

Southeast Missouri State University — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2020

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>Southeast Missouri State University</u>			<u>Semester</u>	<u>Missouri S&T</u>		
MA 140	Analytical Geometry and Calculus I	5	MATH 1214	Calculus for Engineers I	Grade of C or better is required.	4
MA 145	Analytical Geometry and Calculus II	5	MATH 1215	Calculus for Engineers II	Grade of C or better is required.	4
MA 244	Analytic Geometry & Calculus III	4	MATH 2222	Calculus with Analytic Geometry III	Grade of C or better is required.	4
MA 350	Differential Equations I	3	MATH 3304	Elementary Differential Equations		3
PH 230	General Physics I	5	PHYSICS 1135	Engineering Physics I	Grade of C or better is required.	4
PH 231	General Physics II	5	PHYSICS 2135	Engineering Physics II	Grade of C or better is required.	4
CH 185	General Chemistry	5	CHEM 1310, 1319	General Chemistry I and Lab		5
EP 100	Physics and Engineering Concepts	1	FR ENG 1100	Study and Careers in Engineering and Computing		1
EN 100	English Composition	3	ENGLISH 1120	Exposition and Argumentation		3
EC 215 or	Principles of Microeconomics or		ECON 1100 or	Principles of Microeconomics or		
EC 225	Principles of Macroeconomics	3	ECON 1200	Principles of Macroeconomics		3
Total Hours						39
						Total Hours
						35

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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
EN 140 or SC 105 or EN 309	Rhetoric and Critical Thinking or Fundamentals of Oral Communication or Writing for Science and Technology	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EP 240	Circuit Analysis	4	EE 2800	Circuit Analysis I	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
MA 345	Linear Algebra	3	MATH 3108	Linear Algebra I <small>(Will satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3
	Literature Elective	3		Literature Elective	3
	See your advisor for course options.	3		Ethics Elective	3
	<i>No free electives applied to the degree.</i>			Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	27
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	68		Total Hours*	62

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EH 103 (or US 105 or US 107)	Modern European Civilization (or American History I or American History II) <small>*EH 103 is preferred; US 105 or 107 will also be accepted.</small>	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877) <small>*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.</small>	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210,2211	Mechanics of Materials and Materials Testing	4
EN 140 or SC 105 or HSS Elective	Rhetoric and Critical Thinking or Fundamentals of Oral Communication 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 Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
CM 226	Residential Architectural Drafting and Design	3	ART 3203	Architectural Design I	3
GO 150	Earth Science Environmental Hazard	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	25
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	64		Total Hours*	60

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
CH 341, 342	Foundations of Organic Chemistry and Lab	5	CHEM 2210/2219	Organic Chemistry I and Lab <small>(Not a specific requirement. Will satisfy technical elective requirement.)</small>	5
CH 186	Foundations of Inorganic Chemistry	3	CHEM 1320	General Chemistry II	3
EN 140 or SC 105 or HSS Elective	Rhetoric and Critical Thinking or Fundamentals of Oral Communication 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 Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	27		Group 2 Major Requirements	26
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	66		Total Hours*	61

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or EN 309	Rhetoric and Critical Thinking or Writing for Science and Technology	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
CH 186	General Chemistry II	3	CHEM 1320	General Chemistry II	3
CH 341, 342	Organic Chemistry I and Lab	5	CHEM 2210, 2219	Organic Chemistry I and Lab	5
CH 343	Organic Chemistr II	4	CHEM 2220	Organic Chemistry II	4
CS 101 or CS 155 or CS 265 or CS 300 or CS 177 or CS 351	Intro to Computer Programming or Computer Science I or Computer Science II or Computer Science III or Programming for Scientists and Engineers or C and the Posix Environment	3	CS 1500	Computational Problem Solving	3
SC 105	Fundamentals of Oral Communication	3	SP&MS 1185	Principles of Speech	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	69		Total Hours*	65

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or EN 309	Rhetoric and Critical Thinking or Writing for Science and Technology	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
CH 186	General Chemistry II	3	CHEM 1320	General Chemistry II	3
CH 341, 342	Organic Chemistry I and Lab	5	CHEM 2210, 2219	Organic Chemistry I and Lab	5
CH 343	Organic Chemistr II	4	CHEM 2220	Organic Chemistry II	4
CS 101 or CS 155 or CS 265 or CS 300 or CS 177 or CS 351	Intro to Computer Programming or Computer Science I or Computer Science II or Computer Science III or Programming for Scientists and Engineers or C and the Posix Environment	3	CS 1500	Computational Problem Solving	3
SC 105	Fundamentals of Oral Communication	3	SP&MS 1185	Principles of Speech	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	69		Total Hours*	65

