

University of Central Missouri — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2017

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

Group 1 - Core Requirements: All Majors Take All Courses

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

<u>University of Central Missouri</u>			<u>Semester</u>	<u>Missouri S&T</u>			
MATH 1151	Calculus and Analytic Geometry I	5	MATH 1214	Calculus for Engineers I	Grade of C or better is required.	4	
MATH 1152	Calculus and Analytic Geometry II	5	MATH 1215	Calculus for Engineers II	Grade of C or better is required.	4	
MATH 2153	Calculus and Analytic Geometry III	3	MATH 2222	Calculus with Analytic Geometry 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	
CHEM 1131	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab		5	
EGNT 1000	Principles of Engineering	3	FR ENG 1100	Study and Careers in Engineering		1	
GRAP 4170	Cadd Eng Tech	3	MECH ENG 1720	Engineering Design with Computer Appl		3	
ENGL 1020	Composition I	3	ENGLISH 1120	Exposition and Argumentation		3	
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	
Total Hours			43	Total Hours			38

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

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

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

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

Engineering Major Requirements are detailed on the following pages.

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

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

Aerospace Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>	<u>Missouri S&T</u>	
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or	American History to 1877 or American History since 1877 or Modern Western Civilization or
POLS 1510 ENGL 1030 or COMM 1000 or CTE 3060	American Government Composition II or Public Speaking or Technical Writing	3	POL SCI 1200 ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	American Government Writing and Research or Principles of Speech or Technical Writing
CS 3110	Programming Language	3	CS 1570	Intro to Programming (C++)
PHYS 3311	Electric Circuit Theory	3	EE 2800	Circuit Analysis I
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics
PHYS 4212	Analytical Mechanics II	3	AERO ENG 2360	Dynamics
PHYS 4411	Thermodynamics	3	MECH ENG 2519	Thermodynamics
MATH 3710 or MATH 3311	Linear Algebra or Statistics I	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics
	<i>See your advisor for course options.</i>			(Will satisfy the Advanced Math/Comp Sci elective requirement.)
	<i>See your advisor for course options.</i>			Literature Elective
	<i>No free electives applied to the degree.</i>			Ethics Elective
				Maximum Free Electives
	Group 2 Major Requirements	23		Group 2 Major Requirements
	Group 1 Core Requirements	43		Group 1 Core Requirements
	Total Hours	66		Total Hours*
				38
				68

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

Architectural Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>	<u>Missouri S&T</u>	
HIST 2401 or HIST 1350 or HIST 1352	History of the Early Modern World or History of the US to 1877 or History of the US from 1877	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877)
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)
ENGL 1030 or COMM 1000	Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language
EASC 3320 or EASC 3112 or PHYS 3511	Mineralogy or Astronomy or Modern Physics		GEOLOGY 2610 or PHYSICS 1505 or PHYSICS 2305	mineralogy and Crystallography or Intro to Human Anatomy and Physiology I or Introductory Astronomy or Intro to Modern Physics (or other chemistry, geology, biology, physics, or astronomy course that is not otherwise required for the degree) Applies to the degree as a basic science elective
	<i>No free electives applied to the degree.</i>			Maximum Free Electives
	Group 2 Major Requirements	14		Group 2 Major Requirements
	Group 1 Core Requirements	43		Group 1 Core Requirements
	Total Hours	57		Total Hours*
				18
				56

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

Ceramic Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
HIST 1350 or HIST 1352 or HIST 2401 POLS 1510	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 3341	Organic Chemistry I	4	CHEM 2210/2219	Organic Chemistry I and Lab <small>(Not a specific requirement. Will satisfy technical elective requirement.)</small>	5
CHEM 1132	General Chemistry II	5	CHEM 1320	General Chemistry II	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics	3
			ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine	3
ENGL 1030 or COMM 1000	Composition II or Public Speaking	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	20		Group 2 Major Requirements	23
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	63		Total Hours*	61

