

Mineral Area College — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2023

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.

Mineral Area College			Semester	Missouri S&T		
MAT 1650	Analytical Geometry and Calculus I	5		MATH 1214	Calculus I	Grade of C or better is required. 4
MAT 2150	Analytical Geometry and Calculus II	5		MATH 1215	Calculus II	Grade of C or better is required. 4
MAT 2250	Analytical Geometry and Calculus III	5		MATH 2222	Calculus III	Grade of C or better is required. 4
MAT 2330	Differential Equations	3		MATH 3304	Elementary Differential Equations	3
PHS 2230	General Physics I	4		PHYSICS 1135	Engineering Physics I	Grade of C or better is required. 4
PHS 2240	General Physics II	4		PHYSICS 2135	Engineering Physics II	Grade of C or better is required. 4
PHS 1350	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
ENG 1330	English Composition I	3		ENGLISH 1120	Exposition and Argumentation	3
BUS 2940 or	Principles of Microeconomics or	3		ECON 1100 or	Principles of Microeconomics or	3
BUS 2930	Principles of Macroeconomics			ECON 1200	Principles of Macroeconomics	3
			Total Hours			
			37			Total Hours 34

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 art, English and technical communication, etymology, foreign language, music, philosophy, speech and media studies, or theatre. Your campus may have additional acceptable options. Consult with your advisor or email transfer@mst.edu with questions. See Missouri S&T online catalog at <https://catalog.mst.edu/undergraduate/degreeprogramsandcourses/> for more information.

Aerospace Engineering Group 2 Major Requirements

Mineral Area College			Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CSC 2400	Computer Programming in C++	3		CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGN 2340	Intro to Electrical Engineering	4		EE 2800	Circuit Analysis I	3
EGN 2130	Engineering Mechanics- Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		AERO ENG 2360	Dynamics	3
ENG 2330 or ENG 2430 or ENG 2492	English Literature I or American Literature I or Women's Literature (or other literature elective)	3		ENGLISH 1211 or ENGLISH 1221 or ENGLISH 2242	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or Literature by Women (or other literature elective)	3
	Ethics Elective Engineering, business, bio, social or other ethics approved by advisor.	3			Ethics Elective Engineering, business, bio, social or other ethics approved by advisor.	3
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements	28			Group 2 Major Requirements	27
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	65			Total Hours*	61
				*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.		

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

Architectural Engineering Group 2 Major Requirements

<u>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140* (or HIS 1230 or HIS 1240)	Western Civilization II* (or American History I or American History II)	3		HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877)	3
*HIS 1140 is preferred; 1230 or 1240 will also be accepted.				*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.		
EGN 2130	Engineering Mechanics- Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
TEC 1540	Surveying I	3		CIV ENG 2401	Fundamentals of Surveying	3
HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3		HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	<i>No free electives applied to the degree.</i>	0			Maximum Free Electives	0
	Group 2 Major Requirements	18			Group 2 Major Requirements	17
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	55			Total Hours*	51
				*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.		

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

Ceramic Engineering Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&T</u>	
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGN 2130	Engineering Mechanics- Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHS 2350	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab * (1) <small>*CHEM 2219 is not an S&T degree requirement; course will transfer as general credit.</small>	3
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) <small>CHEM 1510 is not an S&T degree requirement; course will transfer as general credit.</small>	3
ENG 1340 or ENG 1440 or HSS Elective	English Composition or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Principles of Speech or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	61		Total Hours*	55

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

Chemical Engineering Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&T</u>	
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) <small>CHEM 1510 is not an S&T degree requirement; course will transfer as general credit.</small>	5
PHS 2350	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) <small>*The lab is not required for the degree, will transfer as 1 of the 9 science elective credits (below) .</small>	4
PHS 2360	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II (3) and Lab* (1) <small>CHEM 2220 is not an S&T degree requirement; course will transfer as general credit.</small>	3
CSC 1100 or CSC 1600 or CSC 2400	Programming Logic or pending evaluation C# Programming or pending evaluation Computer Programming in C++	3	CS 1500 or CS 1971,1981*	Computational Problem Solving (3) or Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	61

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

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHS 1390	General Chemistry II	4		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) CHEM 1510 is not an S&T degree requirement; course will transfer as general credit.	3
PHS 2350	Organic Chemistry I	5		CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) *The lab is not required for the degree, will transfer as 1 of the 9 science elective credits (below) .	4
PHS 2360	Organic Chemistry II	5		CHEM 2220, 2229*	Organic Chemistry II (3) and Lab* (1) CHEM 2220 is not an S&T degree requirement; course will transfer as general credit.	3
CSC 1100 or CSC 1600 or CSC 2400	Programming Logic or C++ Programming or Computer Programming in C++	3		CS 1500 or CS 1971,1981*	Computational Problem Solving (3) or Intro to Programming Methodology and Lab* (C++) *Course will be substituted for CS 1500.	3
ENG 1440	Public Speaking	3		SP&MS 1185	Principles of Speech	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0			Maximum Free Electives	0
	Group 2 Major Requirements	29			Group 2 Major Requirements	25
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	66			Total Hours*	59

*S&T advisor permission is required to transfer more than 70 credits toward the S&T Chemical/Biochemical Engineering degree.