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or SC 105 or EN 309	Rhetoric and Critical Thinking or Fundamentals of Oral Communication or Writing for Science and Technology	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
GO 150	Earth Science Environmental Hazard	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210,2211	Mechanics of Materials and Materials Testing	4
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	25
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	64		Total Hours*	60

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
SC 105	Fundamentals of Oral Communication	3	SPMS 1185	Public Speaking	3
EN 140 or EN 309	Rhetoric and Critical Thinking or Writing for Science and Technology	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
MA 138	Discrete Math I	3	CS 1200	Discrete Math for Computer Science	3
CS 101 or CS 155 or CS 265 or CS 300 or CS 177 or CS 351	Intro to Computer Programming or Computer Science I or Computer Science II or Computer Science III or Programming for Scientists and Engineers or C and the Posix Environment	3	CS 1500	Computational Problem Solving	3
EP 261 and EP 262 (BOTH of the courses above or ONE of the courses below.) OR CH 341 or BI 283	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.) OR Organic Chemistry I (4) or Genetics (4)	4-6	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR CHEM 2210 or BIO SCI 2223	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.) OR Organic Chemistry I (4) or General Genetics (3)	3
EP 240	Circuit Analysis	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
MA 345	Linear Algebra	3	MATH 3108	Linear Algebra (Will satisfy a required math elective.)	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	3		Maximum Free Electives	3
	Group 2 Major Requirements	28		Group 2 Major Requirements	30
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	65

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
SC 105	Fundamentals of Oral Communication	3	SPMS 1185	Public Speaking	3
EN 140 or EN 309	Rhetoric and Critical Thinking or Writing for Science and Technology	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
EP 261 and EP 262 (BOTH of the courses above or ONE of the courses below.) OR CH 341 or BI 283	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.) OR Organic Chemistry I (4) or Genetics (4)	4-6	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR CHEM 2210 or BIO SCI 2223	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.) OR Organic Chemistry I (4) or General Genetics (3)	3
EP 240	Circuit Analysis	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
MA 345	Linear Algebra	3	MATH 3108	Linear Algebra (Will satisfy a required math elective.)	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	3		Maximum Free Electives	3
	Group 2 Major Requirements	29		Group 2 Major Requirements	27
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	68		Total Hours*	62

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
PY 101	Intro to Psychology	3	PSYCH 1101	General Psychology	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
EN 140 or SC 105 or EN 309	Rhetoric and Critical Thinking or Fundamentals of Oral Communication or Writing for Science and Technology	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EP 240	Circuit Analysis	4	EE 2800	Circuit Analysis I	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210,2211	Mechanics of Materials and Materials Testing	4
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	32		Group 2 Major Requirements	31
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or SC 105 or EN 309	Rhetoric and Critical Thinking or Fundamentals of Oral Communication or Writing for Science and Technology	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
US 105 or US 107 or EH 103	American History I or American History II or Modern European Civilization	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200	American History to 1877 or American History since 1877 or Modern Western Civilization	3
GO 110	Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CH 186	General Chemistry II	3	CHEM 1320	General Chemistry II	3
BI 120	Biology Principles	3	BIO SCI 1113	General Biology	4
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210,2211	Mechanics of Materials and Materials Testing	4
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	32
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	70		Total Hours*	67

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or SC 105 or EN 309	Rhetoric and Critical Thinking or Fundamentals of Oral Communication or Writing for Science and Technology	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
GO 110	Physical Geology	3	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
CH 186 or CH 341	General Chemistry II (3) or Organic Chemistry I (4) <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3-4	CHEM 1320 or CHEM 2210	General Chemistry II (3) or Organic Chemistry I (4) <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3-4
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	30
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	70		Total Hours*	65