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

Chemical Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
ENGL 1030 or CTE 3060	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1350 or HIST 1352 or HIST 2401 POLS 1510	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CHEM 1132	General Chemistry II	5	CHEM 1320	General Chemistry II	5
CHEM 3341	Organic Chemistry I	4	CHEM 2210	Organic Chemistry I	3
CHEM 3342	Organic Chemistry II	4	CHEM 2220	Organic Chemistry II <small>(Will satisfy science elective requirement.)</small>	3
CS 3110	Programming Language	3	CS 1570	Intro to Programming (C++)	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics <small>(Will be substituted for STAT 3113.)</small>	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	29
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	68		Total Hours*	67

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

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
ENGL 1030 or CTE 3060	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1350 or HIST 1352 or HIST 2401 POLS 1510	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CHEM 1132	General Chemistry II	5	CHEM 1320	General Chemistry II	5
CHEM 3341	Organic Chemistry I	4	CHEM 2210	Organic Chemistry I	3
CHEM 3342	Organic Chemistry II	4	CHEM 2220	Organic Chemistry II <small>(Will satisfy science elective requirement.)</small>	3
CS 3110	Programming Language	3	CS 1570	Intro to Programming (C++)	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics <small>(Will be substituted for STAT 3113.)</small>	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	29
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	68		Total Hours*	67

*S&T advisor permission is required to transfer more than 71 credits toward the S&T Chemical/Biochemical Engineering degree.

Civil Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
ENGL 1030 or COMM 1000 or CTE 3060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or	American History to 1877 or American History since 1877 or Modern Western Civilization or	3
POLS 1510 EASC 2100	American Government Physical Geology	4	POL SCI 1200 GEO 1110/GE 1150	American Government Intro to Physical Geology	3
PHYS 3211 PHYS 4212	Analytical Mechanics I Analytical Mechanics II	2 3	CIV ENG 2200 MECH ENG 2350	Engineering Mechanics-Statics Engineering Mechanics-Dynamics	3 3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	21
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	61		Total Hours*	59

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

Computer Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
COMM 1000 ENGL 1030 or CTE 3060	Public Speaking Composition II or Technical Writing	3 3	SPMS 1185 ENGLISH 1160 or ENGLISH 3560	Public Speaking Writing and Research or Technical Writing	3 3
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or	American History to 1877 or American History since 1877 or Modern Western Civilization or	3
POLS 1510 CS 1400 CS 3110	American Government Discrete Structures Programming Language	3 3	POL SCI 1200 CS 1200 CS 1570	American Government Discrete Math for Computer Science Intro to Programming (C++)	3 4
PHYS 3211 and PHYS 4212	Analytical Mechanics I and Analytical Mechanics II	6	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics and Engineering Mechanics-Dynamics (Both courses combined will satisfy a required engineering science elective.)	6
PHYS 3311	Electric Circuit Theory	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MATH 3710 MATH 3311	Linear Algebra Statistics I	3 3	MATH 3108 STAT 3115	Linear Algebra (Will satisfy a required math elective.) Engineering Statistics (Will be substituted for STAT 3117.)	3 3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Maximum Free Electives	3
	Group 2 Major Requirements	30		Group 2 Major Requirements	37
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	73		Total Hours*	75

*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

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
COMM 1000 ENGL 1030 or CTE 3060	Public Speaking Composition II or Technical Writing	3 3	SPMS 1185 ENGLISH 1160 or ENGLISH 3560	Public Speaking Writing and Research or Technical Writing	3 3
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or	American History to 1877 or American History since 1877 or Modern Western Civilization or	3
POLS 1510 CS 3110	American Government Programming Language	3	POL SCI 1200 CS 1570	American Government Intro to Programming (C++)	4
PHYS 3211 and PHYS 4212	Analytical Mechanics I and Analytical Mechanics II	6	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics and Engineering Mechanics-Dynamics (Both courses combined will satisfy a required engineering science elective.)	6
PHYS 3311	Electric Circuit Theory	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MATH 3710 MATH 3311	Linear Algebra Statistics I	3 3	MATH 3108 STAT 3115	Linear Algebra Engineering Statistics (Will be substituted for STAT 3117.)	3 3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	34
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	70		Total Hours*	72

