITR 102B or			ENGLISH 1212 or	British Literature II: 1800 to Present MOTR LITR 102B or	
ENGL 2205 or ENGL 2220 or	Intro to American Literature мотя LITR 101B or Intro to World Literature or			ENGLISH 1222 or ENGLISH 1231 or	American Literature: 1865 to Present MOTRLITR 101B or World Literature I: Beginnings to the Renaissance or	
HIST 1350* or	History of the United States to 1877* or			HISTORY 1300* or	American History to 1877* or	
HIST 1352* or	History of the United States from 1877* or	6		HISTORY 1310* or	American History Since 1877* or	6
ART 1800 or	Ideas and the Visual Arts or			ART 1180 or	Art Appreciation or	
MUSI 1210	Experiencing Music *Satisfies the State of Missouri government requirement.			MUSIC 1150	Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	
	Satisfies the State of Missouri government requirement.	Behavi	oral and Soc	ial Sciences	Sausiles the State of Missouri government requirement.	
	Select 6	hours fr	om at least tw	vo specific disciplines.		
GEOG 2212 or	World Geography or			HISTORY 2110 or	World Regional Geography or	
PHIL 1000 or PHIL 1400 or	Intro to Philosophy or Deductive Logic or			PHILOS 1105 or PHILOS 1115 or	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or	
POLS 1510* or	American Government* or			POL SCI 1200* or	American Government*or	
PSY 1100 or	General Psychology or	6		PSYCH 1101 or	General Psychology or	6
ECON 1011 or	Principles of Microeconomics or			ECON 1100 or	Principles of Microeconomics or	
ECON 1010 or	Principles of Macroeconomics or Elementary or Intermediate Foreign Language			ECON 1200 or Foreign Language	Principles of Macroeconomics or Elementary or Intermediate Foreign Language	
Foreign Language	*Satisfies the State of Missouri government requirement.			Foreign Language	*Satisfies the State of Missouri government requirement.	
	Hi	umanitie	s, Arts, and S Select 3 hor	Social Sciences urs.		
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
-ICUIVES	Group 2 Major Requirements	44		LICUIVES	Group 2 Major Requirements	45
	Group 1 Core Requirements	32			Group 1 Core Requirements	27
	Total H	lours 76			Total Hours*	72
					*S&T advisor permission is required to transfer more than 68 credits toward the S&T	

	Engineering Ma	ınagement	Group 2 Major	Requirements	
	University of Central Missouri	Se	mester	Missouri S&T	
COMM 1000	Public Speaking	3	SPMS 1185	Principles of Speech	3
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  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*	3
	•			*Will be substituted for MECH ENG 2527.	
ACTS 3311	Intro to Probability and Statistics	3	STAT 3115 ences General Education Requ	Engineering Statistics	3
	6 hours	Humanities and Fine Arts ehavioral and Social Scie	group below, select 15 hours to in from at least two specific discipline nces from at least two specific disc 0, or POL SCI 1200 to satisfy the	s and iplines.	
			es and Fine Arts least two specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 Statisfies 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	British Literature II: 1800 to Present MOTRLITE 1028 or American Literature: 1865 to Present MOTRLITE 1018 or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			nd Social Sciences		
	Select 6 ho	urs from at least two sp	ecific disciplines to include PSYO	CH 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
		,	s, and Social Sciences oct 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			Hours* 61 S&T

	Environmental Engi	neeri	ng Gr	oup 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
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
	· · · · · · · · · · · · · · · · · · ·			eneral Education Require		
	6 hours Humanitie	s and Fine hours Bel	Arts from at le	elow, select 9 hours to inclue ast two specific disciplines ocial Sciences.	and	
	At least one course must be selected from morotting		nities and F	•	ate of missouri government requirement.	
	Select 6			specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 "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	British Literature II: 1800 to Present MOTR LITR 102B or American Literature: 1865 to Present MOTR LITR 101B or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
		Behavio	ral and Socia			
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	Select 3 hou	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 Total H	32 ours 71			Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credits toward the S&T  Environmental Engineering degree.	27 61