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
US 105 or US 107 or EH 103 or PS 103	American History I or American History II or Modern European Civilization or US Political Systems	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
EN 140 or SC 105 or EN 309	Rhetoric and Critical Thinking or Fundamentals of Oral Communication or Writing for Science and Technology	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EP 240	Circuit Analysis	4	EE 2800	Circuit Analysis I	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210,2211	Mechanics of Materials and Materials Testing	4
MA 345	Linear Algebra	3	MATH 3108	Linear Algebra I <small>(Will satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3
	Literature Elective	3		Literature Elective	3
	<i>See your advisor for course options.</i>	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	28
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	68		Total Hours*	63

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or	Rhetoric and Critical Thinking or		ENGLISH 1160 or	Writing and Research or	
SC 105 or	Fundamentals of Oral Communication or	3	SPMS 1185 or	Principles of Speech or	3
EN 309	Writing for Science and Technology		ENGLISH 3560	Technical Writing	
US 105 or	American History I or		HISTORY 1300 or	American History to 1877 or	
US 107 or	American History II or	3	HISTORY 1310 or	American History since 1877 or	3
EH 103 or	Modern European Civilization or		HISTORY 1200 or	Modern Western Civilization or	
PS 103	US Political Systems		POL SCI 1200	American Government	
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
CH 186	General Chemistry II	3	CHEM 1320	General Chemistry II	3
CH 341 or	Organic Chemistry I or		CHEM 2210 or	Organic Chemistry I (4) or	
EP 240	Circuit Analysis	4	EE 2800	Electrical Circuits (3)	3
				<i>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.</i>	
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	5		Maximum Free Electives	5
	Group 2 Major Requirements	34		Group 2 Major Requirements	32
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	73		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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or	Rhetoric and Critical Thinking or		ENGLISH 1160 or	Writing and Research or	
IM 300 or	Technical Communication or	3	ENGLISH1600 or	Intro to Technical Communications or	3
EN 309	Writing for Science and Technology		ENGLISH 3560	Technical Writing or	
US 105 or	American History I or		HISTORY 1300 or	American History to 1877 or	
US 107 or	American History II or	3	HISTORY 1310 or	American History since 1877 or	3
EH 103 or	Modern European Civilization or		HISTORY 1200 or	Modern Western Civilization or	
PS 103	US Political Systems		POL SCI 1200	American Government	
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200*	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics-Dynamics	3	MECH ENG 2350*	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
GO 110	Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	See your advisor for course options.	3		Humanities/Social Science Elective	3
	See your advisor for course options.	3		Humanities/Social Science Elective	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	39		Group 1 Core Requirements	35
	Total Hours	67		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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or	Rhetoric and Critical Thinking or	3	ENGLISH 1160 or	Writing and Research or	3
EN 309	Writing for Science and Technology		ENGLISH 3560	Technical Writing	
US 105 or	American History I or		HISTORY 1300 or	American History to 1877 or	
US 107 or	American History II or	3	HISTORY 1310 or	American History since 1877 or	3
EH 103 or	Modern European Civilization or		HISTORY 1200 or	Modern Western Civilization or	
PS 103	US Political Systems		POL SCI 1200	American Government	
MA 345	Linear Algebra	3	MATH 3108	Linear Algebra I	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	6		Maximum Free Electives	6
	Group 2 Major Requirements	31		Group 2 Major Requirements	30
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	70		Total Hours*	65

*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>Southeast Missouri State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
MN 120	Fundamentals of Engineering Design	3	MECH ENG 1720	Engineering Design with Computer Appl	3
EN 140 or	Rhetoric and Critical Thinking or		ENGLISH 1160 or	Writing and Research or	
IM 300 or	Technical Communication or	3	ENGLISH1600 or	Intro to Technical Communications or	3
EN 309	Writing for Science and Technology		ENGLISH 3560	Technical Writing or	
US 105 or	American History I or		HISTORY 1300 or	American History to 1877 or	
US 107 or	American History II or	3	HISTORY 1310 or	American History since 1877 or	3
EH 103 or	Modern European Civilization or		HISTORY 1200 or	Modern Western Civilization or	
PS 103	US Political Systems		POL SCI 1200	American Government	
GO 110	Physical Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EP 261	Engineering Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EP 262	Engineering Mechanics-Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
EP 263	Mechanics of Materials	4	CIV ENG 2210	Mechanics of Materials	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	28		Group 2 Major Requirements	27
	Group 1 Core Requirements	39		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	62

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