*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

<u>University of Central Missouri</u>	<u>Semester</u>	<u>Missouri S&T</u>			
PSY 1100	General Psychology	3	PSYCH 1101	General Psychology	3
HIS1 1350 or	History of the US to 1877 or		HISTORY 1300 or	American History to 1877 or	
HIST 1352 or	History of the US from 1877 or		HISTORY 1310 or	American History since 1877 or	
HIST 2401	History of the Early Modern World or	3	HISTORY 1200 or	Modern Western Civilization or	3
POLS 1510	American Government		POL SCI 1200	American Government	
ENGL 1030 or	Composition II or		ENGLISH 1160 or	Writing and Research or	
COMM 1000 or	Public Speaking or	3	SPMS 1185 or	Principles of Speech or	3
CTE 3060	Technical Writing		ENGLISH 3560	Technical Writing	
PHYS 3311	Electric Circuit Theory	3	EE 2800	Circuit Analysis I	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
PHYS 4411	Thermodynamics	3	MECH 2527	Thermal Analysis	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Maximum Free Electives		3
Group 2 Major Requirements		23	Group 2 Major Requirements		30
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		66	Total Hours*		68

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

Environmental Engineering Group 2 Major Requirements

<u>University of Central Missouri</u>	<u>Semester</u>	<u>Missouri S&T</u>			
ENGL 1030 or	Composition II or		ENGLISH 1160 or	Writing and Research or	
COMM 1000 or	Public Speaking or	3	SPMS 1185 or	Public Speaking or	3
CTE 3060	Technical Writing		ENGLISH 3560	Technical Writing	
HIST 1350 or	History of the US to 1877 or		HISTORY 1300 or	American History to 1877 (preferred) or	
HIST 1352 or	History of the US from 1877 or	3	HISTORY 1310 or	American History since 1877 (preferred) or	3
HIST 2401	History of the Early Modern World		HISTORY 1200	Modern Western Civilization	
EASC 2100	Physical Geology	4	GEO 1110/GE 1150	Intro to Physical Geology	3
CHEM 1132	General Chemistry II	5	CHEM 1320	General Chemistry II	3
BIOL 1111	Biology I	4	BIO SCI 1113	General Biology	4
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics (Will be substituted for STAT 3113.)	3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>No free electives applied to the degree.</i>			Maximum Free Electives		0
Group 2 Major Requirements		27	Group 2 Major Requirements		28
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		70	Total Hours*		66

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

Geological Engineering Group 2 Major Requirements

<u>University of Central Missouri</u>	<u>Semester</u>	<u>Missouri S&T</u>			
ENGL 1030 or	Composition II or		ENGLISH 1160 or	Writing and Research or	
COMM 1000 or	Public Speaking or	3	SPMS 1185 or	Public Speaking or	3
CTE 3060	Technical Writing		ENGLISH 3560	Technical Writing	
HIS1 1350 or	History of the US to 1877 or		HISTORY 1300 or	American History to 1877 or	
HIST 1352 or	History of the US from 1877 or		HISTORY 1310 or	American History since 1877 or	
HIST 2401	History of the Early Modern World or	3	HISTORY 1200 or	Modern Western Civilization or	3
POLS 1510	American Government		POL SCI 1200	American Government	
EASC 2100	Physical Geology	4	GEO 1110/GE 1150	Physical and Environmental Geology	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
BIOL 1111 or	Biology I or		BIO SCI 1113 or	General Biology or	
CHEM 1132 or	General Chemistry II or	4	CHEM 1320 or	General Chemistry II or	
CHEM 3341	Organic Chemistry I		CHEM 2210	Organic Chemistry I	
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>See your advisor for course options.</i>			Humanities/Social Science Elective		3
<i>No free electives applied to the degree.</i>			Maximum Free Electives		0
Group 2 Major Requirements		19	Group 2 Major Requirements		21
Group 1 Core Requirements		43	Group 1 Core Requirements		38
Total Hours		62	Total Hours*		59