	Geological Engir	neerin	g Grou	ıp 2 Major R	Requirements	
	University of Central Missouri		Semeste	r	Missouri S&T	
CTE 2060	Technical Writing	3		ENGLISH 3560	Technical Writing	3
CHEM 1131	General Chemistry I	5		CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  General Chemistry I and Lab	5
CIS 1625 or CS 1030 or CS 2030 or CS 2300 or ENGT 2065	Programming with Visual C# or Python Programming I or Python Programming II or Data Structures or Computer Programming for Engineering Technology	3		CS 1500	Computational Problem Solving	3
GEOS 1004	Intro to Geology	4		GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
PHYS 3211	Analytical Mechanics I	3		(GEOLOGT 1110)	Engineering Mechanics-Statics	3
PHYS 3212	Analytical Mechanics II	3		MECH ENG 2350	Engineering Mechanics-Statics  Engineering Mechanics-Dynamics	2
ACTS 3311	Intro to Probability and Statistics	3		STAT 3115	Engineering Statistics	3
	6 hours Behavi *At least one course must be selected from HISTOR	oral and Socia RY 1200, 1300 Hum	al Sciences from 0, 1310, or PO anities and F	•	iplines.	
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 *Satisfies the State of Missouri government requirement.	6	om at least two	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1223 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature II: 1800 to Present MOTRLITR 1028 or American Literature: 1865 to Present MOTRLITR 1018 or World Literature I: Beginnings to the Renaissance or American History to 1877* or Art Appreciation or Music Understanding and Appreciation  *Satisfies the State of Missouri government requirement.	6
	Sele		oral and Soci	al Sciences o 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	s, Arts, and S Select 3 hou	ocial Sciences rs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	art, 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	39			Group 2 Major Requirements	37
	Group 1 Core Requirements Tot	32 al Hours 71			Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 65 credits toward the S&T  Geological Engineering degree.	27 64

	Mechanical Eng	ineer	ing Gro	up 2 Major F	Requirements	
	University of Central Missouri		Semest	er	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 PHYS 3211 PHYS 3212 PHYS 4411	Electric Circuit Theory Analytical Mechanics I Analytical Mechanics II Thermodynamics		3 3 3	ELEC ENG 2800 CIV ENG 2200 MECH ENG 2360 MECH ENG 2519	Electrical Circuits Engineering Mechanics-Statics Dynamics Thermodynamics	3 3 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.	3
	6 hours Hur	manities and avioral and S ORY 1200, 1	Fine Arts from a cocial Sciences fr 1300, 1310, or P		s and iplines.	
			lumanities and	Fine Arts wo specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 *Satisfies the State of Missouri government requirement.	Siedt o Hour	6	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature II: 1800 to Present MOTRLITR 102B OF American Literature: 1865 to Present MOTRLITR 101B OF World Literature I: Beginnings to the Renaissance of American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfes the State of Missouri government requirement.	6
			avioral and So			
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	wo specific disciplines. 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
		Humani	ities, Arts, and Select 3 ho	Social Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histo 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. Group 2 Major Requirements Group 1 Core Requirements T	otal Hours	0 38 32 70		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.	0 38 27 65

	Metallurgical En	gineerin	ıg Gro	up 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	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 EE 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
	From the 6 hours H	options listed in elumanities and Fine havioral and Social TORY 1200, 1300	each group be Arts from at le Sciences fron , 1310, or POL	•	nclude es and ciplines.	
			anities and F	ine Arts specific disciplines.		
ENGL 2215 or ENGL 2205 or ENGL 2220 or HIST 1350* or HIST 1352* or ART 1800 or MUSI 1210	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 'sattifies the State of Missouri government requirement.	6	iii at ieast two	ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1221 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature II: 1800 to Present MOTRLITR 102B or American Literature: 1865 to Present MOTRLITR 101B or World Literature: Beginnings to the Renaissance or American History to 1877* or Art Appreciation or Music Understanding and Appreciation 'Satisfies the State of Missouri government requirement.	6
			ral and Socia			
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.	Select 6 hours fro	m at least two	o specific disciplines. 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 So Select 3 hour	ocial Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any his music, theater, English and technical communication philosophy, political science, psychology, economics etymology, or foreign language.	n, 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	Total Hours 72			Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T  Metallurgical Engineering degree.	27 65