Civil Engineering Group 2 Major Requirements

<u>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGN 2130	Engineering Mechanics- Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
TEC 154	Surveying I	3		CIV ENG 2401	Fundamentals of Surveying	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0			Maximum Free Electives	0
	Group 2 Major Requirements	21			Group 2 Major Requirements	20
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	58			Total Hours*	54

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech	3	
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3	
HIS 1140 or	Western Civilization II or	3	HISTORY 1200 or	Modern Western Civilization or	3	
HIS 1230 or	American History I or		HISTORY 1300 or	American History to 1877 or		
HIS 1240 or	American History II or		HISTORY 1310 or	American History since 1877 or		
POS 1180	American Political Systems		POL SCI 1200	American Government		
EGN 2130 or	Engineering Mechanics- Statics (3) or	3	CIV ENG 2200 or	Engineering Mechanics-Statics (3) or	3	
EGN 2230 or	Engineering Mechanics- Dynamics (3) or		MECH ENG 2350 or	Engineering Mechanics-Dynamics (2) or		
PHS 2350	Organic Chemistry I (5)		CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1)		
			*CHEM 2219 is not an S&T degree requirement, will transfer as general credit.			
EGN 2340	Intro to Electrical Engineering	4	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	
CSC 1100 or	Programming Logic or	3	CS 1500	Computational Problem Solving	3	
CSC 1600	C++ Programming				Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Maximum Free Electives	3	
	Maximum Free Electives	3		Group 2 Major Requirements	24	
	Group 2 Major Requirements	25		Group 1 Core Requirements	34	
	Group 1 Core Requirements	37				
	Total Hours	62		Total Hours*	58	
			*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.			

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

Electrical Engineering Group 2 Major Requirements

Mineral Area College			Semester	Missouri S&T	
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CSC 1100 or CSC 1600	Programming Logic or C++ Programming	3	CS 1500	Computational Problem Solving	3
EGN 2130 and EGN 2230 (BOTH of the courses above or ONE of the courses below.)	Engineering Mechanics- Statics (3) and Engineering Mechanics- Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.)	4	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.)	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.)	3
OR PHS 2350	OR Organic Chemistry I (5)		OR CHEM 2210	OR Organic Chemistry I (3) and Lab* (1) <small>*CHEM 2219 is not an S&T degree requirement, will transfer as general credit.</small>	
EGN 2340	Intro to Electrical Engineering	4	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
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	29		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	61
			<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.</small>		

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
PSY 1130	General Psychology I	3		PSYCH 1101	General Psychology	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 1440	Public Speaking	3		SPMS 1185	Principles of Speech	3
ENG 1340	English Composition	3		ENGLISH 1160	Writing and Research	3
CSC 2400	Computer Programming in C++	3		CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGN 2340	Intro to Electrical Engineering	4		EE 2800	Circuit Analysis I	3
EGN 2130	Engineering Mechanics- Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Maximum Free Electives	3			Maximum Free Electives	3
	Group 2 Major Requirements	34			Group 2 Major Requirements	32
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	71			Total Hours*	66

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240	Western Civilization II or American History I or American History II	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
PHS 1390	General Chemistry II	4		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) CHEM 1510 is not an S&T degree requirement; course will transfer as general credit.	3
BIO 1150	General Biology	5		BIO SCI 1113	General Biology	4
EGN 2130	Engineering Mechanics- Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Maximum Free Electives	0			Maximum Free Electives	0
	Group 2 Major Requirements	27			Group 2 Major Requirements	24
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	64			Total Hours*	58

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

Geological Engineering Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&T</u>	
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGN 2130	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
BIO 1150 or PHS 1390 or PHS 2350	General Biology (5) or General Chemistry (4) or Organic Chemistry I (5)	4-5	BIO SCI 1113, 1119* or CHEM 1320, 1510* or CHEM 2210, 2219*	General Biology (3) and Lab* (2) or General Chemistry II (3) and Lab* (2) or Organic Chemistry I (3) and Lab* (1) or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement. The lab sections are not required by S&T, will transfer as general credit.	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	20
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	55		Total Hours*	54

*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>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&T</u>	
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CSC 2400	Computer Programming in C++	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGN 2340	Intro to Electrical Engineering	4	EE 2800	Circuit Analysis I	3
EGN 2130	Engineering Mechanics- Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3	MECH ENG 2360	Dynamics	3
ENG 2330 or ENG 2430 or ENG 2492	English Literature I or American Literature I or Women's Literature (or other literature elective)	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 2242	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or Literature by Women (or other literature elective)	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	0		Maximum Free Electives	0
	Group 2 Major Requirements	28		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	61

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGN 2130	Engineering Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHS 1390	General Chemistry II	4		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) <small>CHEM 1510 is not an S&T degree requirement; course will transfer as general credit.</small>	3
PHS 2350 or EGN 2340	Organic Chemistry I (5) or Intro to Electrical Engineering (4)	4		CHEM 2210, 2219* or EE 2800	Organic Chemistry I and Lab* (4) or Electrical Circuits (3) <small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement. *The lab will transfer as general credit.</small>	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Maximum Free Electives	3			Maximum Free Electives	3
	Group 2 Major Requirements	29			Group 2 Major Requirements	27
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	66			Total Hours*	61

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1340	English Composition	3		ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGN 2130	Engineering Mechanics-Statics	3		CIV ENG 2200*	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0			Maximum Free Electives	0
	Group 2 Major Requirements	21			Group 2 Major Requirements	20
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	58			Total Hours*	54

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CSC 2400	Computer Programming in C++	3		CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGN 2130	Engineering Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2340	Intro to Electrical Engineering	4		EE 2800	Circuit Analysis I	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Maximum Free Electives	6			Maximum Free Electives	6
	Group 2 Major Requirements	31			Group 2 Major Requirements	30
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	68			Total Hours*	64

*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>Mineral Area College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3		MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 1340	English Composition	3		ENGLISH 1160	Writing and Research	3
HIS 1140 or HIS 1230 or HIS 1240 or POS 1180	Western Civilization II or American History I or American History II or American Political Systems	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGN 2130	Engineering Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
EGN 2230	Engineering Mechanics-Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0			Maximum Free Electives	0
	Group 2 Major Requirements	21			Group 2 Major Requirements	20
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	58			Total Hours*	54

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