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

Mechanical Engineering Group 2 Major Requirements

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
HIS1 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
ENGL 1030 or COMM 1000 or CTE 3060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CS 3110	Programming Language	3	CS 1570	Intro to Programming (C++)	3
PHYS 3311	Electric Circuit Theory	3	EE 2800	Circuit Analysis I	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2360	Dynamics	3
PHYS 4411	Thermodynamics	3	MECH ENG 2519	Thermodynamics	3
MATH 3710 or MATH 3311	Linear Algebra or Statistics I	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics <small>(Will satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3
	<i>See your advisor for course options.</i>			Literature Elective	3
	<i>No free electives applied to the degree.</i>			Humanities/Social Science Elective	3
				Maximum Free Electives	0
	Group 2 Major Requirements	14		Group 2 Major Requirements	21
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	57		Total Hours*	59

*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

	<u>University of Central Missouri</u>	<u>Semester</u>		<u>Missouri S&T</u>	
ENGL 1030 or COMM 1000 or CTE 3060	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS1 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics	3
CHEM 1132	General Chemistry II	5	CHEM 1320	General Chemistry II	3
CHEM 3341 or PHYS 3311	Organic Chemistry I or Electrical Circuit Theory	4	CHEM 2210 or EE 2800	Organic Chemistry I or Electrical Circuits <small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement</small>	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>			Maximum Free Electives	5
	Group 2 Major Requirements	20		Group 2 Major Requirements	29
	Group 1 Core Requirements	43		Group 1 Core Requirements	38
	Total Hours	63		Total Hours*	67

*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

<u>University of Central Missouri</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1030 or CTE 3060	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200*	Engineering Mechanics-Statics	3
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2350*	Engineering Mechanics-Dynamics	3
			*The combination of CIV ENG 2200 and MECH ENG 2350 will be substituted for MECH ENG 2340.		
EASC 2100	Physical Geology	4	GEO 1110/GE 1150	Intro to Physical Geology	3
			Humanities/Social Science Elective		3
			Humanities/Social Science Elective		3
			Maximum Free Electives		0
			Group 2 Major Requirements		24
			Group 1 Core Requirements		38
Total Hours					62

*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

<u>University of Central Missouri</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1030 or CTE 3060	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
CS 3110	Programming Language	3	CS 1570	Intro to Programming (C++)	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics	3
			Humanities/Social Science Elective		3
			Humanities/Social Science Elective		3
			Maximum Free Electives		6
			Group 2 Major Requirements		24
			Group 1 Core Requirements		38
Total Hours					62

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

Petroleum Engineering Group 2 Major Requirements

<u>University of Central Missouri</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 1030 or CTE 3060	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIST 1350 or HIST 1352 or HIST 2401	History of the US to 1877 or History of the US from 1877 or History of the Early Modern World or American Government	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200 or POL SCI 1200	American History to 1877 or American History since 1877 or Modern Western Civilization or American Government	3
EASC 2100	Physical Geology	4	GEO 1110/GE 1150	Physical and Environmental Geology	3
PHYS 3211	Analytical Mechanics I	2	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 4212	Analytical Mechanics II	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
MATH 3311	Statistics I	3	STAT 3115	Engineering Statistics	3
PHYS 4411	Thermodynamics	3	MECH ENG 2527	Thermal Analysis	3
			Humanities/Social Science Elective		3
			Humanities/Social Science Elective		3
			Maximum Free Electives		0
			Group 2 Major Requirements		21
			Group 1 Core Requirements		38
Total Hours					59

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