	Mining Engin	eering G	roup 2 Major Re	quirements	
	University of Central Missouri		<u>Semester</u>	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	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 S	Sciences General Education Requ	uirements	
	6 hours Hu	manities and Fine A avioral and Social S ORY 1200, 1300,	ach group below, select 12 hours to in Arts from at least two specific discipline Sciences from at least two specific disc 1310, or POL SCI 1200 to satisfy the nities and Fine Arts	es and ciplines.	
	g		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	Intro to British Literature MOTR LITR 1028 OF Intro to American Literature MOTR LITR 1018 OF 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 Statisfies 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	British Literature II: 1800 to Present MOTR LITR 102B OF American Literature: 1865 to Present MOTR LITR 101B OF World Literature: 1: Beginnings to the Renaissance of American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation  *Satisfies the State of Missouri government requirement.	6
			al and Social Sciences		
		elect 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 Group 1 Core Requirements .	36 32 Fotal Hours 68		Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.	34 27 61

	Nuclear Engin	eering (	Group 2 Major R	equirements	
	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	3
PHYS 3311 PHYS 4411	Electric Circuit Theory Thermodynamics	3	ELEC ENG 2800 MECH ENG 2519	Electrical Circuits Thermodynamics	3
PHYS 3511	Modern Physics	3 4	PHYSICS 2305	Intro to Modern Physics	3
F1110 0011	<del>-</del>	-	Sciences General Education Rec		J
	From the c 6 hours Hu	options listed in e manities and Fine avioral and Social	each group below, select 15 hours to Arts from at least two specific discipli Sciences from at least two specific di	include ines and isciplines.	
	s		nities and Fine Arts m 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	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 Statisfies 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	British Literature II: 1800 to Present MOTR LITR 102B OF American Literature: 1865 to Present MOTR LITR 101B OF World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation 'Satisfies the State of Missouri government requirement.	6
			ral and Social Sciences		
E00N 4044		elect 6 nours from	m at least two specific disciplines.  ECON 1100 or	Data dalah af Misasa sanan ing an	
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 <b>POLS 1510*</b> 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 "Satisfiles the State of Missouri government requirement.	3
			Arts, and Social Sciences Select 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histo 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 Fotal Hours 74		Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credits toward the S&T  Nuclear Engineering degree.	27 68

	Petroleum Engine	ering	Group 2 Major R	equirements	
	University of Central Missouri		<u>Semester</u>	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
CIS 1625 or CS 1030 or CS 2030 or CS 2300 or ENGT 2065	Programming with Visual C# or Python Programming I or Python Programming II or Data Structures or Computer Programming for Engineering Technology	3	COMP SCI 1500	Computational Problem Solving	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
PHYS 4411	Thermodynamics	3	MECH ENG 2519*	Thermodynamics* "Will be substituted for MECH ENG 2527.	3
	6 hours Humanities	s and Fine and Social 200, 1300,	ach group below, select 15 hours to inc Arts from at least two specific disciplines Sciences from at least two specific discipl 1310, or POL SCI 1200 to satisfy the S nities and Fine Arts	s and plines.	
	Select 6		nities and Fine Arts n 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	Intro to British Literature MOTR LITR 102B OF Intro to American Literature MOTR LITR 101B OF 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 *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	British Literature II: 1800 to Present MOTRLITR 102B OF American Literature: 1865 to Present MOTRLITR 101B OF World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			al and Social Sciences		
GEOG 2212 or PHIL 1000 or PHIL 1400 or POLS 1510* or PSY 1100 or ECON 1011 or ECON 1010 or Foreign Language	Select 6 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.	hours from	m at least two specific disciplines.  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
	Hui		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 Group 1 Core Requirements Total Ho	39 32 ours 71		Group 2 Major Requirements Group 1 Core Requirements  Total Hours* *S&T advisor permission is required to transfer more than 69 credits toward the S&T	37 27 64